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WHAT TO TELL THE PUBLIC?

INFORMATION DESIGN AS INTERPRETATION IN CORRIDOR PLANNING

by

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ABSTRACT OF THE DISSERTATION

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Providing information to the public is a widely recognized function of planning. Yet little attention has been paid to how expert information is characterized for citizens participating in a planning process. The text, maps, and images used to tell the story in a planning process can help to bridge the divide between experts and citizens, or act to reinforce it, depending on interpretive design choices. This study examines current practices and norms for designing public information for corridor projects, including open house displays and project websites. Data sources include sample materials from 32 projects and practitioner interviews. A series of tests were devised to gauge the degree to which sample materials show efforts to facilitate citizen inquiry and joint discovery of problems and possibilities. The tests were based on normative criteria drawn from theoretical work by Fischer (2000, 2003, 2009), Forester (1989, 1999), and Healey (1996) and were also used to analyze the interview data.

The study found that while information design practitioners take steps to bridge the expert/citizen divide, their efforts are uneven. Most still tend to seek reactions to proposals, rather than encouraging dialogue about options or collaboration on problem definition. Information designs strongly emphasize project features (the “what” and “where” of a project) over the reasons for a project (the “why”). Factors accounting for these limitations include a widespread “project delivery” model of decision-making, procedural constraints, and agency reluctance to disclose

tentative information, which inhibits exploration of options. Other factors include the subordinate position of facilitators on project teams and the lack of standards of practice or training for facilitative information design. Potential means of overcoming these limitations include applied research to develop new models of practice, improved professional guidance, and changes in planning and engineering education.

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Chapter 1: The Problem of Information Design in Planning

1.1 Citizens' Information Needs in Corridor Planning

Much attention has been focused on the need for improved public participation in transportation corridor planning and project development in the United States. There is growing recognition among transportation practitioners that traditional methods are inadequate to allow for the identification and resolution of potentially polarizing conflicts. Urban decision-makers and regional coalitions are under increasing pressure to "produce" consensus on corridor projects to secure competitive funding, or increasingly, to win the votes needed for local option transportation taxes (Goldman and Wachs 2003). This is true not only for high-profile projects such as high-speed rail initiatives, but for hundreds of other highway and transit projects under development throughout the United States.

Planners have suggested that earlier and more inclusive participation by the general public can help avoid or resolve factional polarization and NIMBY responses to projects. In addition to these instrumental concerns, advocates of participatory transportation planning have suggested that deliberative approaches lead to better, more creative projects, fairer outcomes and attention to a wider range of goals (Willson 2001). Federal regulations, official guidance, how-to handbooks and continuing education workshops stress the importance of "early, proactive" public involvement and outreach to multiple population groups (National Transit Institute 2007). On the highway side, the Context-Sensitive Solutions movement has produced experimentation with eclectic, collaborative approaches to project planning based more on local visioning and less on conventional principles of engineering efficiency. This approach entails broader recognition of the importance of community context in decision-making and the value of local knowledge for this purpose (Lane 2006, 2007).

What is missing in the attempt to shape a more inclusive and collaborative project planning process is attention to the role technical information plays in this process, in particular how

expert findings are conveyed to and characterized for citizens participating in corridor plans. What planners tell the public about a project, the reasoning behind it and the alternatives under review is critical to a meaningful process of engagement. If planners and engineers fail to point out consequential issues and impacts in a way that allows citizens to grasp their significance, challenge expert assumptions, and ask questions in their own terms (Fischer 2009), citizens are left as dependent on these experts and as subject to arbitrary, technocratic decisions as they were in the old style of project planning. Joint fact-finding and opportunities for mutual learning are especially needed as projects grow in complexity.

Corridor planning has become more complex technically and politically, as urban rebuilding takes precedence over greenfield construction and as project sponsors strive to address multi-faceted goals such as integration of transportation with land use, pedestrian accommodation, and green design principles (Meyer and Miller 2001; Banister 2008). When data related to these newer holistic concerns are combined with traditional engineering and environmental analyses, the result is a complex picture for the general public. More critical attention is needed not only to the presentations or interactive tools planners use in small stakeholder meetings, but to the information conveyed to the general public through project websites, drop-in centers, project brochures and newsletters. For truly meaningful citizen participation in the development of these complex projects, professionals need to do more than unveil plans and explain technical concepts. They need to help interpret the problems or issues surrounding a proposed project, the potential consequences, and the decision points where citizens' concerns and ideas may have some bearing, allowing citizens to grapple with real choices in a meaningful way (Fischer 2009).

Transportation planners will need new skills to engage in this type of interpretation. As Bertolini et al (2008: 72) comment, skills such as joint fact-finding and communication with non-experts are "all but standard baggage for transportation planners, possibly pointing at a gap in their training." As a basis for developing training in this interpretive function, it is important to

understand the ways in which transportation planners currently view and approach the task of informing the public.

1.2 The Problem of Information Design in Planning

Planning practitioners and theorists generally agree that providing information to the public is a core function of planning. Even as technocratic advisory practices have come into question, theorists continue to recognize the central role of technical expertise and data in planning (Innes 1998; Forester 1999). On the practitioner's side, professional societies also stress the importance of information-giving. The International Association for Public Participation, for instance, lists among its core values that public participation should "provide participants with the information they need to participate in a meaningful way" (IAP2 2005).

While the importance of information is recognized in theory and practice, little practical or ethical guidance is available to help planners determine the types of information that would support meaningful participation, or how this information should be developed and communicated. Much of the profession retains a traditional view in which expert analysts generate objective, neutral data for public consumption with little thought about how it should be used (Innes 1998). An example is the American Institute of Certified Planners' ethical principle that planners should "strive to give citizens…full, clear and accurate information on planning issues" (AICP 1992). While reasonable on its face, closer examination shows that each of these norms for information-giving – fullness, accuracy, and clarity – presents difficulties which practitioners are ill-equipped to appreciate or address.

Planning Information is Never "Full"

Rather than being "full," planning communications are inevitably selective. Planners seldom have access to all of the information that might usefully bear on a decision, especially given increasing societal complexity (Harris 1996; Hajer and Wagenaar 2003). Indeed, some of the information they require for effective analysis and decision-making may be sought from

citizens, rather than provided to them (Dryzek 1990; Fischer 2000). Further, preparing communication materials requires a selective use of available data. Map-making, for instance, is inherently an exercise in perspective-taking (Wood 1992). Visual representation, now central to planning communications, requires abstraction (Pietsch 2000).

Selectivity is not only a cognitive necessity but an inherent feature of the communication process. As Forester (1989: 19) shows, planning analysts inevitably "stress some issues and downplay others," describing the organization of attention as the central political problem of planning practice. A growing body of literature has established the argumentative character of planning (Fischer and Forester 1993; Throgmorton 1993; Innes 1995). Through their communications planners do not simply disseminate information as if it were a kind of "stuff" to be moved along a conduit (Baxter 2010; Dervin 2003). Instead, they form arguments that structure attention (Forester 1989), selectively identifying problems for consideration and drawing attention to certain choices for addressing them, with consequences for planning outcomes.

In the process of structuring attention, planners define issues, creating or assigning meanings to situations. Their communications embody particular ways of understanding an issue or project, often known as problem frames, which help to organize how people view the "raw facts" of a planning situation (Schon and Rein 1994). These constructed meanings, rather than the facts per se, are potent in mobilizing political support for or opposition to particular actions (Fischer 2009). Planning artifacts both reflect and reproduce these socially constructed meanings, with important consequences for dialogue and decision-making. For example, O'Looney (2000) notes that maps embody story lines that may set particular cognitive and emotional responses in motion, such as

> "…optimism or pessimism about changing the problem situation; a limiting or an expansion of policy alternatives; an expansion or narrowing of empathy for those experiencing problems; and an increase or a loss of perspective on social problems." (215).

In this sense, planning information is indeed full, but not in the way the AICP Ethical Code envisions.

Reassessing Accuracy as a Norm for Planning Data

The argumentative framework also leads to a more nuanced understanding of the AICP Code's norm of accuracy. The concept of accuracy is problematic in an arena where not only "hard data" but forecasts, scenarios, and aspirational vision plans are all part of the public dialogue. These techniques seek to address uncertainty about the future by combining empirical data with various types of expert assumptions, from model parameters to urban design templates. Increasingly, they also incorporate non-expert perspectives gained through the collaborative application of planning models and support systems (Brail 2008). The production of alternative scenarios, whether predictive or policy-oriented, takes empirical data as a starting point but quickly leads into the more speculative realm of inquiry.

Accuracy is also a problematic concept where visual images are concerned. Apart from the deliberate use of deceptive or misleading images--which clearly can be judged inaccurate--planning has long relied on the expressive qualities of imagery to inspire rather than strictly to inform the public (Kwartler and Longo 2008). The rhetorical use of paired images of the ugly and beautiful, or of conditions before and after a design intervention, have a long history in planning and architecture, currently represented by widespread use of photo-simulations. Langendorf (2001) comments that visualization allows planners to "create more compelling images of urban possibilities that capture attention and build commitment for urban change." In this type of communication, accuracy can be relevant, but its components are complex: they include the precise choice of subject matter, perspective, and pictorial elements such as position, scale, shape, detail and texture that are often beyond the conscious control of designers (Sheppard 1989, 2001).

Similarly, maps rely on expressive symbolism and the use of color to convey meaning, complicating judgments of their accuracy (Monmonier 1996):

> [E]ven if no deliberate manipulation is intended, because of embedded emotions or culturally conditioned attitudes some colors carry subtle added meaning that could affect our interpretation of a map or our feelings about the map or the elements it portrays...Red, for instance, is associated with fire, warning, heat, blood, anger, courage, power, love, material force, and Communism..." (171)

Monmonier suggests that the association of green with vegetation and blue with water, built up over centuries of mapmaking, makes the use of these colors in maps especially powerful as landscape metaphors.

Even where planning data consists of numbers describing current conditions or trends, the notion that their accuracy can somehow be certified for use in public communications relies on the discredited idea that such data are value-neutral. Many theorists now adopt the view that planning facts are socially constructed, and as such are comingled with normative judgments (Fischer 2009; Healey 1992; Stone 1997); moreover, the data-gathering instruments that produce them often serve as rhetorical tropes (Throgmorton 1993). As Forester (1989: 152) states, any given planning communication combines a factual claim with a rhetorical one that frames the issue in a particular historical, political and social context. He suggests that "even the most technical actions (calculating a solution, making a demographic projection, reviewing architectural plans for flaws)" communicate on a rhetorical as well as empirical level, for instance by implying that a result is preliminary and subject to discussion. In short, it is impossible to assess the accuracy of planning data without understanding its communicative context.

Clear Information: a Problem of Interpretation

The value-laden character of technical information also forces reconsideration of the remaining AICP information norm, that of clarity. Being clear is often viewed as a straightforward process of explaining technical concepts in language accessible to lay people. However, Fischer has shown that explanatory language is only the first step in achieving true clarity for citizens. Explanation alone is insufficient to facilitate public learning and deliberation, due to a fundamental difference between citizens' and experts' ways of knowing

and reasoning (Fischer 2000, 2003, 2009). He holds that citizens rely on practical reason, in which knowledge is linked with normative judgments and tied to concrete decisions among possible actions. In contrast to the truth claims of scientific or deductive reasoning, "practical arguments are only more or less convincing, more or less plausible to the audiences to which they are addressed" (Fischer 2000). In this view, to clarify technical planning information for citizens requires recognizing these non-technical forms of logic and assisting

> "…participants…in examining the technical information in terms of their own interests and values. It can be understood as translating technical conclusions into the social contexts of various relevant or interested groups." (Fischer 2009:159).

To be clear, then, planning information not only needs to be comprehensible and free of jargon; it also needs to help bridge the epistemological divide between experts and citizens, deciphering the social import of the technical choices to be made and thereby enabling citizens to make intelligent political judgments (Fischer 2000, 2009). At times, this may involve imposing simplicity on complexity, but it may also mean preserving and conveying the messy ambiguity of an emergent planning situation so that citizens and professionals can inquire collaboratively (Innes and Booher 1999, Forester 1999). At times, a planner may clarify issues more effectively by posing questions than by answering them (Forester 1989). So unless technical data is placed in a context that helps citizens grapple with real choices and ask questions in their own terms, the data will not be clear.

Taken together, the concerns outlined here lead to the recognition that the information planners provide to the public is not a neutral set of facts to be moved around at will. Planning information is actively constructed or *designed* to communicate certain messages, impart certain forms of data, and create certain expectations about what actions are possible, reasonable, or desirable. The planner's role as information designer can be understood as a form of interpretive work that selects, structures and (at its best) makes sense of planning facts for lay audiences and readers. As such, it is a constitutive social practice (Craig 2010), with ethical implications few planners are trained to appreciate or address.

1.3 Information Design as Interpretive Work

Planners' information design is a form of interpretive work that couches technical analysis in layman's terms and shapes arguments for action. In doing so, it may serve (however imperfectly) to bridge the gap between professional expertise and citizens' ways of knowing. It may help to foster citizen learning and promote inquiry, or discourage it by conveying the impression that the issues are too complex or decisions are too far along for new questions to be raised (Fischer 2000, 2009; Forester 1989).

Each of the communications a planner designs combines factual, discursive and rhetorical elements that frame planning issues or choices in particular ways. Such communications are shaped by the dynamics of planning institutions and are often politically strategic.

In addition to informal day-to-day speech and correspondence, planners' interpretive choices are embedded in a great variety of public communications materials, ranging from conventional reports, memoranda, newsletters and presentations to illustrated brochures, custom websites, videos, social media and multimedia, including interactive tools intended to teach and engage the public in planning issues. These materials are prepared for use in public meetings and for distribution in public places or through mailings, the internet, or the media. While the literature on deliberative planning has emphasized informal speech and conversational settings, much influential discourse in planning decisions involves written material and images, especially where large regional projects are concerned.

Although planning theory has established the importance of the interpretive dimension of practice, little is known about the actual processes by which planners design these types of communications, or the conditions they face on the ground as they go about this activity. By drawing on relevant theoretical work in communications and communicative planning theory, it is possible to outline the basic characteristics of this practice and identify some of its logical requirements. Planning theory also suggests several normative criteria that can be applied to

the practice of information design. These normative criteria illuminate important dimensions of practice and suggest avenues for research.

Basic Characteristics of the Design Process

As information designers, planners are influenced by the general cognitive characteristics of communication, by their individual discursive orientations and beliefs, and by practical and strategic considerations emerging from specific situations of practice. From a cognitive standpoint, planners construct mental models of their audiences (Shields and Dervin 2005), envisioning an idealized reader or listener (Throgmorton 1993), or an interactive tool user (Woolgar 1991). The designer's thought process may involve awareness of how the particular communication fits into an argumentative flow of past and potential future utterances (Throgmorton 2000, Baxter 2010). Planners also use what Aakhus (2007) has described as a faculty of "communicative imagination" to envision the interactive settings in which materials may be used. Communicative imagination may account for the particular design choices made in constructing a survey, arranging a website, or as Forester (1999) recounts, using a sketch as a "ritual object" in meetings to elicit issues, ideas, and proposals for refinement.

Closely intertwined with these cognitive aspects of communication are the social or political dimensions of the practice, including a planner's discursive leanings and fundamental notions about the citizen's role. Information design choices reflect not only a planner's own technical and discursive orientations but his or her tacit norms or "theories-in-use" (Schon 1983) about the decision-making process and the purpose and merits of public participation. Planners' presentations of technical data are interwoven with enduring ideas about the capacities and potential contributions of lay participants. As planning artifacts, these materials embody and communicate nested understandings of the planning process, the range of desirable outcomes, and the respective roles of experts and citizens in creating knowledge.

Of particular significance for the interpretive treatment of expert findings are designers' judgments about what citizens are entitled to know and to discuss (Fischer 2009), which in turn reflect their beliefs about the role of participation and the type of understanding needed for a participatory process to succeed. These beliefs or theories-in-use may include notions about the particular type of standing citizens should have in a decision—for example, that citizens should be encouraged to comment on the appearance of a project, but not on whether it should be built in the first place. As Fischer (2009) notes, the way in which the idea of participation is understood in a particular context determines what positions are available for participants to take up in a political space, and affects the artifacts produced:

> "Whether they are constructed as 'citizens,' 'beneficiaries,' 'clients,' or 'users' influences what people are perceived to be entitled to know, to decide or contribute, as well as the perceived obligations of those who seek to involve them. Moreover, the kinds of narratives, artifacts, analyses, and action plans emerging out of these spaces may tell, and indeed be *made* to tell, very different stories." (250)

The ways in which planning materials characterize the participatory process and the opportunities for deliberation – in other words, the dialogic elements of information design -- can be as politically influential as the discursive framing or rhetorical treatment of the substantive issues involved.

A Hidden Process

While the interpretive work involved in designing planning communications is influential, the process is largely hidden. The subject has received little empirical attention, in contrast to research on outreach techniques and deliberative methods. As Forester (1989: 152) states, "the communicative character of technical action has often been overlooked."

The interpretive aspect of information design appears to be a largely tacit aspect of practice. In contrast to the mechanics of mapmaking and presentation graphics, interpretive skills are not usually addressed in the planning curriculum. Planners evidently rely on tacit understandings of communication and learning to carry out their design tasks. In this they are similar to other technical professionals whose training often fails to broach the communicative

side of practice. Aakhus (2007) notes that this is true of a variety of professionals such as doctors, lawyers, and managers for whom communication-design work is an important part of professional practice:

> "Engaging in communication-design work does not mean the practitioner is schooled in communication theory and methods. It does mean, however, that designers hold influence over the shaping and disciplining of communication in society. People engineer many settings to manage communication, but this does not mean the engineering is reflective about the linguistic, interactional, or other matters of communication." (112-113)

In the absence of concrete understanding of the information design process, the profession has been unable to give planners much guidance on making interpretive choices and choosing designs that would facilitate citizen understanding of and engagement with planning issues. To better inform the interpretive practice of information design, it is important to develop a critical approach and an empirically grounded understanding of the process. Research is needed to better understand the operative concepts, pressures and parameters under which planners develop communications materials for the public, the practical and ethical choices they make in interpreting expert findings, and the import of these choices for the participation process and for planning outcomes.

1.4 Normative Criteria for Information Design

Theories of communicative planning and policy analysis suggest several normative criteria, or principles, for the interpretive work of deciphering expert knowledge for citizens in a planning process. These criteria provide useful signposts for research and the development of more specific guidance and training on information designs that can help to bridge the divide between experts and citizens in planning. While emerging out of somewhat different strands of research, these criteria all relate to the idea of helping citizens to examine technical data in their own terms, or the "creation of institutional and intellectual conditions that help people pose questions in their own language…" (Fischer 2009: 237). For interpretive work, beyond the basic ethical criteria of avoiding deliberate misrepresentation or obfuscation, this may mean:

1. Keeping technical findings open to inquiry (Jasanoff 2003, Fischer 2009)

2. Inviting citizens into the problem-setting process (Forester 1989)
3. Maintaining a degree of tentativeness in problem definition (Healey 1996)
4. Encouraging explicit value inquiry (Fischer 2003; Forester 1999)
5. Showing what is consequential for a given community (Fischer 2000, 2009)
6. Nurturing dialogue about options and possibilities (Forester 1989), and
7. Coaching citizens in the "rules of the game" (Forester 1989).

Keeping technical findings open to inquiry—A key principle for reducing the distance between experts and citizens is to allow technical assumptions and findings to be questioned or challenged. Jasanoff (2003, cited in Fischer 2009) identifies this as a criterion for the legitimacy of expertise:

> "…expertise has legitimacy only when it is exercised in ways that make clear its contingent, negotiated character and leave the door open to critical discussion. In other words, expertise, like other forms of democratically delegated power, is entitled to respect only when it conforms to norms of transparency and deliberative adequacy." (160)

In Fischer's terms (2009: 109) this means avoiding the "pretense that empirical findings speak for themselves," which "gives the public the impression that there is little to talk about from the technical side of the divide." In similar terms, Forester (1989: 154) calls for planners to "recognize more clearly the 'leave it to us' messages that technical work may communicate" and to integrate their technical work into communicative strategies such as consultation, listening, and encouraging independent reviews. In this way, participation is treated as an as an opportunity to improve analysis rather than a source of obstruction. Forester advocates "spreading questions" as a means of creating an open dialogue over the facts of a situation (Forester 1993: 45).

Inviting citizens into the problem-setting process--A second criterion supplied by planning theory for interpretive work is the presence of an open process of problem definition, one which invites citizens into the problem-setting process rather than simply asking them to react to proposals (Forester 1993). Here Forester contrasts the "practical-communicative" task of

problem reformulation with the instrumental task of problem-solving. Although the inclusion of citizens in problem-setting can be accomplished in many ways, in recent years there has been more experimentation with methods formally structured for this purpose, including scenario planning, visioning, and collaborative goal-setting methods (Avin 2007; Klosterman 2008). For information design, the challenge here is to present initial data in a way that allows participants to engage with ideas and form independent assessments of problems and possible solutions. To accomplish this, planners must provide enough information to enable lay participants to size up situations–enough to understand why agency staff believe something is at stake in a project--without imposing a rigid expert conception of the direction the plan or project should take. As expressed by Al-Kodmany (2002: 320),

> "It requires creativity and experimentation to discover a process that structures but does not inhibit the participants' creativity and input. This is the difficult task that confronts planners about to embark on a community planning process…"

One method identified by Langendorf (2001) is to present data in a way that explicitly enables self-directed inquiry and learning. In contrast to traditional roles in which planners synthesize disparate information and produce prescriptions, he describes the construction of "information environments" that allow citizens to "reach back to original data and participate actively in its transformation to information and knowledge," potentially becoming more active players in the analytical side of the planning process.

Maintaining tentativeness in problem definition—The third criterion, closely related to the previous two, is to maintain a degree of tentativeness in problem definition as a planning process unfolds, avoiding premature closure. Healey describes this as "opening out discussion to enable new ways of looking at issues to emerge" (Healy 1996 p. 228). She stresses its importance as a way of avoiding premature "consolidation of the options for action" and suggests an experimental, tentative approach that allows for the testing out of strategic ideas before allowing a "preferred discourse to emerge and crowd out the alternatives."

Encouraging explicit value inquiry--Encouraging explicit inquiry about values is one of the "three faces of public learning" identified by Forester (1999)[1]. He describes this as

> "...careful analysis of costs and benefits, obligations and responsibilities, charters and mandates, goals and values to be honored or respected, protected or defended in a particular planning process. Such learning about value often takes the form of assessing how the consequences of alternative actions can be consequential..." (244-245)

Fischer (1995, 2003) also calls for explicit consideration of values in public policy evaluation, as part of a framework that integrates empirical and normative judgments at multiple levels of discourse. This framework, also relevant for planning, includes consideration of whether a policy goal has value for society as it is currently constituted, as well as a higher level examination of fundamental ideals for the good society.

Showing what is consequential--The fifth criterion supplied by communicative planning theory for interpretive work is consequentiality, or showing what is consequential for a given community. As Healey (1996) describes it, this interpretive task

> "…requires sorting through an array of issues – problems, arguments, claims for policy attention, ideas about what to do, fears of what will happen – to identify those which, for the various members, it makes sense to pay attention to." (222)

In Forester's (1989) terms, this means to give people "information on which they can safety act."

To show what is consequential requires some knowledge of citizens' actual or probable concerns, which in turn requires some degree of familiarity with how a community's citizens experience things (Fischer 2009). It requires empathy and sensitivity to people's worries and fears, and to historical factors that precede the current planning situation, such as previous slights people may have experienced in dealing with government agencies (Forester 1999). Showing what is consequential may take the form of a narrative, which Fischer (2009: 192) identifies as the primary way citizens come to understand the significance of complex phenomena:

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[1] The other two "faces," encouraging technical inquiry and fostering deliberation about affected citizens' worries and fears, are represented in the first and fifth criteria here.

> "When we examine communication in the everyday realm of politics and policy, we find people largely explaining things by telling stories...about how the society works, how it should work, and what sorts of measures are needed to make it work that way."

For this reason, he states that "translation in the public realm is more about fitting data into particular explanatory narratives than it is about clarifying and validating technical information."

Nurturing dialogue about options—The logical result of a planning process that meets the previous five criteria is an expanded ability to discuss options, and very likely an expanded set of options to discuss as well. This criterion involves explicitly inviting suggestions, refinements, and new proposals from participants as part of a search for feasible alternatives and "possible political solutions" (Forester 1989). Interpretive work meeting this criterion avoids communicating the idea that there is only one answer to a problem:

> "…analysts [can] nurture dialogue about options and about the 'values' and 'interests' by which those options for policy and design may be evaluated; and thus, to communicate genuine social and political possibilities, to say not only 'Hey, that's the way it is,' but also 'Here's what could be done' and 'Here's what we could do.' (21)

Among the methods Forester lists for nurturing this type of dialogue are community consultation, expertise pooling, brainstorming and mediated negotiations. He suggests that without such an approach, planning organizations are likely to miss valuable program or design possibilities. Similarly, Innes (1998: 59) calls for exploring different storylines and using knowledge to "help us break out of assumptions, rules, and expectations that make us lose touch with some deeper reality and that prevent innovation."

A critical interpretive task in nurturing dialogue about options is to point out the aspects of a decision or design process that are in flux and warrant discussion. Fischer (2009: 109) describes this as showing citizens the "interactive points available for deliberation." He notes that experts seldom do this, instead delivering a product that "comes across as a closed package," which tends to privilege expert knowledge and discourage dialogue. Communications materials that show citizens the issues or choices for which discussion is apt to be fruitful or instructive, as well as consequential, help to bridge the distance between experts and citizens.

Coaching Citizens in the "Rules of the Game"—A final criterion for interpretive work involves coaching citizens in the formal and informal "rules of the game" for planning decisions (Forester 1989), such as procedural steps being followed to make a decision, linkages among decisions, or awareness of particular persons or organizations whose agreement is crucial to moving a plan forward. Communications that are open and transparent in the other six ways identified here, but fail to point out crucial aspects of procedure or organizational constraints will not fully bridge the gap between expert and citizen perspectives.

Although these normative criteria apply broadly to interpretive planning practice, each is relevant to the assessment of information design. This set of criteria can be further elaborated and used to evaluate communications materials for evidence of interpretive choices consistent with these principles. They can also be used to gauge practitioners' understandings of their own interpretive work. In this way they can serve both as a means of assessing current practices and as a starting point for the development of practical guidance. To apply the criteria in this way requires a better understanding of the actual practices and conditions planners face as in designing information for citizens. Of necessity, to investigate these questions empirically requires a more limited focus on a specific sector of planning practice and particular types of communications materials.

This study focuses on transportation corridor projects, and specifically on the development of materials designed for use by the general public, including meeting displays and project websites. These materials are intended to orient new participants to a project, and as such they encapsulate many of the interpretive choices a planner might make in the information design process.

1.5 Examining Interpretive Work in Transportation Corridor Projects

Transportation corridor planning is a domain of interest for research on planners' interpretive work for several reasons. First, transportation planning is an especially technical sector of

planning that encompasses engineering considerations along with planning expertise. As with other planning and policy sectors, the transportation planning subfield has seen increasing public skepticism about experts' roles (Newman and Kenworthy 1999). There has also been recent interest and experimentation with more collaborative approaches to developing these projects (Bertolini et al 2008; Center for Transportation and the Environment 2007).

Corridor studies and plans typically involve a rich range of policy issues and often give rise to extensive deliberation over problem definition. By their nature as linear facilities, corridor projects usually involve several jurisdictions and a host of organized interest groups. They usually require examination at multiple scales, from the region to the neighborhood and ultimately, individual sites such as intersections, rail stations, or bridge designs. Study area boundaries are themselves often subject to deliberation.

Corridor planning is also an arena in which to observe the tensions between the norms of transportation efficiency traditionally associated with the engineering discipline, and alternative interpretations focusing on pedestrian safety, community quality of life, environmental justice, or natural resource impacts. These tensions and the contestation of meaning they signify are increasingly frequent elements in participatory corridor studies, heightening the importance of citizen perspectives and opportunities for public learning and inquiry.

In addition to these theoretical considerations, transportation corridor projects offer certain methodological advantages for the study of planners' interpretive work. First, there are dozens of such projects underway at all times in the United States, providing a large field for comparison. These range from investigations of safety and traffic issues to large scale feasibility studies or environmental impact analyses for proposed new roads or rail lines. Second, opportunities for public involvement in the larger studies are in general federally mandated, meaning that most projects include at least a minimal public process requiring the development of communications materials. In addition, those projects subject to National

Environmental Policy Act (NEPA) procedures involve characteristic choices about public communications, allowing for instructive comparisons.

1.6 Participant Orientation Materials as a Window on Interpretive Work

Within the subfield of transportation project planning, a useful window on the interpretive process is the design of communications for new participants in a planning process. Orienting materials can be defined as those communications materials planners intentionally develop for a meeting, publication, or website that will introduce newcomers to a project, whether they are ultimately to become engaged collaborators or one-time visitors to a public forum. As the initial form of communication with lay people, orienting information typically attempts to start at the beginning (as planners perceive it), explain their purpose (or that of the sponsoring agency) in undertaking a project or plan, and provide background data sufficient to justify the study and the use of participants' time. It thus lays out in a relatively neat package something of the planner's own thinking about the salient issues, providing evidence of a rhetorical selection process and an initial discursive frame. Information design choices made in this process may have significant consequences for the overall planning process, setting the tone for public discussion. The orientation of new participants can thus be seen as a microcosm of the planner/citizen relationship, an encapsulation of the interchange between expert and lay participant.

In transportation corridor planning, a common orientation technique is to create drop-in centers or open house meetings with a series of displays that describe information relevant to the corridor. These displays may include maps with various themes, such as land use, environmental conditions, or traffic data; photographs of problem spots, narrative statements about future needs, and depending on the stage of the project, improvement concepts or preliminary designs. The intent is for participants to browse through the displays, much as one might proceed through an art exhibit, stopping and engaging with whatever material interests them and learning enough to enable them to comment on project issues. Though staff are

present and discussion is typically encouraged, the displays are intended to stand on their own. A “self service” means of registering comments is often provided as well. Increasingly, planners are designing public websites with similar types of project information and the same expectation that users will read selectively, choosing what interests them and forming enough of an understanding to comment intelligently.

Langendorf has described these participatory planning websites and related planning interfaces as “information environments” (Langendorf 2001). The term is equally appropriate for the physical displays used in open house forums or drop-in centers, or indeed any participatory technique that compiles planning information on a given issue in a self-contained, “perusable” format. Thus defined, information environments are bounded phenomena that are suitable as units of observation for a critical assessment of information design.

Just as orientation is a microcosm of the planner/citizen relationship, the design of “self-service” information environments encapsulates the planner’s effort to interpret and communicate the planning situation to a public audience beyond the studio. They represent examples of planners’ “elemental communicative moves” of showing, proposing, and presenting, as described by Forester (1989). An orientation process in which the planner provides a constructed display, a website layered with information, or an explanatory document is perhaps the “cleanest” moment in the planner’s overall attempt to share his or her expertise with lay participants, and therefore a useful one for comparative research across cases.[2]

Both open house meetings and project websites are very widespread, standard communication practices for transportation projects, facilitating access to examples for analysis and potentially enabling research findings to be applied pragmatically in these specific contexts. Both methods can facilitate participation by citizens who are uncomfortable

[2] Of course, these communications may also include strategic rhetorical elements intended to promote particular outcomes.

speaking in traditional public meetings, as well as casual participants who want to learn about a project and contribute their ideas without spending much time. This latter group can potentially consist of thousands of people living along a corridor, whose concerns and insights can provide perspectives missing from a smaller stakeholder group.

1.7 Research Context

Very little empirical or critical research has focused on the interpretive work planners do in designing public communications materials, whether in transportation or other planning sectors. Ethnographic work by Forester (2007, 1999) and others using practitioner profiles or "practice stories" includes a strong interpretive focus, but the settings generally involve small-scale personal interactions. Much of the empirical research on participation in planning has tended to emphasize interactive group process or the application of various techniques for attracting participants and achieving productive discussions. Theoretical work on participation has also emphasized deliberative strategies, collaborative planning and consensus-building rather than the interpretive tasks of designing information for participants. As a result, there is very little critical discussion of the rhetorical, dialogical, or ethical dimensions of information design for planning. Some useful exceptions are found in research on technology-based tools such as Planning Support Systems, visualization tools, and Public Participation GIS (PPGIS), a growing subfield of cartography. Since research in this vein typically seeks either to promote or provide a critical account of these new methods, the focus is generally on the deployment of specific tools and how their application affects interaction, rather than how information is characterized and conveyed through the tools. However, useful commentary on interpretive issues of design sometimes arises as a by-product.[3]

Several authors writing on visualization tools in planning have suggested that graphic design choices affect people's perceptions of the planning process and condition expectations about the citizen's role. They hold that certain types of information designs encourage a questioning

[3] This situation has produced the curious result in which there are more critical accounts of information design issues arising from the use of novel tools than for established, routine communication methods.

attitude, while others inhibit inquiry. For example, according to Krygier (2002: 332), participation "can be diminished if the graphics used to present information about planning alternatives look too polished, professional, and finished," while less finished looking graphics help to show that decisions are still open to dialogue. He enumerates several strategies for information design that may tend to encourage critical exploration of data. One is the use of panoramic views as "hinges," helping participants to make connections between situated and map views of objects. Krygier further suggests that interactive software could be deliberately designed to promote a critical approach, helping to generate different perspectives on an issue (332). Some types of images, particularly photographs, are said to make plans more relevant, personal, or particular for citizens, thus supporting understanding and engagement (Carver et al 2001; Al-Kodmany 2002). Interactive maps may help residents move beyond a neighborhood perspective to envision the dynamics of a large region (Craig et al 2002; Shiffer 2002).

PPGIS is often presented as a "more people-centered GIS" in contrast to technocratic, expert-driven mapping methods (Schlossberg and Schuford 2005). Several PPGIS researchers have investigated the social construction and use of maps made for, with, or by grass-roots organizations participating in community or regional decision-making. A useful synthesis is provided in the editors' introduction to *Community Participation and Geographic Information Systems* (Craig, Harris and Weiner 2002). Brail and Klosterman's (2001) edited volume on Planning Support Systems identifies pertinent considerations for research on participatory information displays and visualization tools. Of particular interest is Langendorf's (2001) concept of the information environment, discussed earlier. Langendorf also notes the need for more research on the design of information landscapes and workspaces, describing this as an issue planners have not typically considered. Another useful source is Sheppard's work on visual simulation in the landscape design field (Sheppard 1989, 2001). His comprehensive critical study of simulation practice formed the basis for a proposed set of ethical principles for design visualization which are also relevant to planning.

Within the transportation field, there are several applied research tools geared to industry practitioners that touch briefly on the interpretive aspects of information design practice. One is the "Primer on Information Design for Transportation Agencies" commissioned by the American Association of State Highway and Transportation Officials (AASHTO) (Schroeer 2006). The primer is largely based on principles outlined by Edward Tufte (1997, 1990) for visual displays of information. These principles focus on the instrumental effectiveness of graphics as communication tools, such as the importance of side-by-side comparisons and integration of words and images. In a brief foray into interpretive matters, the primer advises transportation agencies that the public and decision-makers have little time to think through the complex issues raised by transportation data and are better served by quick "take-away messages."

Another guidance tool is the Federal Transit Administration's resource website, "Choosing Visualization for Transportation: Matching Your Public Participation Need with the Right Technology" (FTA 2009). This website leads the user through a set of queries, including the question "What are your expectations of the public outreach process?" The choice of answers, reproduced below, articulates several different interpretive goals or approaches including the potential to "leave a community with a rich understanding of a project."

- Foster a community that wants to stay involved with the project
- Leave the community with a rich understanding of the project
- Compare and rank ideas and/or scenarios proposed by experts
- Get immediate feedback about specific issues related to the project
- Engage public in creating different alternatives or scenarios
- Not sure

Several researchers have studied the use of visualization and other technology-based tools for public participation in transportation projects, with some discussion of interpretive issues or strategies. Grossardt and Bailey (2004) studied the use of visual preference workshops with hand-held polling for community participation in the design of a transit oriented development for a low income neighborhood in Louisville, Kentucky. They suggest that this technique helps

people better understand the implications of architectural design variables, allowing a more fruitful interaction between architects and citizens. Lowry (2010) describes the use of a structured internet discussion tool for transportation investment decisions, with some attention to the interpretive properties of the tool. Other researchers have addressed graphic design issues such as the effects of photo-realism and 3D perspectives in transportation visualizations (Hughes 2004; Ramasubramanian and McNeil 2004). Some have reported that three-dimensional interactive visualization tools help people to grasp the significance of a proposed project in a way that other tools do not. For instance, a case study of the use of Google Earth™ for rail transit planning in Fort Worth, Texas (Ramasubramanian, Weeks, and Case 2009) found that the 3D visualization helped people

> "focus on the larger importance of the project to the community as well as to consider the implications at the local level…[i]t was the first time that anyone from the project's steering committee or the public at-large fully comprehended the project's geographic scope."

In another case, planners chose a cartoon-like, conceptual visualization over a photo-realistic simulation, stating that it was more important for people to understand how a proposed rail line would fit into the community than to make it look real (Sadik-Khan and Eberhard 2003). It is evident that like these examples, most published critical discussions of information design for transportation planning participants are reports of individual cases. The majority of these involve evaluation of new technology-based tools rather than systematic analysis of routine practices.

Research Goals

The goal of this study is to better understand the interpretive work between experts and citizens that occurs in one sector of planning. By examining the interpretive choices transportation planners make in preparing public information materials, the assumptions and skills they bring to the task, and the institutional contexts in which they operate, a more concrete account of this largely hidden practice is developed. The study is designed to probe the choice of materials for public meeting displays and websites and to gauge the extent to which planners seek to facilitate citizen learning, inquiry and joint discovery of problems and

possibilities in their work. The account thus developed of information design practices in transportation project planning can serve to improve practice by informing the guidance and training planners receive for this important but neglected role.

Organization

The next chapter describes the research methodology. Chapter 3 provides a profile of current practice as context for understanding the research findings. Chapters 4-7 describe the data collection, analysis and findings. Chapter 8 further discusses the findings and their implications for planning practice and education.

Chapter 2: Research Design

2.1 Research Strategy

This study is designed to explore the interpretive choices planners make in developing participant orientation materials for transportation projects, to gauge the extent to which they seek to facilitate citizen learning and inquiry through these materials, and to develop an understanding of the context in which this work occurs. The research approach is a broad survey of practice consisting of two principal activities: 1) in-depth interviews with practitioners and 2) analysis of a corpus of sample materials used in open house meetings and project websites around the United States. These activities were supplemented by field observations of open house meetings and by participant observation of the information design process for several transportation projects. In addition, a profile of practice was assembled during the initial phase of the study and used to structure the remaining data collection and analysis.

A modified grounded theory approach was used to identify and elaborate the variables of interest and apparent relationships (Strauss and Corbin 1998). However, from the outset the study assumed a focus on theories of expert-citizen communication evident in information design practice. The normative criteria for interpretive work outlined in Chapter 1 were used as probes to guide the content analysis of sample materials. This required fashioning tests of these “bridging criteria” that make sense for transportation projects and for participant orientation materials, as described in section 2.3. These criteria also helped to inform the analysis of interview transcripts.

2.2 Practitioner Interviews

In-depth interviews were conducted with 22 practitioners involved in designing participant orientation materials for corridor projects. The practitioners included planners, engineers, and communications specialists responsible for developing the content for open house displays or

project websites or, in several cases, for supervising these activities. The interviews were carried out between January 2008 and April 2010.

Two different types of interviews were conducted: 16 project-focused interviews, designed to elicit very specific reflections on information design for a particular project, identified in advance of the interview; and 6 interviews with senior level practitioners concerning their general experiences with information design for public participation. The project-focused interviews included advance review of sample orientation materials provided by each respondent. This allowed for a portion of the interview to be tailored to the specific materials and project context. The sample materials then served as a focal point for the discussions. In contrast to the “reflection in practice” or “from the trenches” viewpoint elicited by these interviews, the interviews with senior practitioners were structured to elicit observations at the more abstract level of “reflection on practice” (Schon 1983), while still engaging specific recollections and comparisons among projects.

Both types of interviews were designed to explore the ideas, inclinations and skills that information design practitioners bring to their work, how the work is carried out in practice, and the types of challenges and constraints practitioners face in deciphering complex projects to facilitate citizen understanding. In analyzing the interviews, particular emphasis was placed on practitioners’ understanding of citizens’ information needs and of their own roles in interpreting technical information for citizens, in order to reconstruct the theories of interpretive action evident in their work. A number of researchers have used similar ethnographic approaches to examine planners’ activities and theories of action at a micro-scale (Forester 2007, 1999; Eckstein and Throgmorton 2003; Hoch 1994; Baum 1996, Flyvbjerg 1998; Van Herzele 2004).

Sampling and Recruitment

The sampling process for the practitioner interviews began with the development of screening criteria for potential respondents. Three screening criteria were established:

1) The respondent had developed, or supervised the development of, open house displays or a project website for a corridor study or planning effort currently in progress or recently completed;

2) These materials were intended for use by the general public, including persons new to the project;

3) The materials were available in electronic form to preview and discuss.

An initial list of interview candidates was drawn from the chief professional organization devoted to transportation–related public participation in the United States, the Committee on Public Involvement of the Transportation Research Board (TRB) of the National Academy of Sciences. This committee, on which I served from 2006-2009, includes 75 members and "friends" throughout the United States. The committee list was supplemented with the names of 14 additional practitioners who had presented papers or posters on topics related to public participation for transportation projects at conferences of either the TRB or the Association of Environmental Professionals over the period 2007-2009, and by several other practitioners known to me through my personal professional networks. Throughout the course of the interviews, several respondents suggested other potential interviewees who were then added to the list of candidates.

Potential respondents were selected from the list for screening, using purposive sampling to maximize range (i.e., to obtain instances of important dissimilarities), following Weiss (1994, 23):

> "With small samples we may choose to maximize range in order to ensure that our sample contains instances of infrequent types."

Sampling variation was initially sought on five variables: the respondent's geographic location, professional discipline, stage of career, the type of organization the respondent works for (large firm, small firm, or public agency), and gender, with the aim of obtaining enough variety so that issues that may be associated with these factors would not be missed. Informal

quotas were used to maximize the heterogeneity of the sample on these dimensions as recruitment proceeded (Weiss 1994, 24).

An iterative sampling process was used in which the analysis of initial interview data suggested additional variables of interest for further sampling (Strauss and Corbin 1998). Two additional variables of interest emerged and were used in completing the sample: transportation modes (respondents with experience on transit projects vs. highway projects) and project phase (with respondents who could discuss sample projects in earlier planning phases emphasized over those whose work focused on later phases).

Recruitment began with an appeal to the TRB Committee on Public Involvement at its annual meeting in January 2008, in which the study purpose was explained and potential volunteers were alerted that I would be reaching out to request interviews. This was followed by a series of recruitment/screening emails and telephone calls to persons from the candidate list who appeared to meet the screening criteria, with selections made to provide some initial variation on the purposive sampling variables. Recruitment continued with new contacts made as interviews were scheduled and completed. Almost all of those contacted for recruitment purposes and who met the screening criteria agreed to be interviewed: only two persons declined to participate.

Interview Guide and Procedures

An interview guide, shown in Appendix A, was prepared to help structure the interviews. However, within this general structure each interview was allowed to take its own course and respondents were encouraged to discuss what they found most important in relation to the topic at hand. The intent was to encourage active reflection on the part of the respondent, in line with Schon's observations on the variety of ways professionals reflect on practice (Schon 1983, 62):

> "When a practitioner reflects in and on his practice…[he] may reflect on the tacit norms and appreciations which underlie a judgment, or on the strategies and theories

> implicit in a pattern of behavior. He may reflect on the feeling for a situation which has led him to adopt a particular course of action, on the way in which he has framed the problem he is trying to solve, or on the role he has constructed for himself within a larger institutional context."

Interview questions addressed the following topics:

- Background on the practitioner's training and experience, primary professional role, personal attitudes and expectations concerning citizen participation in general, experiences with open houses and project websites, and experiences in designing materials for these;
- Background on the corridor being studied, including the practitioner's understanding of the corridor issues and the agency's reason for studying the corridor at this time;
- The practitioner's mental image of the typical user of this information, what he or she needs to know about the corridor/project, what he is capable of understanding; and what concerns or interests citizens bring to the process;
- The practitioner's conception of his or her role in the participatory situation;
- The practitioner's description of the materials developed for public use, their purpose, and the process and level of effort involved in putting them together. For example, were maps or diagrams created specifically for use with the public, or adapted from materials made primarily for the use of project technical staff? If so, why were these images created or how and why were they adapted? Were photographs taken or drawings prepared specifically for use in public events, and if so, why were these particular images chosen?
- Description of technical analyses being done for the project that were potentially available for communications with the public;
- The practitioner's awareness of having made conscious decisions to interpret the project situation in a particular way;
- The relative constraint or freedom the practitioner experienced in choosing the way the corridor planning issues were to be framed, as well as specific agency procedures or requirements for public communications materials;
- Differences or disagreements among professionals who worked on preparing the materials;
- The practitioner's recollection of the review and approval cycles for materials prepared for clients or supervisors, and the outcome of these;
- Time or resource constraints affecting the care that could be taken in developing information materials;
- The practitioner's own assessment of the materials developed;
- For open house displays, the practitioner's assessment of how participants appeared to react to the materials, the corridor issues and the planning process overall, and
- Anything the practitioner would do differently the next time based on their experience developing public materials for this corridor project.

A pilot interview was conducted to test the guide, and two variants were then prepared: one for project-focused interviews, and one for the more general interviews not focused on a specific project. The project-focused interview guide included an open-ended section to be customized to each respondent, based on the sample materials and project information each respondent provided in advance of the interview. It also included some background questions

on both open house meetings and websites that could be used as appropriate. The guides were modified slightly during the study to incorporate new questions that emerged from initial analysis and to drop questions that had proven unproductive.

Of the 22 interviews, 13 were conducted in person and 9 were conducted by telephone. The length of the interviews varied from 55 minutes to 2 hours and 20 minutes. Interviews were tape-recorded and transcribed. Respondents were assured of confidentiality and asked to sign a consent form, in accordance with an approved research protocol on file at the Rutgers University Institutional Review Board.

Analysis Method

Interview transcripts were analyzed using a modified grounded theory method, starting with open coding of each transcript at the paragraph level to identify key concepts and their properties and dimensions. Open coding was performed by hand in the margin of each transcript as interviews were completed and transcribed. Each interview was then summarized as a basis for further analysis. These summaries included observations based on the coding process, including emergent themes and categories; distinctive things about the interview as well as commonalities with other interviews conducted to date; notes on what I had learned and new issues and questions to consider (both substantive and methodological); and thoughts on the significance of various categories and relationships.

As the open coding of each transcript was completed, material coded with the same or similar concepts was sorted and grouped electronically, creating a qualitative database of observations on different themes or categories. Brief descriptive memos were prepared to synthesize the material in each category. These memos were then extended and refined as new data was coded.

In parallel with the open coding/category sorting process, a matrix was built in which data from each respondent was arrayed against a set of variables for later qualitative analysis of potential associations or dependencies. Three types of variables were included in the matrix: 1) contextual variables, 2) personal variables, and 3) emergent variables from the open coding process, including respondents' reported or observed attitudes, beliefs, and actions. Contextual and personal variables were assumed to be independent variables potentially affecting beliefs and actions. The contextual variables included geographic location, project type (transit, highway, multi-modal), project phase, project scale, level of controversy (as assessed by the respondent), the type of materials discussed (open house displays or websites), a brief description of the larger public involvement context in which these materials played a part, the organizational structure of the work process, and other contextual elements that emerged from the interview. Personal variables included professional discipline, training, organization, years in the field, experience with the specific communications techniques under study (open house meetings, project websites), gender, and other reported influences. Emergent variables included attitudes, espoused beliefs, norms, tacit knowledge, design decisions, strategies or measures for coping with situations and challenges, and other actions.

Following the open coding and synthesis of coded material by category, axial coding was used to identify relationships among concepts, including patterns of actions or statements made in response to recurrent situations (Strauss and Corbin 1998, 130). Some codes assumed the status of "overarching ideas or propositions," becoming central in the analysis (Lofland and Lofland 1995, 94). These emergent patterns were then considered in light of the initial research questions to determine what conclusions could be drawn about practitioners' theories of interpretive action, their efforts to bridge the divide between experts and citizens, and associated norms, knowledge, and facilitative practices. This analysis considered the extent to which practitioners' theories-in-use aligned with the bridging criteria identified in Chapter 1, and where they did not, what other theories, inclinations, or situational factors might account for this. The matrix of qualitative factors was used to examine potential

patterns of association between practitioners' theories of action and contextual or personal factors such as project phase, the organizational structure of the work process, and respondents' professional training.

2.3 Materials Analysis

For a contrasting perspective on information design practice, a corpus of sample materials was compiled and analyzed using a content analysis procedure. The materials included open house displays and project websites developed for 32 corridor projects around the United States.[4] As outlined in Chapter 1, an assumption was made that these planning artifacts would embody and communicate particular understandings of the planning process, the range of desirable outcomes, and the respective roles of experts and citizens in creating knowledge. Analysis of the materials could then reveal the "fingerprints" of these assumptions. The materials were examined for evidence of the designers' assumptions and to test whether or not their design choices were consistent with the bridging criteria outlined in Chapter 1. The materials corpus was compiled in May 2010 and coded and analyzed in the summer and fall of 2010.

Compilation of Materials Corpus

The following screening criteria were established for materials to be included in the corpus:

1. Display boards or similar meeting materials used in public open house meetings for transportation corridor projects within the past four years. (This time period was selected to allow for the inclusion and comparison of multiple rounds of meetings on longer projects.)

2. Active public websites for transportation corridor projects, maintained by or for project sponsor agencies, with a minimum of four web pages of background information on the project.

3. The sample projects represented in these materials were in the planning, environmental, or preliminary engineering phase (not final design), so that there was still likely to be some play in the project definition or flexibility among alternatives.

4. Materials were in the public domain and available online.

[4] There is no overlap between the sample projects in the materials corpus and those described by interview respondents. This was deliberate in order to preserve the respondents' anonymity.

Two methods were used to locate and compile the corpus of sample materials: an internet keyword search for open house display materials, followed by a geographically based internet scan of potential candidate projects for which open house displays and/or project websites might be available. The internet keyword search was conducted in March 2010 using the following Google search terms: the exact phrase “open house” plus the term corridor study, corridor plan, or transit study. By reviewing the first 300 hits from this search, a total of 24 candidate projects were identified for screening; 15 of these met the screening criteria. (The majority of the hits were for press releases announcing open houses, rather than sources of open house materials.)

To enlarge the sample, achieve greater geographic diversity, and locate materials representing a broader range of project types and sizes, a more comprehensive, geographically based materials scan was also performed. This scan systematically used the state-by-state directory of 340 Metropolitan Planning Organizations (MPOs) maintained by the Association of Metropolitan Planning Organizations (AMPO) to search for suitable projects in all 50 U.S. states. The rationale for using the MPO listing is the central role these organizations play in numerous corridor projects and their frequent practice of listing such projects and providing web links to project information. In addition, in contrast to other potential sources such as state Department of Transportation websites, MPO websites include links to projects sponsored by a variety of agencies including transit authorities, toll authorities, and county and city governments.

For each state, the website for the largest MPO was visited first, followed by up to two randomly selected smaller MPOs, until at least one suitable candidate project was found meeting the screening criteria. If this procedure yielded no suitable candidate projects for the state, an additional scan of the state DOT’s website and largest transit authority website were also performed to locate potential projects. The geographically based scan yielded 22 candidate projects meeting the screening criteria in a total of 20 states.

The corpus drew on the 37 candidate projects, eliminating several projects for which materials were relatively old or limited in scope, or for which information was no longer available online once the download of materials began, resulting in a total of 32 projects. For these projects, all associated open house displays and websites meeting the screening criteria were then downloaded for analysis. In many cases this included open house displays for multiple rounds of meetings held over the course of a project, which were organized by meeting date. For websites, the material downloaded included the home page, any background information pages, Frequently Asked Questions, project history, planning process, interactive features and maps, but did not include copies of technical reports posted on the sites. The resulting materials corpus includes materials from 32 projects in 25 states, with 28 sets of open house materials and 14 websites represented, as shown in Table 2.1.

Coding and Analysis Procedures

Content analysis was performed on each item in the materials corpus, using coding checklists designed to capture a variety of design elements and associated norms of practice apparent in the materials. The coding checklists are reproduced in Appendix B. For open house displays, two checklists were used: one for each individual display board, and an overall checklist for each meeting that summarized and abstracted from the individual boards. A single checklist was used for websites. To guard against potential bias in coding, I arranged for a research assistant to code a portion of the material and compared her results to mine.

In developing the coding protocol, tests were devised for each of the seven normative criteria for interpretive work described in Chapter 1, as shown in Table 2.2. Some of these criteria lend themselves to a straightforward coding process, while others require judgment or contextual knowledge to evaluate fully. For example, the criterion of consequentiality (showing what is consequential) is difficult to test through content analysis without more knowledge of the project context and community, although several tests were specified to partially test this criterion. Some of the tests involved comparison of information elements in

Table 2.1: Projects Represented in Materials Corpus

Project Name	Location	State	Open House	Website
Southwest to Northeast Transitway	Fort Worth	TX	x	
US 301 Waldorf Area Improvements	Waldorf	MD	x	
Westerville Rd SR3	Regional	OH	x	
US 69	Fort Scott	KS	x	x
Provo to Nebo Corridor Study	Regional	UT	x	x
Arapahoe Rd Corridor Study	Centennial	CO	x	
CSAH 28	Dakota Co.	MN	x	
US 56 Corridor Plan	Multi-county	KS	x	x
Kuna-Mora Rd Corridor Study Ph II	Garden City	ID	x	
Alfred St Corridor Study	Tavares	FL	x	
Milwaukee Connector Study	Milwaukee	WI	x	x
Wilshire Bus Rapid Transit	Los Angeles	CA		x
I-65-US 31 Mobility Matters	Birmingham	AL	x	
RTD Fastracks-Central Corridor	Denver	CO	x	
Port Manatee Connector Study	Regional	FL	x	
Metra Connects AA Study-Star Line	Regional	IL	x	
University Ave Corridor Study	Champaign	IL	x	
Johnson County Gateway	K City/Topeka	KS/MO	x	x
Southwest Transitway	Minneapolis	MN		x
S Grand Great Streets Initiative	St Louis	MO	x	
Sahara Ave Corridor Study	Las Vegas	NV		x
The I-81 Challenge	Syracuse	NY		x
Garden Parkway	Regional	NC	x	
Lake Oswego to Portland Transit	Portland	OR	x	
Greenville Transit Feasibility Study	Greenville	SC	x	
Columbia River Crossing	Vancouver	WA	x	x
US 151/Verona Road	Madison	WI	x	
Missile Drive Corridor Plan	Cheyenne	WY	x	
Glassboro-Camden Line	Regional	NJ	x	x
Elgin-O'Hare West Bypass	Chicago	IL	x	x
Seward Glenn Connection	Anchorage	AK	x	x
Rt 460 Corridor Improvements	Regional	VA		x

Table 2.2: Tests of Bridging Criteria

Criterion	Tests Used for Materials
Keeping findings open to inquiry/challenge	Are statements presented in a tentative manner?
	Do materials invite participants to comment on data, forecasts, or description of conditions?
	Are questions included to encourage discussion?
Inclusion of citizens in problem-setting	Are needs, problems, or issues discussed in any detail?
	Do materials encourage participants to help identify issues, define problems, or set goals?
	Do materials invite participants to contribute to or comment on a list of environmental issues to be studied?
Avoiding closure in problem definition	Do open-ended materials on problem-setting continue to be provided in successive rounds of meetings?
Encouraging value inquiry	Do materials encourage thinking about the community's overall future, the sustainability of the transportation system, or similar big-picture questions?
Showing what is consequential	Do materials provide historical background on project issues or previous studies?
	Do materials refer to prior community/citizen concerns, questions, or comments received?
	Do mateirals provide information on potential environmental impacts?
	Do materials provide a good "feel" for what the project would be lke (or in early stages, for how current issues or expected changes may affect the community)?
Nurturing dialogue about	Do materials invite participants to help generate options or alternatives?
	Do materials describe the decisions still to be made?
Coaching citizens in the rules of the game	Do materials include detailed information on the decision-making process, organizations involved, timeline, and instructions about how to participate?

meetings held successively over time. For instance, to evaluate the criterion “avoiding closure in problem definition,” the presence of open-ended material on problem-setting was checked throughout successive rounds of meetings to determine whether problem definition was being maintained as a potential deliberative focus or had dropped out of the picture.

Additional coding at the level of the individual display boards captured the specific topical elements of each board, the information modalities used (words, numbers, and images), and specific characteristics of any images or maps used, to allow investigation of potential interrelationships between interpretive or dialogical elements and the information modalities, images or maps used. At the summary level for each meeting, additional codes were used to record impressions about the overall emotional tone of the meeting displays (for example, whether they seemed to limit or expand options). Once the open house displays were coded, the results were compared longitudinally for successive meeting rounds within each project that involved multiple meetings to determine how dialogical elements shifted over time.

Websites were coded in a similar manner, although without the longitudinal dimension provided by successive rounds of meetings. For practical reasons, it was necessary to select a portion of each website for analysis, rather than attempting to code the entire volume of information present on many websites. A decision was made to include the home page plus two “drill downs,” using a website coding methodology developed by Patch (2004). Two drill downs were generally sufficient to capture information comparable in scope to that typically provided in open house meetings. However, a third drill down was also attempted. If the third drill-down revealed one of the following types of information, it was also included: a background page such as “About the Project;” a Frequently Asked Questions (FAQs) section, sections on project history, the planning process, interactive features such as surveys or comment areas, and project maps. FAQs were nearly universal and were analyzed as a group for their thematic and dialogical content, under the assumption that their content would be instructive concerning the information designers’ view of citizens’ information needs.

Content analysis findings were then compared across projects based on project phase (planning, environmental review, and preliminary design) to assess potential differences. Findings for the two types of materials were also compared.

2.4 Supplemental Field Observations

The practitioner interviews and materials analysis were supplemented by two types of field observations: informal observation of sample open house meetings, and participant observation of the information design process for several transportation projects. The purpose of the open house observations was to gain a better understanding of this form of communication as context for the study. A total of five open house meetings for four different projects were observed between September 2007 and July 2009. The projects were located in the eastern United States and included two transit corridors and two highway corridors. The projects were selected based on proximity and the timing of meetings available for observation during the study period.

Prior to each open house I reviewed background materials on the projects, both to gain an understanding of project issues and to see what types of technical expertise might be shared with citizens. These materials varied by project and included technical reports, environmental documents, maps of potential project alternatives, and process-oriented documents such as public participation plans. During the open houses, as an observer I spent time viewing the materials, observing citizens' use of the materials, and observing the interactions between professionals staffing the meetings and citizens. Brief notes were recorded unobtrusively during the meetings and following each meeting. These observations provided a greater appreciation for interview respondents' comments about this communication technique, aiding in the overall analysis.

I was also able to directly observe the process of information design as a participant on three highway corridor projects located in the eastern United States. These assignments occurred

in the normal course of my professional work at the consulting firm Parsons Brinckerhoff. In Case A, my assignment included assisting in the preparation of open house materials and in helping to staff an open house meeting similar to those under study. In Case B, my assignment was to prepare project fact sheets for public distribution. In Case C, I coordinated the preparation of materials for a project website. Each case included participation in meetings with other project professionals and/or client agency staff to discuss draft materials, and two cases involved multiple drafts and discussions of the rationale for changes, providing direct insight into the phenomenon under study. The observations gained through these work assignments were noted in an observation log and incorporated into the qualitative database of material from the practitioner interviews.

2.5 Assembling a Profile of Practice

Another element of the research design was to develop a description of the domain of practice suitable to ground the analysis. This was needed because the research approach had not previously been applied to transportation project planning. A profile of practice was generated during the initial phase of the study and used to structure the remaining data collection and analysis. The profile was based on initial practitioner interviews, sample materials gathered as part of the interview process, participant observation, and secondary source descriptions of transportation project development. The profile, described in Chapter 3, outlines a typical project development sequence and identifies the types of technical expertise involved during each phase, the range of deliberative concerns that might be expected, and the points in the sequence that provide the most likely openings for facilitative practices to bridge the expert/citizen divide. This sets a context for understanding the types of interpretive choices available to information designers.

Chapter 3: Background on the Practice

3.1 Context for Interpretive Work in Corridor Planning

This chapter provides a descriptive profile of corridor planning in the U.S., drawn from practitioner interviews, participant observation, and secondary sources. The intent is to describe the significant features of the study setting as context for the analysis in subsequent chapters. The chapter begins by considering the typical phases of corridor projects, the forms of expertise involved and the types of decisions in play. Together, these characteristics establish the scope of opportunities (and needs) for interpretive work across the expert/citizen divide. The next section discusses regulatory requirements for public involvement in transportation projects, the range of participation methods used, and the role of open house meetings and project websites within this context. A final section introduces additional considerations arising from the engineering design aspects of corridor studies.

3.2 Corridor Projects and Forms of Expertise

The initial idea for a corridor plan or project can emerge in a variety of ways. The official conception of the process, spelled out in guidance documents such as the Federal Transit Administration's guide to the project development process (FTA 2006), is that projects emanate from metropolitan long-range transportation plans. These are often broad-based policy plans that set a general direction for a regional transportation system. These long-range plans have traditionally identified future needs in particular corridors based on projected increases in travel demand. They also identify opportunities to improve the overall efficiency of the regional network by constructing missing links or eliminating bottlenecks. The focus of many of these plans has now evolved to include a diverse array of policy goals beyond system efficiency (Meyer and Miller 2001), including air quality improvement, travel demand management, integration of land use and transportation, bicycle and pedestrian mobility, environmental equity, and more recently, climate change mitigation. Some long-range plans

include lists of proposed studies and projects on specific corridors, while others provide a more general programmatic direction.

Apart from the corridor projects identified in long-range transportation plans, these projects can emerge as a result of independent civic initiatives or in response to demands by local businesses. For instance, a developer may seek infrastructure improvements as a condition of investment in a particular location. Project concepts are also suggested by unforeseen opportunities, such as an abandoned freight rail corridor becoming available for re-use, or by new funding initiatives, such as the Obama administration's High-Speed Intercity Passenger Rail Program (FRA 2011). Projects also come about in response to crisis events, such as a serious accident or bridge collapse that focuses attention on a particular need, sometimes in symbolic ways (Kingdon 1995).

Whether the idea for a new project originates in a long-range plan or in a more serendipitous fashion, the next step is often some type of planning study. In the typical project development sequence, if a planning study discovers a feasible approach to a project and a degree of public support is evident, the next step may be an environmental study, followed by an engineering design process, arrangement of funding, and eventually, construction. This idealized process roughly corresponds to the rational planning model, with steps such as problem and issue identification, formulation of goals, data collection, generation of alternatives, analysis, decision-making, and implementation (Willson 2001).

The degree to which projects follow the planning-environmental review-engineering design sequence is somewhat variable, with the most predictable elements being the environmental studies mandated by the National Environmental Policy Act (NEPA) and related regulations. For example, some projects never have a true planning study, with planning-like activities taking place as part of preliminary engineering design work. Or an environmental study may serve as a *de facto* planning process for a highway project (MacDonald 2004). On the transit

side, planning studies such as Alternatives Analyses are often performed in conjunction with environmental studies, as permitted by Federal Transit Administration policy (FTA 2009). Environmental reviews for both highway and transit projects are sometimes conducted concurrently with preliminary engineering work.

The sequence of analytic and decision-making steps often departs from that in the rational planning model, as well. For example, problem identification might take place informally at the start of a planning study, as a formal phase of an environmental study, or in a more contentious way as studies and projects are derailed and reconceived.[5] A similar variation can be seen in the use of alternatives in the planning process. Alternatives must be formally specified in an Environmental Impact Statement (EIS) and in transit studies conducted under the Federal Transit Administration's New Starts program, but they also emerge informally in planning and design, with continuous refinements as concepts are tested and new information is gained.

A variety of types of technical expertise besides planning are involved in corridor projects, including travel demand modeling and demographic analysis, traffic engineering, civil engineering (including hydrology and geotechnical analysis) and structural engineering. Other disciplines often involved include rail engineering, environmental science and ecology, acoustics, air quality modeling, economic and financial analysis, architecture, landscape architecture and urban design. Some of these disciplines are relevant in only one or two phases of a project, while others may be involved throughout. The internal dynamics of interdisciplinary teams can be significant for the public interpretive process, as discussed in Chapter 7.

[5] On one project, following a presentation of a proposed highway concept, a local official told a transportation agency project manager to "go away and don't come back until you have bike lanes and sidewalks on that plan."

As corridor projects proceed through the development process, they tend to involve an alternation of private and public phases. The private phases, during which engineering teams are working on a concept or design or environmental technical studies are being conducted, tend to be much longer in duration than the windows for public dialogue, where interim results are shared and discussed. The back-and-forth character of the work, with engineers “at the drawing board” much of the time, can give the impression of a relatively closed process, even when there is an intent to engage citizens in decision-making.

Corridor projects range from being routine and non-controversial to intensely controversial. They give rise to a variety of deliberative issues, from broad-based concerns about the appropriateness of urban highway investment, environmental sustainability and quality of life to concerns about specific project impacts. Among the negative impacts of transportation projects are property takings, aesthetic impacts, noise, neighborhood traffic increases, air quality degradation, loss of wildlife habitat, open space or farmland, and construction impacts. On some larger projects, new facilities can have a barrier effect, discouraging pedestrian movement and resulting in a loss of community cohesion (USEPA 2002). The potential loss or degradation of historic buildings, parks, or places of worship are other common concerns. In addition to negative impacts, corridor projects often end up including enhancements that can provide social value and meaning in an otherwise utilitarian piece of infrastructure, such as new parks, pedestrian pathways, and public art.

Table 3.1 provides a generalized schema showing the evolution of technical topics in a corridor project through the planning, environmental and design phases. Each of the three phases is further divided into study stages, with eight stages overall. The schema is based on information from the initial practitioner interviews and field observations conducted for this study. For each of the eight stages, the schema identifies the typical emphasis of public meetings held during that stage, the types of technical information that might be presented, and the potential scope of public dialogue. The intent is to identify points in the project

development sequence that provide the most likely openings for various facilitative practices to bridge the expert/citizen divide. For example, a mid-stage planning meeting, typically devoted to existing conditions in the corridor, provides an opening for discussion of the particular data being developed to guide or justify a project. Similarly, the scoping process in the typical first meeting for an environmental study is an opening to invite public inquiry on the project purpose, potential areas of impact, and criteria that could be used for evaluating alternatives. Each of the eight stages affords some type of bridging activity. At each step, certain types of dialogical empowerment are critical, while others might be misplaced.

This study focuses on the first two project phases, planning and environmental studies, as these typically provide a broader scope for public dialogue. These phases often result in a decision on a preferred alternative that will be carried into engineering design. Decision parameters may involve the scale and boundaries of the proposed project, the transportation mode(s) involved, general alignments or specific locations, specific technologies such as rail technologies, bridge or tunnel types and materials, and preliminary design features such as highway cross-sections, intersection or interchange design concepts, transit station locations, and aesthetic concepts such as streetscapes or station architecture.

A more general, summary-level view of the interpretive dimensions of corridor projects is presented in Table 3.2. In this view, which is not bound to specific phases or temporal considerations, there are three types of complex information that need to be interpreted for citizens: 1) technical engineering or planning information, 2) technical or political uncertainties and decisions to be made, and 3) planning procedures. For complex engineering and other technical information, people need to understand the language as well as the social significance of the issues, both in order to contribute to decision-making and to see what may affect them as a facility user or affected party. Next, people need to appreciate the uncertainties and decision points in play in order to contribute to a discussion. Finally, in order to have any practical ability to influence outcomes, they need to understand the planning

Table 3.1: General Schema: Evolution of Technical Topics in Corridor Projects

Project Phase	Study Stage	Typical Meeting Emphasis	Type of Technical Information Presented	Potential Scope of Dialogue
Planning Study	Start	Introduce study/issues	Background Previous studies Study area map	Set goals Identify issues and problems
	Middle	Existing conditions	Condition maps Statistical data Initial strategies	Verify conditions Review problem definition Generate options
	End	Draft recommend-ations	Concept maps Sketches Policy measures	Discuss concepts
Environmental Study	Start	Scoping of environmental study	Project "Purpose & Need" Initial concepts Potential types of impacts Study area maps	Review problem/ purpose Review initial concepts Determine scope and boundaries of study Select evaluation criteria
	Middle	Formulate/ discuss alternatives	Preliminary alternatives	Revisit project definition/issues Generate, critique, refine and winnow alternatives
	End	Environmental impacts Evaluate alternatives	Results of impact studies Evaluation matrix comparing alternatives	Critique impact assessment Critique alternatives Select preferred alternative
Preliminary Engineering/ Design	Start	Re-introduce project to public	Project purpose Background/initial plans for preferred alternative	Discuss specific impacts and concerns of affected parties
	Middle/End	Present initial design for comment	Engineering drawings Property impacts Mitigation plans Construction phasing/detour plans	Discuss specific impacts and concerns of affected parties and mitigation measures

Table 3.2: Interpretive Dimensions of Corridor Projects

Type of Technical Information		Planners' Interpretive Role		So People Can:
Complex engineering information	→	Translates	→	Understand the language
	→	Highlights/interprets social significance	→	Contribute as citizens
			→	See what may affect them personally
Uncertainty, decisions to be made	→	Shows/locates	→	Appreciate decision points available for discussion
Planning process, procedures	→	Explains	→	Know when and how to participate to influence a decision

process, which can include arcane procedural requirements that are as complex as engineering information, or more so. In a general sense, then, the interpretive function for corridor studies includes translating complex information, highlighting what is of social significance or consequence, showing decision points, and explaining procedures.

Not specifically addressed in this study but equally important for bridging the expert/citizen divide is the planner's ability to translate and highlight information in the other direction, from citizens and communities to project technical staff. For example, in conceptual planning for Miami's East-West Corridor, planners identified 18 key concerns that would need to be addressed, mostly tied to specific locations along the corridor (Valdez 1995).

3.3 Public Participation Context

Interpretive information design practices for the public communications materials used in corridor projects can best be understood in the context of the overall participatory efforts for these projects. This section begins by discussing the historical and regulatory context for

public participation in transportation projects. It then describes the range of public involvement and participation methods currently in use by agencies as a basis for understanding how open house meeting materials and project websites fit into this broader context.

For the past 40 years, transportation agencies' efforts to involve the public in corridor projects have been shaped by two primary influences: citizen opposition to highway construction on the one hand, and federal requirements tied to the National Environmental Policy Act of 1969 on the other. NEPA established the first federal mandate for public hearings on the location and design of specific transportation projects (FHWA 2002). Interest in greater participation in transportation decisions grew during the 1970s, spurred by widespread protests against planned urban freeways (Gakenheimer 1976). By 1973, proposed highway projects were being blocked in all but one of the 55 largest metropolitan areas (Hoover 1994). With or without regulatory requirements, at this point transportation agencies realized their vulnerability to citizen opposition movements, and many took steps to modify various aspects of planning and engineering practice, including engaging in more dialogue with local officials (Weiner 1987). Public opposition movements are still arguably the most significant form of public participation in corridor projects.

In 1981, following a concerted effort by citizen activists, the U.S. Department of Transportation briefly adopted formal guidelines on citizen participation, which were immediately rescinded by the Reagan administration (Skolnick 1985). In this era of federal devolution and deregulation, the transportation planning mission shrunk in size. With the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, public involvement resurfaced as a major concern for transportation planning. In 1993, the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) issued joint ISTEA regulations for state and metropolitan transportation planning that included comprehensive expectations for public involvement. Although these guidelines pertained to long-range planning and capital

programming rather than corridor planning, ISTEA was influential in creating a climate in which a more collaborative model for decision-making could evolve (Howe and Brail 1994). Subsequent legislation, including the Transportation Equity Act for the 21st Century (TEA-21) in 1998 and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users in 2005 (SAFETEA-LU) continued the approach of ISTEA. SAFETEA-LU added several new requirements for participation in long-range planning and project development.

Current Federal regulations stipulate that agencies must provide opportunities for participation in both metropolitan and statewide long-range planning and during an EIS. Federal guidelines encourage agencies to provide “early and continuous” opportunities for participation, including during the early stages of project planning, but there are no formal requirements for public participation in corridor planning studies that occur outside of the NEPA process, except in those states that have adopted their own requirements. For projects that require an EIS, Federal regulations have long required that agencies “invite participation” in the scoping process that establishes the scope and boundaries of the EIS, as well as holding a public hearing on the EIS (Council on Environmental Quality 2005). SAFETEA-LU added a new requirement that agencies provide opportunities for public involvement during the development of the Purpose and Need Statement for an EIS as well as during the identification of the range of alternatives to be considered. These opportunities can be either concurrent or sequential, and agencies have considerable flexibility to implement this new requirement in different ways. (Prior to SAFETEA-LU, these elements were sometimes deliberated during the public scoping process, but there was no explicit Federal requirement to introduce these issues for public discussion prior to the release of a Draft EIS.) If a project is not subject to an EIS, either because environmental impacts are less significant or Federal funding will not be used, none of these requirements apply.

Many transportation agencies make only minimal efforts to meet these guidelines and can be accurately described as giving lip service to citizen participation. Others have more

substantial participation programs. A wide range of methods are currently in use for public engagement and outreach on corridor projects. Table 3.3 shows a list of over 60 methods included in a widely used reference available from the U.S. Department of Transportation (USDOT 2002). In the guidebook, these methods are organized into four categories: informing people through outreach and organization; involving people through face-to-face meetings; getting feedback from participants, and using special techniques to enhance participation. Transportation agencies have been relatively slow to adopt newer technology-based communication tools such as structured online forums and social media applications for corridor projects, although project opposition and advocacy groups use these extensively for organizing (Lowry 2010).

Table 3.3: Public Involvement Techniques Index, USDOT (2002)

A
Attendance at meetings, improving

B
Brainstorming
Briefings

C
Charrettes
Citizens on decision and policy bodies
Civic advisory committees
Collaborative task forces
Community-based organizations
Conferences
Contests

D
Decision bodies, citizen on
Disabilities, people with
Drop-in centers

E
Ethnic groups
Events, non-traditional

F
Facilitation
Fairs, transportation
Focus groups

G
Games
Geographic information systems (GIS)

H
Handheld instant voting
Hotlines

I
Improving meeting attendance
Instant voting, handheld
Interactive television
Interactive video displays and kiosks

K
Key person interviews
Kiosks, interactive

L
Low-income groups

M
Mailings and contact lists
Mapping through geographic information systems (GIS)
Markup software, plan/text
Media strategies
Mediation
Meeting attendance, improving
Meeting places, non-traditional
Minority groups

N
Negotiation
Non-traditional meeting places and events

O
Online services
Open forum hearings
Open houses

P
People with disabilities
Plan/Text markup software
Policy bodies, citizens on
Public hearings
Information materials
Public involvement volunteers
Public meetings
Public opinion surveys

R
Remote sensing applications
Retreats
Role playing

S
Site visits
Small group techniques
Speakers' bureaus
Surveys, public opinion
Surveys, visual preference

T
Task forces, collaborative
Teleconferencing
Telephone techniques
Television, interactive
Transportation fairs

V
Video displays, interactive
Video techniques
Visioning
Visual preference surveys
Visualization techniques
Voting, handheld instant

W
Workshops

A typical agency practice is to plan out the public involvement process for a corridor study in advance, identifying a differentiated approach for distinct audiences such as civic and business groups, neighborhood associations, local officials, and various categories of system users such as motorists, transit passengers, cyclists, and freight transportation providers (National Transit Institute 2007). For example, the California High-Speed Rail Authority identified seven distinct audiences in its public participation plan for the San Jose to Merced High Speed Train project (CHSRA 2009). The audiences included resource agencies, local agencies, local elected officials, environmental/ preservation stakeholders, farm/agricultural stakeholders, adjacent communities, and property owners. The plan outlined strategies for engaging each audience, including individual meetings with environmental and agricultural organizations and community meetings, workshops and website updates for the adjacent communities. The participation plan for this project lists a series of goals, such as to "engage a broad, representative cross section of the public" and "identify and address public interests and issues to help shape and refine project alternatives." It also outlines a series of issues identified in initial consultation with stakeholders and public scoping:

- Need for comprehensive public outreach in English and Spanish to fully engage community members adjacent to the proposed project
- Interest in how the High Speed Train project will connect with/support other transportation systems and plans
- Concern about potential noise, vibration, visual, safety, property value, and overall quality of life impacts of operation and construction…
- Concern about potential impacts to wetlands, biological resources, parks and open space in/near Coyote Point south of San Jose and the Grasslands Ecological Area, among others.
- Concern about the potential severance of access to property and the potential impacts of a real or perceived barrier created by the High Speed Train system.

As in this example, the open house meetings and websites addressed in this research are generally one of several public involvement methods used in corridor projects. They are often the primary method for informing and involving the general public, particularly if no media, social media or mass mailings are used. Other face-to-face engagement methods such as interviews, focus groups, advisory committees and design charrettes necessarily involve smaller numbers of citizens.

Open house meetings and websites are sometimes used as a platform for other public involvement techniques such as mapping exercises, surveys, and interactive displays. Open houses often include slide presentations, handouts, and the use of comment cards or brief written surveys. Occasionally they involve the use of videos, 3D simulations and other visualization tools. Such meetings are often planned as a sequence to occur at different points in a study. For example, the public involvement plan for a planning study of County Highway 28 in Minnesota (one of the sample projects analyzed in Chapter 4) described three open house meetings to be conducted during the study (Dakota County 2010). The purpose and activities for each meeting were described as follows:

> Meeting 1: Reasons for the study and particular challenges of the project explained to the community; individuals asked to identify specific issues that they feel should be addressed in the study; focus on identifying problems and discussing possible approaches to solving them.
>
> Meeting 2: Present roadway improvement alternatives and receive feedback; focus on listening to concerns members of the public have with any of the alternatives and identifying which receive most favorable comment.
>
> Meeting 3: Present preferred alternative with summary of comments from Meetings 1 & 2; focus will be listening to any concerns and feedback the public has on the preferred alternative.

3.4 Interrelationship of Planning and Engineering Design

Another contextual feature of corridor planning that is significant for understanding interpretive practice is the engineering design character of many of these studies. Although this research focuses on planning and environmental studies that are generally conducted prior to detailed engineering design work, these types of studies often include development of initial design concepts and feasibility assessments. When civil or structural engineers get involved in initial design work as part of a corridor plan or EIS, these design elements may complicate the interpretive process, due to the inherent unpredictability and iterative character of design work. Conceptual planning carried out by transportation planners shares some of the same characteristics.

Schon and Rein (1994) distinguish between design rationality and other models of rationality such as problem solving or search processes. In design rationality, "there is a 'conversation' between the designer and his materials. The designer is *in* the situation, influenced by his appreciation of it at the same time that he shapes it by his thinking and doing…" (106). In an interview on the design process, reported by Winograd (1996), Schon describes unpredictability as a central attribute of design:

> A designer makes things. Often, the thing initially is a representation, a plan, a program, or an image to be constructed by other people. Many of the relevant variables cannot be represented in a model; this limitation makes the design process inherently complex. A system is complex in the specific sense that, whenever I make a move, I get results that are not just the ones that I intend…Any move has side effects. This unpredictability is a central attribute of design…It means that there is no direct path between the designer's intention and the outcome.
>
> As you work a problem, you are continually in the process of developing a path into it, forming new appreciations and understandings as you make new moves. The designer evaluates a move by asking a variety of questions, such as 'Are the consequences desirable?' 'Does the current state of the design conform to the implications set up by earlier moves?' 'What new problems or potentials have been created?'"
>
> Typically, inventions made within a design process to solve present problems produce unanticipated consequences, some of which are perceived as further problems…Seeing the new problems (and benefits) to which problem-solving moves may lead, the designer may form a deeper understanding of the complex problem space in which he is operating. His new understanding of the complexity of the situation may serve as springboard to a new round of problem-solving...

The difficulty of making such a design process transparent to citizens stems not so much from its technical complexity as its dynamic quality. New options that emerge from design work can interrupt the decision-making process in unexpected ways (Mintzberg et al 1976). When a corridor study has a significant design component, public communications such as meeting materials and websites are at best snapshots of a moving target. They may be able to convey the elements of a design concept that appear to be fixed and contrast these with elements that are fluid and are being actively worked on. Some of the dynamic elements may involve socially significant choices that are relevant for public deliberation, while others will be interesting only to the designers as part of the working out of a design problem. The dynamic, iterative quality of design work can be especially difficult to reconcile with the structure of an

EIS, which involves a process of elimination from pre-stipulated alternatives (MacDonald 2004).

Planners have tried various innovations for involving citizens in the engineering design process for corridor projects. These include the use of collaborative, interdisciplinary teams of professionals and citizens throughout a project as well as one-time design charrettes that engage people in working through a particular problematic issue. For example, on the Corridor "O" project, the Pennsylvania Department of Transportation established teams of engineers and citizens to develop highway alignments collaboratively. This process included joint fieldwork and involved training citizens in the use of geometric design templates (Kisner and Farrow 2001). The Tennessee Department of Transportation has used citizen-led teams on several corridor projects conducted in a Context Sensitive Solutions framework. The teams are provided with engineering consultants and training (English 2007).

In these collaborative settings, experts may be able to explain some of the interdependencies of design decisions in a way that allows citizens to engage directly with engineering considerations whose outcomes are potentially significant. For example, an interview respondent described a meeting that dealt with interrelated decisions about the design of a bridge:

> So we'd go to the meeting with a sketch and they'd say, 'Okay, well, that's fine…that's the height of the bridge, but what are the piers going to look like?' and 'That's the height of the bridge, what's the superstructure going to look like, and what are the choices, and how will that look then, you know, visually?' And so all the discussions would lead to one more step in the process of looking at pieces of it, even though the decisions were almost separate decisions. What you did about the piers was really different than the superstructure. But how far apart they were determined how thick the superstructure would be and, therefore, what it would look like. So they would ask those questions and, as a result, they just kept coming back with more details, and more alternations…And that was really great because that gave them all kinds of ideas about what it would look like. And, you know, we're talking about people that never were involved in engineering. I mean they don't know anything about this stuff and, you know, some may have secondary layman's knowledge of it, but primarily they didn't know. So getting that kind of information gave them what they need to feel comfortable they were making a good decision.

These types of efforts invariably involve small numbers of citizens, often with greater than average knowledge of planning issues derived from their roles as community officials or advocates. As such, they do not provide a practical model for interpretive communication with the public at large, but they illustrate the importance of engineering design as part of the interpretive context.

In summary, there are several salient features of transportation corridor planning that distinguish it from other types of policy processes as a domain for investigating interpretive work across the expert/citizen divide. These include the long duration of many corridor studies; the alternation of private and public phases, with the private phases devoted to technical work often being much longer than public phases, and the design aspects of the technical work. The evolution of technical topics and the changing scope for public dialogue as a project moves through various phases forms another contextual element. Also important are the regulatory framework for public participation in these studies and the underlying history of widespread citizen opposition to highway construction. This profile sets the context for understanding the interpretive needs, opportunities, and choices available to information designers, as developed in the succeeding chapters.

Chapter 4: Artifacts of Practice

4.1 Investigation of Sample Communications Materials

This study includes a detailed investigation of a corpus of sample public communications materials used in corridor projects throughout the United States. As outlined in Chapter 1, it was assumed that these planning artifacts would embody particular understandings of the respective roles of experts and citizens in creating knowledge. Analysis of these materials could then reveal the "fingerprints" of these assumptions and highlight the degree to which their designs suggest interpretive efforts to bridge the expert/citizen divide. A series of tests were applied to determine whether or not the design choices evident in the materials were consistent with the bridging criteria outlined in Chapter 1.

Corpus of Sample Materials

A corpus of sample materials was compiled from the internet and analyzed using the screening process and content analysis procedures described in Chapter 2. (It represents a convenience sample rather than a random sample of projects.) The materials include open house presentation materials and project websites developed for 32 corridor projects. Ten of these projects have a public transit focus, and 22 are predominantly focused on highways and roads, although several of the latter include transit elements as well. Source websites for the materials corpus are documented in the references section.

Table 4.1 lists the sample projects included in the corpus by phase and the types of materials analyzed. There are 28 sets of open house meeting materials and 15 websites; 11 projects included both types of materials. For the 28 projects with open house meetings, the number of meetings of this type for which data was available ranged from one to four. Altogether the corpus includes materials from 57 meetings. The sample materials represent projects from 25 U.S. states.

Table 4.2 shows the distribution of sample projects by project phase and study stage. Both planning studies and environmental impact reviews are represented. For projects with open house meetings, each meeting type was further defined by project phase and study stage using the following six categories:

- Planning Study Start (10 meetings)
- Planning Study Middle (7 meetings)
- Planning Study End (13 meetings)
- Environmental Study Start (8 meetings)
- Environmental Study Middle (18 meetings)
- Environmental Study End (1 meeting)

For four of the sample projects, no open house meeting materials were available, and only the project websites were examined. Three of these projects (Cases 21, 23, and 24) were planning studies, and one (Case 11) was unique in that it involved a proposed public-private design-build contracting initiative following a completed environmental review process.

4.2 Coding and Analysis of Sample Materials

Meeting materials and project websites were coded in a step-wise fashion, looking first at individual components or “items” (individual display boards, presentation slides, or web pages), then aggregating the information to generate overall codes for each meeting or website.

Coding of Open House Meeting Materials

The materials for each meetings (display boards and/or presentation slides) were individually coded using the first of the three checklists shown in Appendix B. These were then aggregated for each meeting as a whole using the second, summary checklist.

Table 4.1: Sample Projects by Phase

Case/Project Name	Location	Phase	# Mtgs	Web
1) Southwest to Northeast Transitway	Fort Worth, TX	EIS	2	
2) US 301 Waldorf Area Improvements	Waldorf, MD	EIS	3	
3) Westerville Rd SR3	Regional, OH	Planning	1	
4) US 69	Fort Scott, KS	Planning	2	x
5) Provo to Nebo Corridor Study	Regional, UT	Planning	1	x
6) Arapahoe Rd Corridor Study	Centennial, CO	Planning	4	
7) CSAH 28	Dakota Co., MN	Planning	3	
8) US 56 Corridor Plan	Multi-county, KS	Planning	1	x
9) Kuna-Mora Rd Corridor Study Ph II	Garden City, ID	Planning	1	
10) Alfred St Corridor Study	Tavares, FL	AA Study	3	
11) Milwaukee Connector Study	Milwaukee, WI	AA Study	1	x
12) Wilshire Bus Rapid Transit	Los Angeles, CA	Planning		x
13) I-65-US 31 Mobility Matters	Birmingham, AL	EA	1	
14) RTD Fastracks-Central Corridor	Denver, CO	EIS	2	
15) Port Manatee Connector Study	Regional, FL	EIS	3	
16) Metra Connects AA Study-Star Line	Regional, IL	AA Study	1	
17) University Ave Corridor Study	Champaign, IL	Planning	2	
18) Johnson County Gateway	K City/Topeka, KS/MO	Planning	1	x
19) Southwest Transitway	Minneapolis, MN	Planning		x
20) S Grand Great Streets Initiative	St Louis, MO	Planning	2	
21) Sahara Ave Corridor Study	Las Vegas, NV	Planning		x
22) The I-81 Challenge	Syracuse, NY	Planning		x
23) Garden Parkway	Regional, NC	EIS	1	
24) Lake Oswego to Portland Transit	Portland, OR	EIS	1	
25) Greenville Transit Feasibility Study	Greenville, SC	Planning	1	
26) Columbia River Crossing	Vancouver, WA	EIS	4	x
27) US 151/Verona Road	Madison, WI	EIS	2	
28) Missile Drive Corridor Plan	Cheyenne, WY	Planning	2	
29) Glassboro-Camden Line	Regional, NJ	AA/EIS	3	x
30) Elgin-O'Hare West Bypass	Chicago, IL	EIS	4	x
31) Seward Glenn Connection	Anchorage, AK	EIS	3	x
32) Rt 460 Corridor Improvements	Regional, VA	Design/build		x

Table 4.2:
Distribution of Meeting Materials by Project Phase and Study Stage

Project Phase:	Planning Study			Environmental Assessment/EIS			
Study Stage:	Start	Middle	End	Start	Middle	. . . . .	End
Case-Meeting:				1-1	1-2		
				2-1	2-2	2-3	
	3-1						
	4-1		4-2				
			5-1				
	6-1	6-2/3	6-4				
	7-1	7-2	7-3				
			8-1				
	9-1						
				10-1	10-2	10-3	
		12-1/2	12-3				
			13-1				
	14-1	14-2					
				15-1			
				16-1			16-2
				17-1	17-2	17-3	
			18-1				
	19-1		19-2				
	20-1						
	22-1		22-2				
						25-1	
					26-1		
			27-1				
					28-1/2/3/4		
					29-1	29-2	
	30-1		30-2				
		31-1	31-2	31-3			
				32-1	32-2/3/4		

Each of the 57 open house meetings was coded on 25 dimensions, including:

- the seven bridging tests introduced in Chapter 2,
- 12 supporting indicators used in those tests,
- the percentage of items that included process-related information (as opposed to substantive information),
- the percentage of items that included spatial data (maps or diagrams),
- the percentage of items that included expressions of uncertainty, and
- the proportion of total content represented by words, numbers, and images.

If the meeting included more than one type of material, such as a set of display boards and a presentation, each of these was coded separately. Where the scores for these materials differed, the higher of the two scores was used for the bridging tests and indicators and the average of the two was used for the quantitative indicators. Data from the hand-coded sheets created for each meeting were transcribed to an Excel spreadsheet for each meeting, and additional qualitative observations about the materials were noted on the spreadsheets.

Coding of Project Websites

The components of each website were coded using the third checklist in Appendix B. Websites were coded on 21 dimensions:

- six of the seven bridging tests (excluding Test 3, which was not applicable),
- the 12 supporting indicators used in those tests,
- key messages on the home page,
- navigation choices from the home page, and
- interactive features of the site.

For those websites with a Frequently Asked Questions section (12 of the 15 sample websites), the FAQ section was coded and analyzed separately. The types of questions included were recorded, and each set of FAQs was also coded on the following dimensions:

- the level of uncertainty expressed in the FAQs overall (high/medium/low), and

- the relative emphasis the FAQs appeared to place on the reader's position as a thinking citizen, facility user, or affected party, based on the topics included. This was expressed as a rank order of 1, 2, or 3 for each of these positions. This dimension, which is related to the concept of the citizen's "subject position" described in Chapter 1, is discussed in more detail in Section 4.4.

Coding Protocol for Bridging Tests

In developing the coding protocol, tests were devised for each of the seven normative criteria for interpretive work to bridge the expert/citizen divide, set forth in Chapter 1. These tests, previously summarized in Table 2.2, are reproduced below as Table 4.3. This section describes in more detail how each test was defined and applied.

Test 1: Keeping Findings Open to Inquiry

The first test, Keeping Findings Open to Inquiry, is based on three indicators: use of a tentative manner of presentation, the practice of inviting comments on data, and the inclusion of discussion questions in the material.

Tentative presentation (TENT)

Materials were coded as tentative in presentation if substantive information was expressed in a tentative manner and tone, suggesting that information was subject to discussion, further analysis or reconsideration. An overall judgment was made for each set of materials based on the predominant manner of presentation for substantive material. This indicator could be coded as yes, somewhat, or no, but in most cases, a clear yes or no could be established.

Examples of tentative presentation include the use of conditional language, terms such as "estimates," "ideas," or "possibilities," data expressed in ranges (such as low and high side estimates of the magnitude of an environmental impact), or maps showing a potential project alignment with a broad swath of color rather than a defined line.

Table 4.3: Tests of Bridging Criteria

Bridging Tests	Indicators
Keeping findings open to inquiry/challenge	Are statements presented in a tentative manner?
	Do materials invite participants to comment on data, forecasts, or description of conditions?
	Are questions included to encourage discussion?
Including citizens in problem-setting	Are needs, problems, or issues discussed in any detail?
	Do materials encourage participants to help identify issues, define problems, or set goals?
	Do materials invite participants to contribute to or comment on a list of environmental issues to be studied?
Avoiding closure in problem definition	Do open-ended materials on problem-setting continue to be provided in successive rounds of meetings?
Encouraging value inquiry	Do materials encourage thinking about the community's overall future, the sustainability of the transportation system, or similar big-picture questions?
Showing what is consequential	Do materials provide historical background on project issues or previous studies?
	Do materials refer to prior community/citizen concerns, questions, or comments received?
	Do mateirals provide information on potential environmental impacts?
	Do materials provide a good "feel" for what the project would be lke (or in early stages, for how current issues or expected changes may affect the community)?
Nurturing dialogue about	Do materials invite participants to help generate options or alternatives?
	Do materials describe the decisions still to be made?
Coaching citizens in the rules of the game	Do materials include detailed information on the decision-making process, organizations involved, timeline, and instructions about how to participate?

Statements revealing a search process also suggest a tentative stance that affords further community discussion. For instance, a display board for the Lake Oswego to Portland Transit Project in Oregon stated: "We're looking for opportunities to locate a trail" as part of the project.

Also conveying a tentative stance are statements indicating that an issue will be revisited, as in materials for the Port Manatee, Florida connector study saying that the project "Purpose and Need Statement will be re-examined as the study proceeds." Conversely, materials that create a sense of finality about preliminary decisions were coded "no" for this indicator. For example, displays for the Greenville Transit Feasibility Study in North Carolina stated that "station locations *have been chosen* to offer convenient access to existing neighborhoods…" (italics added) rather than indicating these as potential locations, despite the early stage of this project.

Another example of tentative presentation is to describe the "no-build" alternative as a potentially viable choice among a set of project alternatives. This conveys an attitude of open-mindedness about whether the project should proceed at all. (The opposite practice, presenting the no-build alternative in a dismissive manner, may be more common.) A related example of a non-tentative presentation seen in some of the materials is a schedule showing the future construction year of a project that is currently in an early planning phase, with no consensus on whether or not to build it. Similarly, flow charts are sometimes used to convey the "forward motion" desired by a project's sponsors, making construction appear inevitable.

Inviting comment on data (DATA)

Materials were coded as inviting comment on data if they included statements or questions soliciting the reader's comments on descriptions of conditions, forecasts, impact assessments or other background data. Specifically excluded from this category are requests for comments on a proposed project concept, project alternatives or project features. The purpose of this

distinction is to limit this indicator to evidence of attempts to encourage discussion of the initial empirical data or assumptions associated with a project – the "what is going on" rather than the "what ought to be done." By encouraging such inquiry, practitioners can help to avoid the "pretense that empirical findings speak for themselves" (Fischer 2009). This indicator was coded yes or no.

Including discussion questions (DISQUEST)

This indicator refers to the use of discussion questions directed at the reader/viewer of materials. These probes could be on any topic, including those excluded from the above category. It suggests an effort by the information designer to "spread questions" as a means of promoting an open dialogue (Forester 1993). While that effort may be more or less genuine on the part of the practitioner using this technique, the act of posing such questions is likely to prompt citizen responses that must be addressed in some way, and practitioners who seek to avoid having their information challenged are unlikely to engage in this practice for the sake of appearance. This indicator was coded yes or no.

An example from the Missile Drive Corridor Study in Cheyenne, Wyoming, included a series of general questions about the emphasis the project should take, followed by questions on specific aspects of the project:

- "…what enhancements would you like to see for the proposed Greenway path along Missile Drive? What destinations should it connect to?
- What changes, if any, would you like to see happen to Old Happy Jack Road?
- What problems do you see at the 19th Street intersection and what should be done to improve it?"

Another example, from the South Grand "Great Streets Initiative," a planning study in St. Louis, is shown in Figure 4.1.

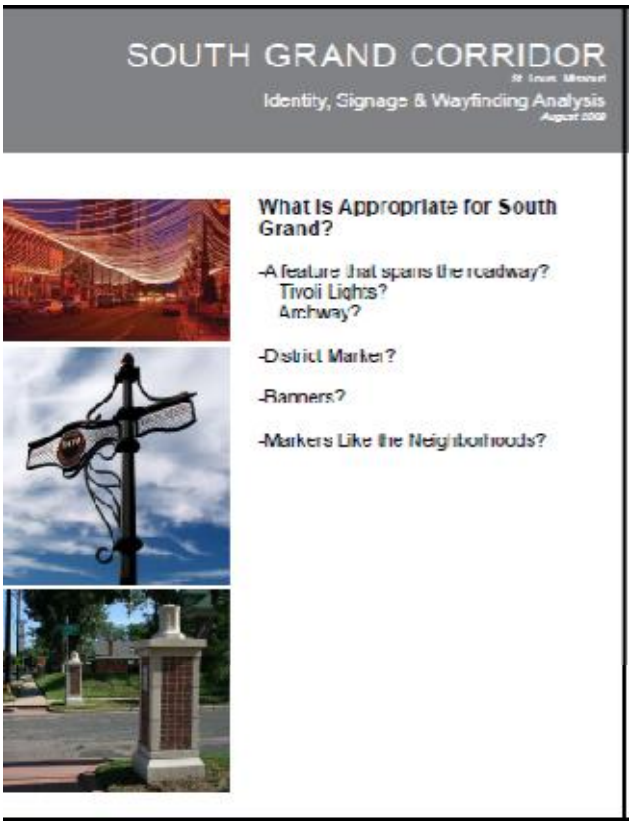


Figure 4.1: Discussion Questions on Meeting Display Board, Case 22 (St. Louis)

Aggregation of Supporting Indicators

The results for this test were based on the three supporting indicators. The test was considered to be met automatically if the second supporting indicator (inviting comment on data) was coded yes. Otherwise, positive results for the first and/or third indicators yielded an overall result of yes, somewhat or slight, depending on the combined strength of the two indicators.

<u>Test 2: Inclusion of Citizens in Problem-Setting</u>

The second test, Inclusion of Citizens in Problem-Setting, was also based on three supporting indicators: the presence of a detailed discussion of needs, issues, or problems; asking for help in defining problems or identifying issues; and inviting comment on environmental issues to be studied.

Discussion of needs, issues, and problems (PROBDISC)

This indicator reflects the presence of materials related to needs, problems, or issues related to the corridor or the proposed project. This includes information related to the project purpose, policy context, or potential impacts, as distinct from information about the proposed project characteristics. This indicator could be coded yes, somewhat, slightly, or no depending on the extent of the discussion. Common examples were forecasts of future traffic congestion based on growth projections, and descriptions of current conditions related to traffic safety, pedestrian mobility or economic activity in a corridor. An example of a display board setting forth the issues giving rise to the Columbia River Crossing project in Vancouver is shown in Figure 4.2.

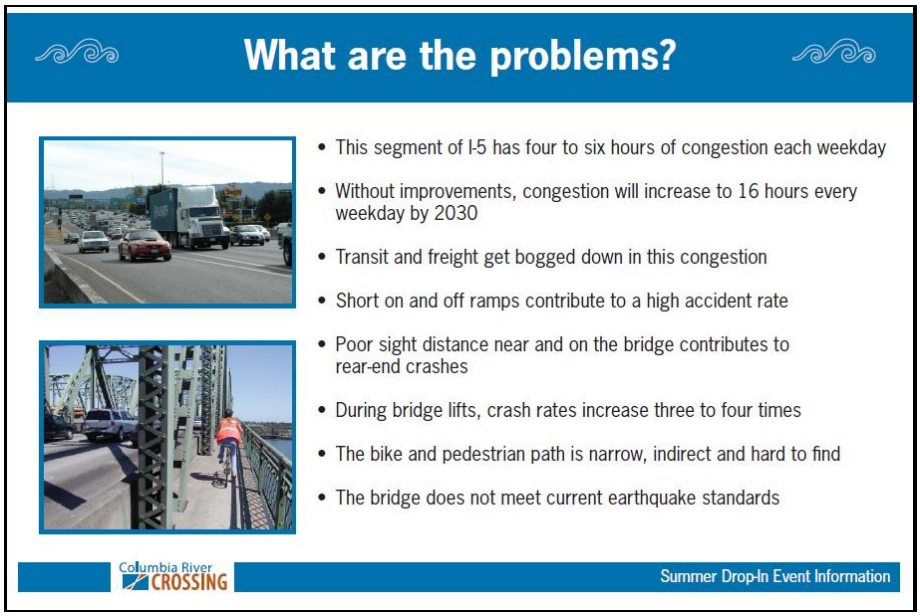


Figure 4.2: Problems Outlined on Display Board, Case 28 (Vancouver)

Asking for help defining problems/issues/goals (ISSUES)

This indicator refers to statements or questions that solicit comments or suggestions on the policy context, purpose, needs, or issues related to a project, as distinct from comments on project characteristics, proposed alternatives, or whether the project should go forward. This indicator could be coded yes, somewhat, slightly, or no. Figure 4.3 illustrates an interactive

approach in which participants were asked to identify their areas of concern with a dot on a map.

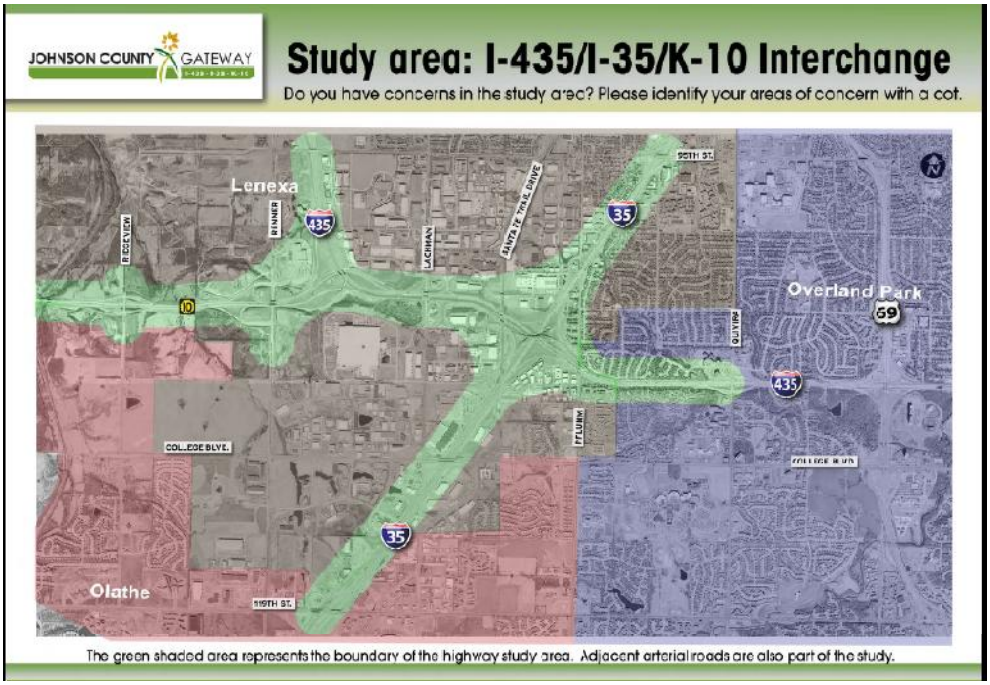


Figure 4.3: Display Board Inviting Identification of Concerns, Case 20 (Kansas City/Topeka)

Inviting comment on environmental issues to study (SCOP)

This indicator was coded yes if the communications materials invited participants to contribute to or comment on a list of environmental issues to be studied. The expectation was that this indicator would capture invitations to comment during the scoping phase of environmental studies, although it could also occur at other points. The mere fact of a meeting being held during the scoping phase, or being called a Scoping Meeting, did not result in this indicator being coded “yes” unless there was some indication that participants were actually being asked for their ideas or opinions on the issues to be studied. This indicator was coded yes or no.

Aggregation of Supporting Indicators

A finding of “yes” for Test 2 required a “yes” result for both the PROBDISC indicator and at least one of the other two supporting indicators. The rationale here is that to engage citizens

in problem-setting requires some effort to outline needs, issues or problems in the materials along with invitations to discuss these issues. For example, at the first meeting for the Metra Connects Alternatives Analysis in Illinois (Case 18), the materials provided a comprehensive, wide-ranging statement of problems giving rise to the project, but provided no encouragement to discuss them, so this meeting was coded “no” for Test 2. In addition to yes and no, intermediate categories of “somewhat” and “slightly” were allowed for this test, based on weaker results for the supporting indicators.

Test 3: Avoiding Closure in Problem Definition

The third test refers to apparent efforts to maintain a degree of tentativeness in problem definition as a planning or project study process unfolds. This test was applied to meeting materials only, not websites, since it required a longitudinal dimension not available for websites surveyed at a single point in time. To evaluate this criterion, the presence of open-ended material on problem-setting was checked throughout successive rounds of meetings to determine whether problem definition was being maintained as a potential deliberative focus or had dropped out of the picture. This test was coded yes, no, or not applicable (for first meetings and cases with a single meeting).

Test 4: Encouraging Value Inquiry

This test was based on the presence of materials that appear to encourage readers to think about the overall future of a community or region and the way in which the corridor or project decision-making might contribute to that future. Similar “big picture” questions involving the environmental sustainability of the regional transportation system, or the desirability of replicating current conditions or continuing on a path defined by current trends were also considered to be values questions. In addition, this test was coded “yes” if participants were invited to help formulate (not merely to comment on) a set of evaluation criteria by which project alternatives would be judged.

Test 5: Showing what is Consequential

Test 5, the most complex of the tests, is a construct based on four supporting indicators designed to capture distinct elements of the interpretive task of showing what is consequential about a plan or project for a given community. The supporting indicators are: providing historical background on issues, referencing prior community concerns, providing information on potential environmental impacts, and providing a good "feel" for a project or for current conditions.

Providing historical background on issues (HIST)

This indicator refers to the inclusion of information on substantive issues raised in prior studies, plans, or proposals involving the corridor in question, or descriptions of previous controversies, stalemates, and decisions reached. As background for the new study or project proposal, historical information of this type typically points to issues likely to be of consequence once again. This indicator was coded yes, somewhat, slightly, or no. An example is shown in Figure 4.4

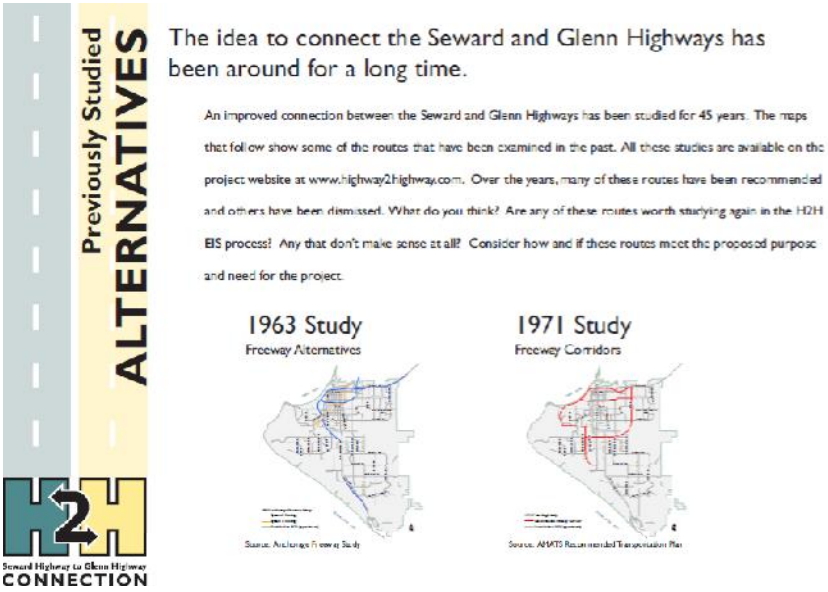


Figure 4.4: First of 3 Displays Showing Previous Study Findings, Case 10 (Anchorage)

Referencing prior community concerns/comments (COMMUNITY)

This indicator was coded yes if materials referred to citizens' comments or concerns raised previously, such as at earlier meetings, in survey responses, or through other forms of outreach. This indicator was coded yes or no.

Providing information on potential environmental impacts (IMPACTS)

This indicator reflects the provision of information on the potential or projected environmental consequences of a proposed project or set of alternatives, including socioeconomic impacts such as property takings and noise or air quality impacts. This indicator was coded yes, somewhat, slightly, or no.

Providing a good "feel" for project or conditions (GDFEEL)

This indicator is a relatively subjective but necessary component of consequentiality. Initially, the intent was to capture whether or not materials appeared to provide a sound basis on which to understand how a project might function in a community, including such dimensions as its size and scope, what it might look like, or how it might affect the daily life of residents and persons using the corridor. After a few test cases were coded, however, it became apparent that this approach was too narrow, as it did not fit those early stage corridor studies in which no specific concepts had yet emerged. For these cases, this indicator instead is based on whether or not materials make clear the consequences of current or projected conditions for the community (for example, data on crash history showing the presence of a safety problem). This indicator was coded yes, somewhat, slightly, or no.

Figure 4.5 is an example of a graphic that effectively conveys the scale and neighborhood placement of a proposed transit station. By showing the proposed location on top of a combined aerial/parcel map (to the left), the designer helps to portray the likely impacts of the alignment on this neighborhood. On the right, a sketch of the immediate station area and parking facilities helps convey the scale of the proposed station.

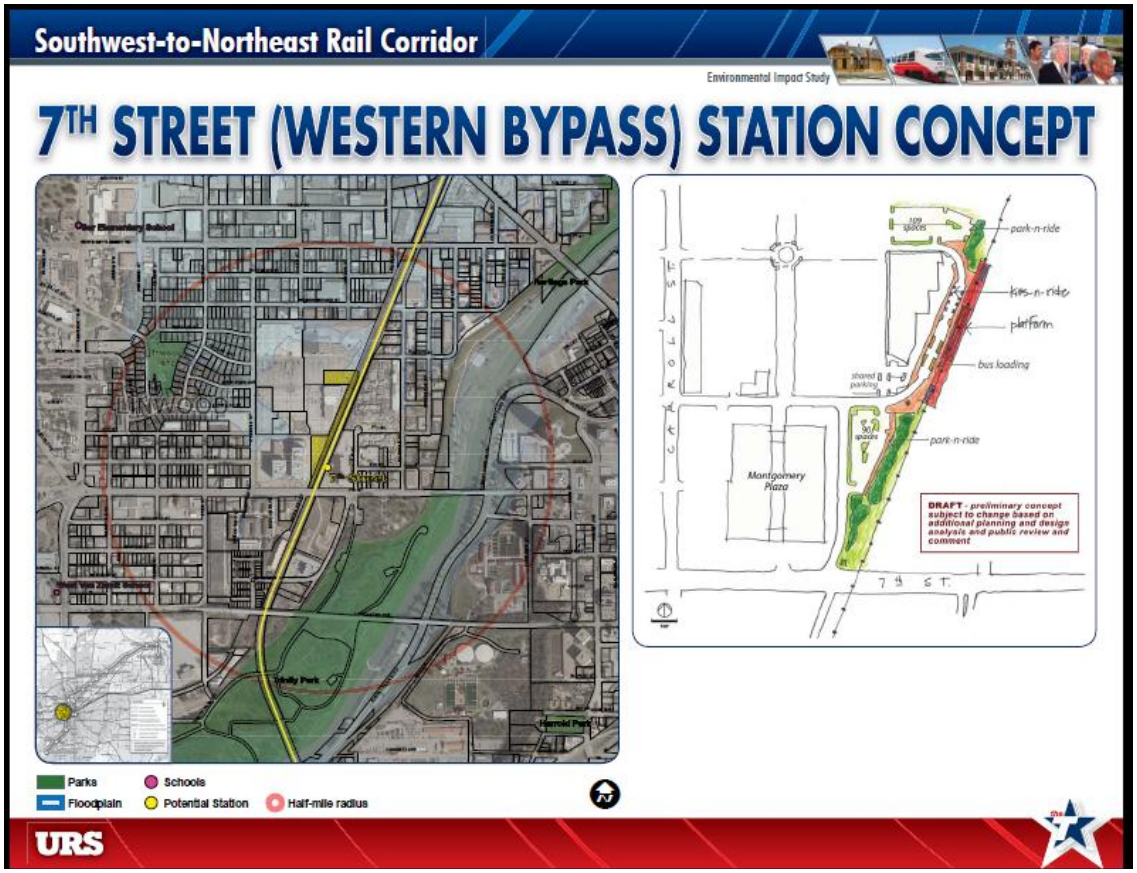


Figure 4.5: Display Showing Scale and Neighborhood Placement of Proposed Transit Station, Case 1 (Fort Worth)

Aggregation of Supporting Indicators

Test 5 was considered met if either the fourth indicator, GDFEEL, was coded yes, or if at least two of the other indicators were coded yes. Additional judgments were applied based on the strength of the supporting indicators, resulting in possible overall codings of yes, somewhat, slightly, and no.

<u>Test 6: Nurturing Dialogue about Options</u>

Test 6 is based on two supporting indicators: inviting participants to help generate options or alternatives, and describing the decisions still to be made. As discussed in Chapter 1, a critical interpretive task in nurturing dialogue about options is to point out the aspects of a decision or design process that are in flux and warrant discussion, hence the inclusion of the

second indicator. (Materials soliciting preferences on a pre-specified set of alternatives did not count towards this test.)

Inviting participants to help generate options (GEN)

Materials were coded yes, somewhat, slightly, or no on this indicator, depending on the extent to which they expressed an invitation to help create new options for consideration or to contribute ideas for modifying options already on the table.

Describing the decisions still to be made (DECIS)

This indicator reflects the inclusion of information on the aspects of a plan or project concept that still need to be worked out technically, discussed further in the community, or both. For example, this could include a list of issues to be addressed by the project team before the next round of meetings, or a flow chart showing an interrelated series of decision points to come later in the process. This indicator was coded yes, somewhat, slightly, or no, depending on the extent and clarity of the description provided and its presumed usefulness to participants in helping to foster dialogue about the options.

In an example from a Minnesota road project (Case 7), meeting materials presented a "preferred alternative" but identified several things to be studied further, including how the connecting streets should be aligned with the trunk road, the placement of traffic signals, and the traffic pattern and parking at a school along the road, a subject of concern to local citizens. In the Columbia River Crossing project (Case 28), materials indicated that large issues remained to be decided, including the type of bridge to be built and the location of an elevated transit station, a controversial topic for which a special working group had been formed.

Aggregation of Supporting Indicators

For this test to be met at the "yes" level required positive results for both of the supporting indicators, with at least one of them coded "yes" and the other at least "somewhat." However,

a result of “somewhat” or “slightly” was possible based on partial positive results for one or both of the supporting indicators.

Test 7: Coaching Citizens in the “Rules of the Game”

The final test is based on whether the materials included orienting information on the decision-making process, the organizations involved, the time frame for decision-making, and instructions about how to participate. This test was coded yes, somewhat, slightly, or no depending on the extent and scope of the relevant information.

Coding Protocols for Quantitative Indicators – Open House Meetings

For the open house meetings only, in addition to results for the seven bridging tests, the content analysis yielded six quantitative measures:

- The percentage of items containing process-related information
- The percentage of items containing expressions of uncertainty
- The percentage of items containing spatial information
- The proportion of total content composed of words, numbers, and images.

Each of these measures was derived from codes for individual meeting display boards or slides, aggregated to provide a total for the meeting overall. For the first three of these indicators, each item was coded yes or no based on the presence or absence of the coded material. The last three are based on an estimate of the physical space devoted to each type of information in each item.

Process-related Information

Meeting displays, slides or other items were coded yes for process-related information if they included a description of the planning study or project development process to be followed, the organizations involved, the public participation process and opportunities for future involvement, the sequence of decisions to be made, regulations governing the decision process, or a schedule or timeline. Materials providing an overview or agenda for the current

meeting or information on how to participate or comment were also coded as including process-related information.

Expressions of Uncertainty

This indicator was developed after a portion of the materials had been coded and the majority of the practitioner interviews had been conducted. At that point it appeared that the interplay between the more fixed elements of a project and the more fluid elements (either as regarded by project professionals, or as presented to citizens) was important to the interpretive process, so that developing a quantitative measure of apparently "fluid" information could be useful. The remaining materials were coded for the presence of expressions of uncertainty, and the initial coded materials were revisited to add this new code. The following examples of materials coded yes for expressions of uncertainty show the range of these expressions:

- Items described as alternatives or options
- Items described as concepts, or as "proposed," "preliminary," or "initial." (An example is the statement "Station locations are preliminary for modeling purposes only – will be defined further in subsequent stage.")
- "Menus" or "palettes" of potential treatments implying options and choice – such as examples of different types of public art, different traffic control treatments that could be applied to intersections, or different designs for interchanges to be considered.
- Lists of pros and cons of an approach or option, implying choice
- Drawings stamped with caveats, such as "preliminary subject to change based on additional planning and design analysis"
- Inclusion of question marks on statements or map features, such as a potential future rail connection to an airport shown on a map with a question mark
- Statements about the uncertainty of political support or funding for a project.

Note that this indicator is distinct from the supporting indicator in Test 1 for a tentative manner of presentation. That indicator reflects an apparent openness to further discussion or joint fact-finding. Uncertainty, in contrast, denotes a fluid situation, with decisions not yet made. These two conditions can overlap, but need not do so. While information expressing uncertainty can be conveyed in a manner encouraging dialogue, it can also be presented in a set manner that discourages inquiry, for example, with a statement such as "Seven alternatives have been screened for further analysis; a preferred alternative will be selected and design will start next year."

Spatial Data

This indicator was included to get a sense of the degree to which public communications about corridor projects rely on maps. Each open house item was coded yes for spatial data if it included a map, engineering diagram, aerial photograph, or conceptual sketch in plan view.

Information Modality: Words, Numbers and Images

Each item was also coded for the relative proportion of all content represented by words, numbers, and images. In addition to the use of numerals, numbers were defined to include quantitative displays without numerals, such as thematic maps using color intensities to show concentrations of a variable by zone. The modality estimates were based on the physical space devoted to each type of information in each item, using a quick visual inspection performed by two coders. Where the coders' results differed, the materials were reviewed again more closely to determine the best estimate.

Analysis of Coded Materials

Once coding was completed, several different types of analyses were performed. For open house meetings, this included global analysis of the entire set of 57 meetings for the seven bridging tests, 12 supporting indicators, and the six quantitative content analysis indicators. A master matrix was created to summarize data from the 57 individual coding spreadsheets described in the previous section. The master matrix was used to calculate frequencies and summary statistics for the quantitative indicators. For projects with a sequence of meetings over time, a longitudinal analysis was also performed to assess shifts in each indicator over time and assess typical patterns that might be observed at the beginning, middle and end of a planning process. Summary results for open house meetings were also compared by phase (planning study or environmental assessment) and by the predominant transportation mode being studied or proposed (highway or transit).

For project websites, the data from the hand-coded sheets created for each website was also transcribed to a single master matrix. This matrix was used to calculate frequencies and simple summary statistics for the bridging tests. The FAQs were also analyzed as a group for their thematic and dialogical content. For this analysis, a typology of FAQ topics was constructed based on the 12 cases examined. Each of the topic types identified was then examined to determine its logical relationship to three “subject positions” that a citizen could be said to occupy: thinking citizen, facility user, or affected party.

Summary-level results for open house meetings were also compared to those for websites. For the 11 cases with data for both open house meetings and websites, indicators for the two types of materials were also compared by project.

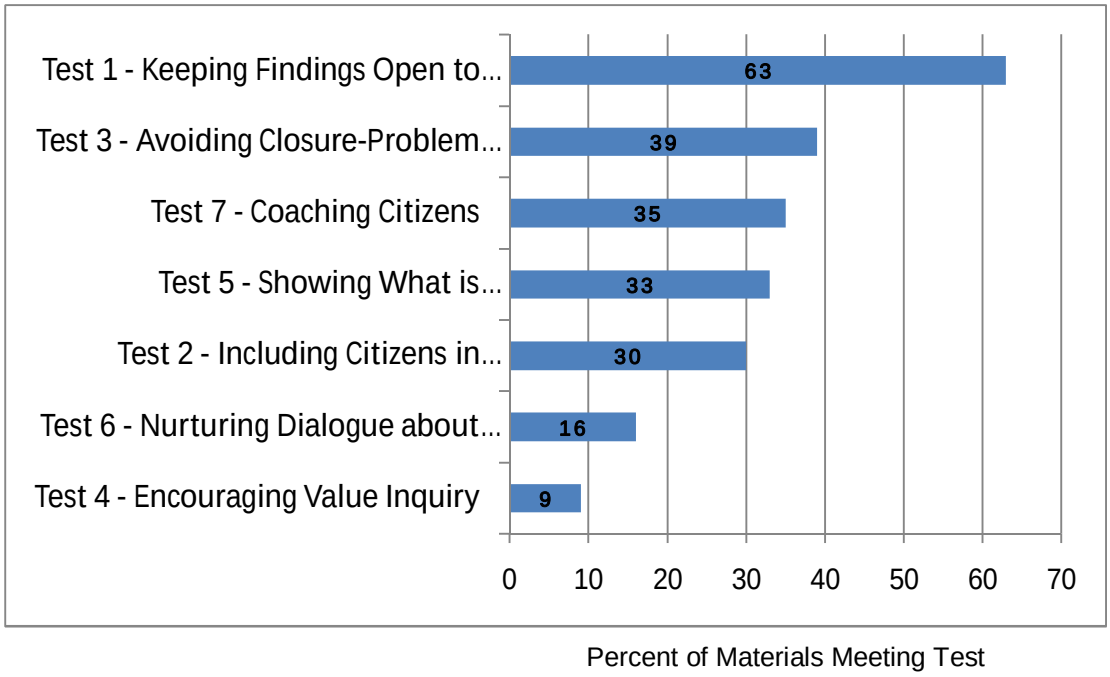
4.3 Results for Open House Meeting Materials

This section describes the results of the bridging tests and quantitative content analyses for the open house meeting materials. Global results for the set of 57 meetings are presented, followed by comparisons by project phase (planning vs. environmental study) and by predominant transportation mode (highway vs. transit). Longitudinal trends for projects with multiple meetings are also reviewed, along with observations by meeting type.

Bridging Tests - All Open House Meetings

Table 4.4 provides detailed results for each of the bridging tests and their supporting indicators. By far the highest positive result was for Test 1, keeping findings open, with close to two-thirds of the materials meeting the test. Roughly one-third of the materials met tests 5 and 7 (showing what is consequential and coaching citizens), and over one-third of applicable meeting materials met test 3. The remaining tests were met by less than one-third, with especially weak results on tests 4 and 6 (nurturing dialogue about options and encouraging value inquiry). Figure 4.6 shows the results for each test in declining order.

Figure 4. 6: Bridging Test Results for All Open House Meeting Materials



Test 1 – Keeping Findings Open to Inquiry

Test 1, Keeping Findings Open to Inquiry, was met by nearly two-thirds of the meeting materials (63%). This was the highest positive result for any of the seven bridging tests. An additional 21% of meeting materials met this test somewhat or slightly, while 16% failed to meet it. Reviewing the supporting indicators, close to three-fourths of the meeting materials used a predominantly tentative manner of presentation and 40% included discussion questions. A far lower percentage, just 12%, invited comment on empirical data, the weakest result for any of the 12 supporting indicators.

Test 2 – Inclusion of Citizens in Problem-Setting

Just over half of the meeting materials met Test 2 at either the yes, somewhat or slightly levels, while 47% failed to meet it. While needs, problems or issues were discussed in over three-fourths of the materials, far fewer materials asked citizens for help in defining problems, issues or goals (32%). About one-fifth of the materials invited comment on environmental issues to be studied.

The relative absence of materials designed to engage citizens in problem-setting suggests that many of the designers held a narrow view of the appropriate role of citizens attending these open house meetings. The materials often seem geared to a participant whose concerns would be limited to being able to understand and react to localized impacts, such as a road's consequences for property values, instead of one who is interested in the project issues and decisions on their merits and as they apply to the wider region. For example, in the Provo to Nebo Corridor Study in Utah (Case 5), which aimed to preserve land for roads to be built in the far future, the materials explained that the study had "looked at regional impacts, now we want to get input on local impacts"—the reason given for holding open house meetings with the general public. This statement conveys an assumption that the general public would not be interested in deliberation on the regional impacts of the plan (let alone on whether land should be reserved for these roads, or some other approach taken).

On a number of other projects, the materials described citizen or stakeholder advisory groups that had been working for some time to frame a plan or develop alternatives prior to any meetings with the general public. In some of these cases it appeared that the open house meetings were being used simply to check that the general public would accept the results of the work done in these small handpicked groups. This would explain the lack of opportunity for the general public to help shape a planning study, even at a first public meeting where it might be expected. One meeting display went so far as to describe the difference between "the stakeholders" and the general public, reinforcing the limited role being assigned to the latter.

A relevant example is the Metra Connects Alternatives Analysis, a transit study in Illinois (Case 18), where the first and only meeting with the general public clearly came late in the study process after many stakeholders had already been consulted. Similarly, on the Lake Oswego to

Table 4.4: Results of Bridging Tests for Open House Meeting Materials

Test/Indicator:	**Frequency (%):**			
	Yes	Somewhat	Slightly	No
1-Keeping findings open to inquiry	63.2	5.3	15.8	15.8
Tentative manner of presentation	73.7	8.8	0.0	17.5
Invites comment on data	12.3			87.7
Includes discussion questions	40.4			59.6
2-Inclusion of citizens in problem-setting	29.8	12.3	10.5	47.4
Needs, problems or issues discussed	77.2	3.5	5.3	14.0
Asks for help defining problems/issues/goals	31.6	1.8	5.3	61.4
Invites comment on enviro issues to study	19.3			80.7
3-Avoiding closure in problem definition	39.4			60.6
4-Encouraging value inquiry	8.8	5.3	7.0	78.9
5-Showing what is consequential	33.3	28.1	8.8	29.8
Providing historical background on issues	43.9	3.5	7.0	45.6
Referencing prior community concerns/comments	36.8			63.2
Providing info on potential environmental impacts	50.9	5.3	8.8	35.1
Providing a good "feel" for project or conditions	28.1	12.3	10.5	49.1
6-Nurturing dialogue about options	15.8	40.4	14.0	29.8
Inviting participants to help generate options	29.8	5.3	5.3	59.6
Describing the decisions still to be made	64.9	3.5	7.0	24.6
7-Coaching citizens in the "rules of the game"	35.1	7.0	8.8	49.1

Portland Transit EIS (Case 26), the general public's role was apparently restricted to looking at options, rather than engaging the problem definition or project purpose. There were exceptions to this pattern, such as the Southwest to Northeast Transitway in Fort Worth (Case 1), in which open house participants were asked to help define the issues and invited to join upcoming community roundtables that would focus on station location and the design of individual stations.

Test 3 – Avoiding Closure in Problem Definition

Test 3 was applicable to approximately two-thirds of the meetings (those that were not either first or solo meetings). Of the materials for these meetings, 39% maintained a degree of open-ended discussion of the problems or issues to be addressed in the study throughout the sequence of meetings. An example was the County State-Aid Highway 28 planning study in Dakota County, Minnesota, with three open-house meetings over a five month period. Materials for the second and third meetings showed a progression, with new issues added to the table based on citizen concerns from previous meetings. Each set of displays included a prominent summary of the public concerns heard to date (also relevant to the COMMUNITY indicator for Test 5). For example, citizens wanted to make the area more pedestrian-friendly, improve walking routes to nearby schools, get better enforcement of speed limits and reduce truck traffic noise, none of which had been part of the planners' original presentation of issues at the first meeting. It appears from these and subsequent study materials that citizens succeeded in expanding the study focus to incorporate pedestrian concerns.[6]

Test 4 – Encouraging Value Inquiry

Test 4 results were particularly weak, with only 9% of the materials encouraging value inquiry at the "yes" level and another 12% at the somewhat or slight levels. Materials for nearly four-

[6] It is worth noting that across the materials corpus, pedestrian issues were frequently forced onto the agenda by citizens in this way, more than any other subject of concern.

fifths of the meetings failed to introduce any consideration of societal values apart from those of mobility and safety.

Test 5 – Showing What is Consequential

Test 5 was met by one-third of the materials at the “yes” level. A significant percentage of materials (44%) provided historical background on issues, 37% referenced prior community concerns, and 51% provided informational on environmental impacts. However, results for “providing a good feel” for a project or conditions were low, with only 28% doing so at the “yes” level. Fully half of the sample materials failed on this critical indicator.

The materials varied considerably on the extent and type of historical background provided. Some, such as the U.S. 151/Verona Road EIS in Madison, Wisconsin (Case 29), openly acknowledged previous controversy (in this case, disagreements over the Draft EIS that affected the current study). Some acknowledged limitations in previous approaches. For instance, the materials for the Alfred Street Corridor Study in Tavares, Florida (Case 12) explained that this was the second phase of an effort needed in order to “expand the set of options and do more outreach” than was done in the first phase. In contrast, materials for the Elgin O-Hare-West Bypass EIS in Chicago (Case 32) claimed that a transparent process would be used to provide a “fresh start” on the project, but did not provide any background on why a fresh start was needed or what had been done previously.

Test 6 – Nurturing Dialogue About Options

Very few materials met Test 6 at the “yes” level (16%), but a substantial percentage did so to a lesser degree, with 40% doing so “somewhat” and another 14% “slightly.” Fully 60% of materials failed on the first supporting indicator, inviting participants to help generate options. One-fourth of the materials failed to describe the decisions still to be made, a critical aspect of fostering dialogue.

Test 7 – Coaching Citizens in the "Rules of the Game"

Results were also relatively weak for Test 7, with half of the materials failing to provide clear guidance on the decision-making process or on how to participate. An example is Case 32, the Elgin-O'Hare West Bypass EIS in Chicago. Here, the presentation gave some background on the work of the stakeholder committees that fed into the various options presented, but never explicitly asked the public if they agreed with any of it. There was a summary map of issues identified by these stakeholders, but no opportunity for participants to add their concerns. The final meeting for this project described the decision process that would be followed going forward, but did not help the general public understand how to be part of it.

Content Indicators – All Open House Meetings

Table 4.5 provides statistics for the six quantitative content indicators for the open house meetings as a group. The average set of meeting materials contained process-related information in one-fifth of the display items, expressions of uncertainty in 43% of the items and maps in nearly half of the items (49%). However, figures for all three of these coded types of content varied considerably across cases, ranging from zero to 100%. Several meetings included no process-related information in the displays, and one included no substantive technical information (only process information), accounting for the high end of the range. Similarly, some meeting materials were entirely map-based and a few included no maps.

A wide variety of display items were coded as including expressions of uncertainty. The following examples from a roadway study in Madison, Wisconsin (Case 29) show the wide-ranging scope of the uncertainties communicated:

- "WisDOT is reevaluating concepts due to comments on the Draft Environmental Impact Statement"
- One approach would "probably require an arch bridge"
- Introduces questions on how specific intersections should be designed, and whether certain ramps should be eliminated or not.
- Identifies a long term alternative that would be built 20 or so years later "as warranted by safety and congestion."

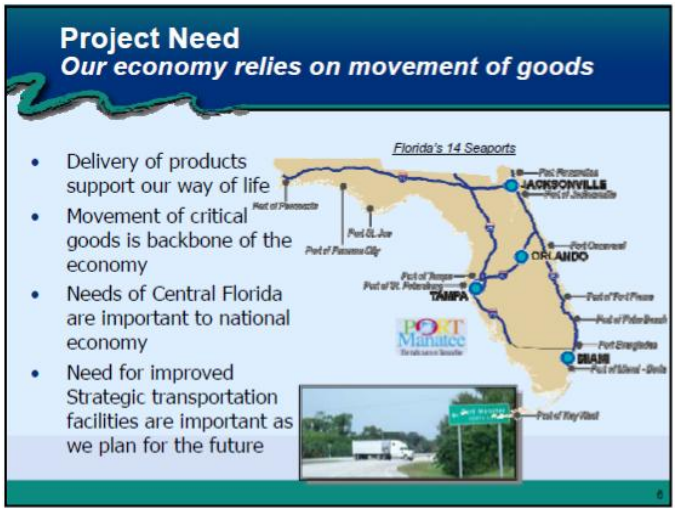
- Indicates both “proposed improvements” and “improvements under consideration” on a map.
- Talks about the potential for freeway conversion “when needed.”
- Says an access road extension could be constructed in the interim, but we are “still determining the best way to cross the bike path” [across it].

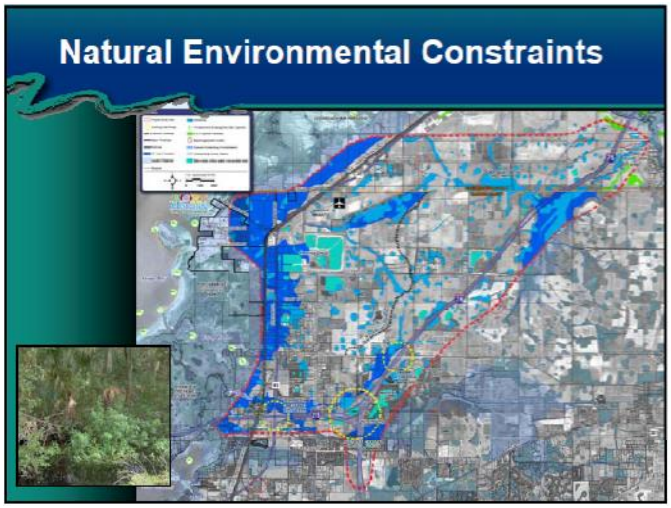
The percentage of display items expressing uncertainty had no systematic relationship with any of the bridging characteristics. As an example, on the Johnson County Gateway planning study in Kansas City/Topeka (Case 20), relatively few display boards (17%) expressed uncertainty, but this project had some of the best examples of problem-setting materials; the displays went to great lengths to explain why the study was being done and, how it emerged from previous planning, and clearly asked for help identifying issues and concerns to be analyzed.

Table 4.5: Content Statistics for All Open House Materials

% of Items Containing:	Average	Median	Low	High
Process-related information	21.6	20.0	0	100
Expressions of uncertainty	42.6	44.0	0	100
Spatial information (maps or diagrams)	48.9	48.0	0	100
Modality: % of Overall Content:				
Words %	44.9	44.0	5	87
Numbers/quantitative displays %	5.0	4.0	0	19
Images %	49.5	50.0	13	90

As expected, given the need to depict spatial decision-making for linear corridors, maps were routinely used to convey a wide range of data and argumentation. In Figure 4.7, a selection of three maps from meeting presentations for the Port Manatee Connector EIS in Florida (Case 17) shows the range of uses. The top map illustrates an economic argument for the project that is primarily presented in words. The next one highlights environmental constraints that may affect where the proposed roadway can be located. (Other maps in this sequence showed other types of constraints analyzed, including cultural resources, socioeconomic





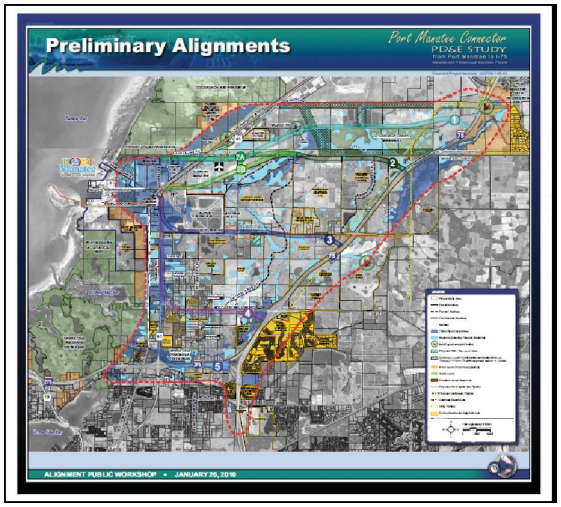


Figure 4.7: Presentation Maps Showing Range of Uses

constraints, and engineering constraints.) The third map is a typical portrayal of preliminary alternatives. A common practice in these meetings is to combine words and maps on a display or presentation slide, with the words typically more central to the communication, as in the example in Figure 4.8.

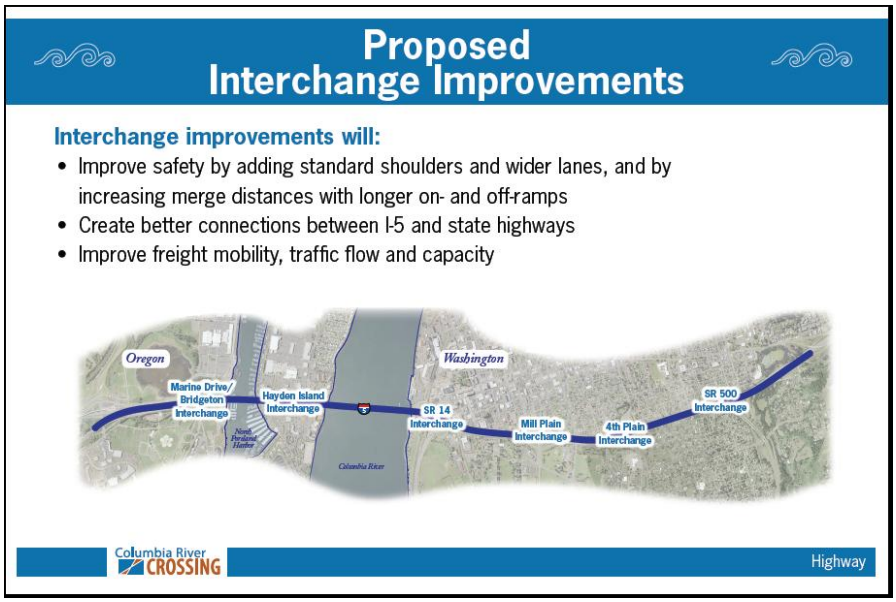


Figure 4.8: Text with Spatial Illustration, Case 28 (Vancouver)

The modality analysis also shows significant variation across cases. The most striking finding is the small role played by numbers or other quantitative information in the displays. The average set of meeting materials devoted only 5% of total space to quantitative data and the median value was 4%. Materials for twelve meetings included no quantitative data at all. The highest proportion represented by quantitative data in any of the meetings was 19%, while words ranged from 5-87% and images from 13-90%.

Comparison by Project Phase

Of the 28 projects with open house meetings, 17 were classified as being in a planning phase and 11 were classified as being in an environmental review phase. The two sets of projects included 30 and 27 meetings, respectively. These two sets of materials were compared to

see if any notable differences emerged on the bridging tests or content indicators. The results are shown in Appendix C, Tables C.1 and C.2.

The overall results for Test 1 were comparable by phase. The percentage of the planning study materials inviting comment on data was lower, at 7%, compared to 19% for the environmental study materials. For Test 2, a higher percentage of planning study materials (63%) reflected apparent efforts to include citizens in problem-setting to at least some degree than was the case for environmental study materials (41%).

On Test 3, planning studies were more apt to continue including open-ended materials on problem definition over time than environmental studies. Nearly half of the planning study materials (48%) met this test, while 32% of the environmental studies did so. The difference may be due to the use of a prescribed Purpose and Needs statement to codify problem definitions in NEPA studies. These statements play a formal role in comparing alternatives, and their formal status makes changes impractical after a certain point. Those environmental phase materials that did meet this test generally did so because of an open stance regarding the types of environmental impacts to be considered, rather than an open stance regarding the purpose of the transportation project itself.

For Test 4, encouraging value inquiry, lower results were seen among planning materials than environmental phase materials. Only 3% of the planning study materials met this result at the “yes” level, with 13% meeting it to some degree. For environmental studies, 15% met Test 4 at the “yes” level and 30% met it to some degree. A number of the environmental studies were coded positively on this test because they encouraged citizens to help develop the evaluation criteria by which project alternatives would be judged. Although this also occurs in some studies at the planning stage, based on the materials corpus, it does not appear to be a common practice.

On Test 5, planning phase materials were slightly stronger overall at showing what is consequential than environmental phase materials. Roughly the same proportion provided historical background, but planning study materials were more apt to reference prior community concerns (43% vs. 30%) and to provide a good feel for the project or conditions (37% vs. 19% at the “yes” level). Not surprisingly, environmental phase materials were much more likely to include information on potential environmental impacts (67% vs. 37%).

For Test 6, environmental phase materials were more often coded as nurturing dialogue about options at the “yes” level than planning phase studies (22% vs. 9%). The percentage inviting participants to help generate options was comparable across the two groups. The apparent reasons for not doing so differ, however. In planning studies, the first meeting is often used to discuss issues and background data, with discussion of options deliberately deferred. In contrast, discussion of options is typically appropriate from the start of environmental studies of transportation projects, but once alternatives are formally spelled out, it may be more difficult to incorporate new ideas suggested by citizens. Consequently, practitioners may be less likely to invite citizens to help generate options in the later stages of an environmental study.

The environmental study materials were more apt to describe the decisions still to be made (with 82% vs. 50% doing so). The latter result may be due to the federally prescribed procedures for NEPA studies. The existence of these set procedures, as well as their complexity, may in effect “cue” practitioners to provide the public with information on the decision points in the NEPA process. Some practitioners have ready-made charts of these procedures that can be tailored to the particular project, for example.

Test 7, on coaching of citizens, was met by 44% of the environmental phase materials compared with 27% of the planning materials. This difference may again be due to the “cueing” effect of the prescribed NEPA procedures. Practitioners working on these types of

studies appear to have learned to “unpack” the complexity of the process for citizens through repeated experience. (Whether their explanations effectively focus attention on the significant opportunities for citizen influence that are unique to a given project is unclear, however. This would need to be addressed through in-depth case research.)

The content indicators also differed somewhat by project phase. Consistent with the findings for Tests 6 and 7, the average proportion of items including process-related information was somewhat higher in the environmental phase (26%) than in the planning phase (18%). The proportion including expressions of uncertainty was comparable for the two phases. Planning phase materials tended to include more mapping, with the average project including maps or spatial diagrams in 52% of the display items, compared to 42% for environmental phase materials. Perhaps as a result of their greater emphasis on procedures and process-related information, environmental phase materials tended to devote a slightly higher proportion of space to words than planning materials (49% vs. 42% on average) and a lower proportion to images (43% vs. 52%). The use of numbers was comparable across phases.

Comparison by Transportation Mode

A similar comparison was made by transportation mode. Projects with a primary focus on highways or roads accounted for 44 of the open house meetings in the materials corpus, with the remaining 13 meetings focused on transit projects. The results for the bridging tests and content indicators were compared to determine whether any notable differences were associated with the transportation mode in question, as shown in Appendix C, Tables C.3 and C.4.

The results of this comparison are mixed. Highway projects were stronger than transit projects on Tests 1, 2, and 3 overall, but weaker on the remaining tests. On Test 1, highway project materials were slightly more apt to use a tentative manner of presentation than transit projects and to include discussion questions in the materials. On Test 2, about one third of

the highway materials (34%) reflected apparent efforts to include citizens in problem-setting compared to 15% of transit materials. The difference reflects a more frequent tendency to ask for help defining problems, issues or goals in the highway materials.

In contrast to the typical highway project, many of the transit projects appeared to be more "packaged" and ready for either wholesale ratification or rejection, rather than for collaborative decision-making. A quality of local "boosterism" was observed in many of the transit materials, with their economic development potential forming a strong rhetorical theme. Even for those transit projects at a relatively early stage, there seemed to be little focus on discussing needs or defining the problem to be addressed; the benefits of the transit proposal were often assumed to be self-evident.

Transit materials were weaker than highway materials on Test 3, with 11% of materials avoiding closure in problem definition (compared to 48% for highway project materials). Again, this difference may be due to the more rigid initial problem definitions used at the outset of some transit studies.

Despite the tendency of transit project materials to exhibit what appears to be a more rigid, less collaborative approach to problem definition, these materials were more likely to raise values considerations than the highway project materials. Close to a quarter of transit materials (23%) met Test 4, compared to 5% of highway materials. Information designs for communicating transit projects often tended to bring forward big picture issues such as the sustainability of the transportation system or the future of a downtown. In some cases the materials appeared to invite dialogue on these points, and were coded yes for Test 4, while in others the use of sustainability themes seemed merely pro forma.

The comparison by mode raises the question of whether efforts to engage citizens in values inquiry is more common for projects that inherently represent a challenge to the status quo

(such as introducing transit in a primarily auto-oriented region) than for those that are more consistent with current conditions (such as improving an existing highway or extending an existing transit line). The idea of introducing a broad inquiry about the societal values associated with a shift to transit may occur to project proponents more readily in such a case, because of their own values, or because of an awareness that this type of discussion is necessary for the project to overcome opposition. The possibility must also be entertained that materials apparently encouraging values dialogue are presented more as rhetorical trope than from a principled intent to engage in such dialogue.

For Test 5, as a group the transit materials were better at showing what is consequential, with 46% meeting this test (compared to 30% for highway projects). The transit materials were more apt to provide historical background, with 69% doing so to at least some degree, compared with 50% for highway projects. They were also more likely to reference prior community concerns (46% vs. 34%) and to provide a good feel for the project or conditions (46% vs. 23%). Transit materials were somewhat stronger on Test 7, with 62% coaching citizens to at least some degree, compared to 48% for highway projects.

The transit materials were stronger across the board on Test 6, with 39% coded as nurturing dialogue about options, compared to only 9% of highway materials. A higher proportion of the transit materials described the decisions still to be made (85% compared to 59% for highway materials), and over half invited participants to help generate options to at least some degree (54%), compared with 36% for highway projects. Tempering this result is the fact that in several instances, transit materials on future options focused on relatively circumscribed issues such as transit station design or station area planning, rather than the more fundamental issues of route alignment and station location. This type of disjunction – with relatively little participation on higher order decisions and more on lower order issues -- also occurs on some highway projects, but was not nearly as evident in the materials corpus.

Some differences were also seen in the content indicators by transportation mode. As a group, the transit materials included somewhat more process-related information than the highway materials. Paralleling the comparison by project phase, this may reflect a greater focus on explaining procedures in transit projects being done according to federal New Starts guidelines, or the “cues” such a set of procedures tends to give the information designer, compared to a more free-form process (or procedures that vary by state) for highway studies.

There was no difference by mode in the percent of items expressing uncertainty, and little difference in the use of numbers. However, transit materials devoted a slightly higher proportion of overall content to words on average (54% vs. 42% for highway materials) and a correspondingly lower proportion to images. The images in transit materials were often photographs of different types of vehicles representing the various transit technologies under consideration. Spatial information played a slightly larger role in highway projects, with half of all highway items containing maps or diagrams, on average, compared to 42% of transit items.

Longitudinal Trends in Multiple-Meeting Projects

Seventeen of the corpus projects involved multiple open house meetings. The changes in indicators for each of these meetings were reviewed to see what trends could be observed over time. Table 4.6 summarizes the results of this analysis.

On Test 1, roughly half of the projects showed changes over time, with all indicators trending down for these projects (i.e., becoming weaker in the bridging characteristics). Test 2 showed a common pattern of a downward trend in the ISSUES indicator (asking for help defining problems, issues or goals). These results are consistent, given the similarity of Tests 1 and 2 in their focus on inviting comment and discussion on data or issues. Downward trends in these tests might also be expected as studies move from an introductory focus on problem-setting and baseline data to a mid-course emphasis on generating evaluating alternative courses of action.

Table 4.6: Longitudinal Trends in Successive Meetings

Test/Indicator	**Project Distribution by Directional Trend**			
	Up	Down	Mixed	No Change
Test 1: Keeping findings open to inquiry	2	6	1	8
Tentative manner of presentation	2	4	1	10
Invites comment on data	1	4	0	12
Includes discussion questions	1	6	3	7
Test 2: Inclusion of citizens in problem-setting	1	8	2	6
Needs, problems or issues discussed	1	3	2	11
Asks for help defining problems/issues/goals	1	8	2	6
Invites comment on enviro issues to study	1	0	2	14
Test 3: N/A				
Test 4: Encouraging value inquiry	0	3	2	12
Test 5: Showing what is consequential	4	5	4	4
Providing historical context on issues	1	7	3	6
Referencing prior community concerns/comments	5	3	2	7
Providing info on potential environmental impacts	5	2	3	7
Providing a good “feel” for project or conditions	8	2	0	7
Test 6: Nurturing dialogue about options	3	6	4	4
Inviting participants to help generate options	1	4	2	10
Describing the decisions still to be made	4	2	1	10
Test 7: Coaching citizens in the “rules of the game”	0	6	4	7
Content Indicators:				
% of items containing:				
Process-related information	1	11	3	2
Spatial information (maps or diagrams)	6	2	7	2
Expressions of uncertainty	9	2	4	2
Modality:				
Percent of overall content devoted to:				
Words (%)	5	4	8	0
Numbers/quantitative displays (%)	4	4	5	4
Images (%)	3	5	8	1

Test 3 was not evaluated as part of this analysis, as it already captured the longitudinal dimension. Few projects showed changes in the presence of materials encouraging value inquiry (Test 4) over time.

The overall results for Test 5 showed no clear longitudinal pattern. However, patterns were observed for two of the supporting indicators. Of projects showing a change in the HIST indicator (providing historical background on issues), the great majority trended downward, generally after the first meeting. Historical information was apparently considered part of the project background, but was dropped at subsequent meetings (perhaps with the expectation that few newcomers would be present at subsequent meetings). Conversely, an upward trend was the dominant pattern for the GDFEEL indicator in instances where it changed. Information designs often showed more comprehensive information about how a project might function or what it might look like as time went on. And although the GDFEEL indicator was redefined to include providing a good feel for background conditions as well as project concepts, as it turned out, relatively few projects were coded yes for GDFEEL on this basis.

The percentage of items containing process-related information tended to fall over time. The percentage containing expressions of uncertainty also exhibited a consistent pattern. In this case, there was a tendency for this indicator to rise in successive meetings. This result was unexpected, given the assumption that over the course of a corridor study the uncertainties apparent at the outset would tend to be resolved. Reviewing these cases, the pattern can be traced to the tendency to introduce background information in a “set” manner at initial meetings (“Here’s what we know”), then present initial concepts or alternatives at later meetings (“Here’s what it might make sense to do.”) In other words, it is not so much that the level of doubt grows in successive meetings--rather the subject matter shifts from background information, viewed as fixed, to project details or design decisions, which are viewed as fluid. An example is Case 4, a visioning study for U.S. 69 in Fort Scott, Kansas in which the materials for the first meeting described the study process that would be followed, land use

plans currently in place along the corridor, and a retail market assessment intended to help inform decisions about the commercial character of the future corridor. As a result, only two out of 38 display items were coded as containing expressions of uncertainty.

The Seward Glenn Connection EIS in Anchorage, Alaska (Case 10) provides an instructive example of materials declining in bridging characteristics over the course of the study. Three open house meetings were held for this study over a period of 14 months. In the first of these (a scoping meeting), the materials paint a picture of an open process with participatory consideration of problems and data and a rich discussion of the project's historical context. (In fact, this was the only meeting of the 57 in this study to receive a "perfect" score on all the bridging tests.) One of the first displays in the set asked whether the proposed Purpose and Need statement captured the transportation problems, and how it should be modified. Another display asked about values:

> "Help us understand what values should be considered throughout the project? Here are some ideas. Be affordable? Fit with the neighborhood? Be green? Encourage economic development? Make travel convenient? Preserve Anchorage's history? Make travel safer? Have community support? What do you think? What else?"

Another asked about data and issues to be studied:

> "The project team has started to collect information. Are you aware of any additional data we should consider? Are there other social and/or economic issues or concerns you think the team should study?"

A display on historical context explained that the idea to connect the two roadways (the focus of the study) had been around for a long time, and provided a synopsis of earlier studies done in 1963 and 1971. It then explained that transit concepts had been studied as well:

> "Over the years, many alternatives that did not involve building a highway were studied…What do you think? Consider if these alternatives would meet the proposed Purpose and Need."

The materials for the second meeting also scored highly on most of the bridging tests, except for Test 4 on values. They showed how the project goals and the Purpose and Need statement had been modified to incorporate citizen comments, addressing concerns about the need for better neighborhood connectivity, better integration of goals and neighborhood

context, and fuller consideration of transit, bicycle and pedestrian mobility. One display described several research initiatives being undertaken to answer the technical questions raised by citizens. There was no further mention of values, however, and no summary of what citizens had proposed in answer to the values questions posed at the first meeting.

By the third meeting, there was no further encouragement to comment on issues or problems, and no coaching on how to participate going forward. Almost all of the displays were now on a series of corridor alternatives, of which there was a large (and potentially confusing) array. There was a useful map that showed the alignments suggested by citizens in previous meetings along with those from the earlier studies. However, the materials no longer met the GDFEEL indicator, since the depiction of alternatives did not make it clear how these might affect the neighborhoods or function for commuters. The open quality of the first two meetings had given way to a cut-and-dried civil engineering perspective. A similar example was the Southwest to Northeast Transitway in Fort Worth, Texas (Case 1). On that project, problem setting information was strong in the first meeting, but had dropped out entirely by the second meeting—all discussion had moved from the “why” to the “what.”

Comparison by Meeting Type

Closely related to the longitudinal analysis, meeting materials were also compared by meeting types, defined as a combination of project phase and study stage. As noted earlier, there were six meeting types:

- Planning Study Start (10 meetings)
- Planning Study Middle (7 meetings)
- Planning Study End (13 meetings)
- Environmental Study Start (8 meetings)
- Environmental Study Middle (18 meetings)
- Environmental Study End (1 meeting)

Since there was only one example of the last type, Environmental Study End, this type was dropped from the analysis.

Meeting types showed several characteristic patterns that contribute to a better understanding of the dialogical differences between “first meetings” and subsequent ones. The most interesting findings involved Tests 1, 2, 6, and 7.

Reviewing the supporting indicators for Test 1, roughly two-thirds of first meetings incorporated discussion questions. In subsequent meetings, the use of discussion questions had dropped to less than one-third. This suggests that practitioners may associate the use of discussion questions with the orientation process of a first meeting. They may use discussion questions as a rhetorical form to introduce a new study or in an attempt to set a collaborative tone, rather than as a way of engaging dialogue about subsequent study findings or project options.

Test 2 results were also much stronger for initial meetings than subsequent ones. This was particularly true of planning studies. All of the first planning meeting materials included discussion of needs, problems or issues and 80% asked for help defining these to at least some degree. By the interim planning meetings, less than half were asking for help defining issues (43%), and by the final planning meetings only 15% did so. The ISSUES indicator tended to drop off for environmental studies as well, with 75% of first meeting materials asking for help with issues definition but only 17% of interim materials doing so. Likewise, the percentage of environmental materials inviting comment on environmental issues dropped from 50 percent for first meetings (many of which were formally designated as scoping meetings) to 28% for subsequent meetings. As noted in the discussion of longitudinal trends, some downward movement in Test 2 is to be expected as studies move from problem-setting to generating courses of action. However, since newcomers may arrive at any point in the process and bring new issues for consideration, a way of attending to these—even if in some

cases it may be too late to work them into concepts under consideration—seems important. Some studies did this simply by asking if participants had any comments on the goals that had been set for a project, for instance.

For Test 6, nurturing dialogue about options, of the five meeting types evaluated, first planning meetings were the most likely to invite participants to help generate options (with 50% doing so), but the least likely to describe the decisions still to be made (with only 10% doing so at the “yes” level, compared to the great majority of materials for the other four meeting types). The only notable finding for Test 7, coaching, was the large proportion of final planning meeting materials that failed to meet this test (76.9%). This is consistent with the drop off in materials asking for help defining issues. It suggests that practitioners often view the final planning meeting as the end of the public process for their projects, unlike environmental studies, which often lead to a subsequent design phase.

4.4 Results for Project Websites

This section describes the results of the content analysis for project websites. Overall results for the 15 websites on the bridging tests are followed by a discussion of the specific content elements in these websites. Results for websites are also compared with those for open house meetings. The section concludes with an analysis of the Frequently Asked Questions sections of the websites.

Bridging Tests - All Project Websites

Table 4.7 provides the results for each of the bridging tests and their supporting indicators for project websites. As a group, the websites showed the most favorable results on Tests 1, 2, and 3, with 60% of the websites meeting these tests. Roughly half met Test 6 (nurturing dialogue about options) and one-third met Test 5 (showing what is consequential). Results for Test 4, on value inquiry, were especially weak, with only one website meeting this test at the

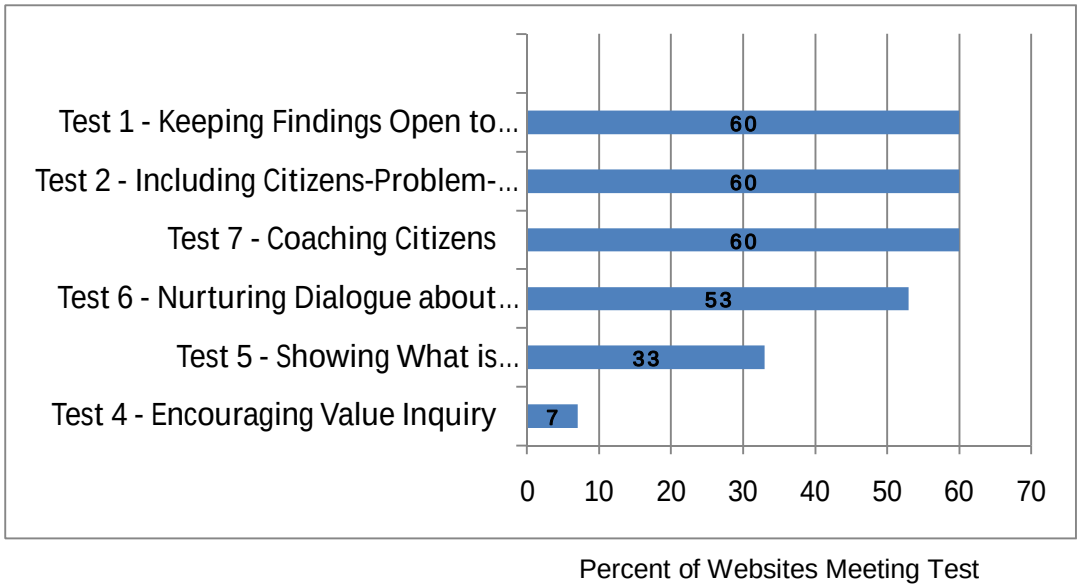
"yes" level and another meeting it somewhat. Figure 4.9 shows the results for each test in declining order.

Test 1 – Keeping Findings Open to Inquiry

Test 1, Keeping Findings Open to Inquiry, was met by 60% of the project websites. Close to three-fourths of the websites used a tentative manner of presentation. About one-fourth invited comment on empirical data. One of these asked for "thoughts about existing conditions," one solicited "community-generated data," and another specified that "community-based fact finding" would be done. One-fourth also included discussion questions. For example, the website for the US 56 corridor plan in Kansas placed a "Community Question" on the home page:

> "What change, if any, would you most like to see along the Corridor now, either as a resident or as a driver of U.S. 56?"

Figure 4.9: Bridging Test Results for All Project Websites



Test 2 – Inclusion of Citizens in Problem-Setting

Roughly three-quarters of the project websites met Test 2 to some degree, with 60% meeting it at the "yes" level. Needs, problems or issues were discussed in 87% of the websites. Close to half asked citizens for help in defining problems, issues or goals (47%). While only a small percentage (13%) invited comment on environmental issues to be studied, several others had done so in an earlier scoping phase, based on material that could be downloaded.

Case 5, the Provo to Nebo Corridor study in Utah, a long-term study involving land preservation for potential future highways, met all of the supporting indicators for Test 2, including citizens in problem-setting, but only from the standpoint of concerns about environmental or community impacts that might be associated with corridor preservation. The site did not promote any broader discussion of the type of transportation system or form of development being contemplated for the region.

Test 4 – Encouraging Value Inquiry

Test 4 results were particularly weak, with only one website meeting this test. This was the website for the I-81 Corridor Study in Syracuse, which posed several broad values questions concerning the long-range future of the area.

Test 5 – Showing What is Consequential

One third of the websites met Test 5 at the "yes" level, and 60% met it to at least some degree. Roughly three-fourths provided historical background on issues. One of these, the Southwest Transitway project in Minnesota, explained the previous studies that had been done for the project; another, the Sahara Avenue Corridor Study in Las Vegas, provided a good explanation of the alternatives that had been studied previously and the reasons why some had been rejected. The Syracuse study website included a history of the controversy over the original construction of the road, providing an unusually broad perspective.

Table 4.7: Results of Bridging Tests for Project Websites

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	60.0	0.0	20.0	20.0
Tentative manner of presentation	73.3	6.7	6.7	13.3
Invites comment on data	26.7			73.3
Includes discussion questions	26.7			73.3
2-Inclusion of citizens in problem-setting	60.0	6.7	6.7	26.7
Needs, problems or issues discussed	86.7	0.0	0.0	13.3
Asks for help defining problems/issues/goals	46.7	0.0	6.7	46.7
Invites comment on enviro issues to study	13.3			86.7
4-Encouraging value inquiry	6.7	0.0	0.0	93.3
5-Showing what is consequential	33.3	26.7	0.0	40.0
Providing historical background on issues	73.3	0.0	0.0	26.7
Referencing prior concerns/comments	20.0			80.0
Providing info on potential enviro impacts	20.0	6.7	0.0	73.3
Providing a good "feel" for project or conditions	26.7	13.3	0.0	60.0
6-Nurturing dialogue about options	53.3	13.3	0.0	33.3
Inviting participants to help generate options	46.7	0.0	0.0	53.3
Describing the decisions still to be made	73.3	0.0	0.0	26.7
7-Coaching citizens in the "rules of the game"	60.0	0.0	0.0	40.0

The results were weaker for the other supporting indicators, with 20% referencing prior community concerns, 20% providing information on potential environmental impacts and only 27% providing a good feel for the project or conditions. Concerning environmental impacts, the figure would have been significantly higher had the coding protocol not excluded information available only through website downloads. Six of the sites included environmental impact information in downloadable reports, but did not provide any discussion of it on the viewable web pages. This may reflect either deliberate decisions to bury this information, or reluctance to depart from the official detailed account of environmental findings by providing a separate summary.

Test 6 – Nurturing Dialogue About Options

Test 6 was met by two-third of the websites to some degree, with 53% meeting this test at the "yes" level. Close to half of the websites invited participants to help generate options, and 73% described the decisions still to be made. In Case 13, the Milwaukee Connector Transit Study, proponents considered the recommended route set and were clearly not looking for public input. (This project had received a federal earmark, a fact that was prominently stated.) For Case 14, the Wilshire Avenue Bus Rapid Transit Feasibility Study in Los Angeles, the study was in an in-between stage with technical work being done behind the scenes, but it appeared that citizens had been included in shaping a first set of options and would be asked to do so again in a subsequent stage. In Case 21, the Southwest Transitway in Minnesota, the website solicited ideas concerning station area plans, a relatively narrow focus also seen in some of the transit open house meetings. Concerning the descriptions of remaining decisions, Case 20, the Johnson County Gateway Study in Kansas City/Topeka, had an especially clear discussion with a "current topics" list that reviewed the issues being examined.

Test 7 – Coaching Citizens in the "Rules of the Game"

Test 7 was met by 60% of the project websites. These sites generally had clear information on how to participate or get questions answered, either in person or online, and provided time

frames for various phases of the studies and the types of decisions that would be involved. For instance, the website for the Johnson County Gateway project in Kansas City/Topeka (Case 20) clearly explained why each of the associated technical studies was being done and how it would inform the recommendations. It also expressed a goal that "all participants understand the technical and financial considerations that will guide the study recommendations."

Content Elements of Project Websites

In addition to the bridging tests, the primary content elements of each website were coded to better understand what each contributed to the overall information design and dialogical significance of the website. Among the most interesting features were the key messages presented on the home page, the navigation choices available from the home page, and the presence of interactive features providing for two-way communication.

The themes or messages on the home pages of these websites varied widely, as shown in Table 4.8. Some jump immediately into the substantive issues of the project, some are structured to first orient readers to the decision-making process, and others are primarily persuasive pieces focused on an outcome preferred by the agency. An example of the first type is the Westerville Road planning study in Ohio (Case 3), which provides an analysis of traffic volumes on the home page. An example of a primarily persuasive type is the home page for the Milwaukee Connector Transit Study (Case 13), which features a statement on how the project will improve the city's image:

> "The Milwaukee Streetcar is the type of project that can put Milwaukee on the map for young professionals and will be a powerful magnet for retaining and recruiting young talent…[and will] shape the brand and identity of Milwaukee."

An example of the "orienting" type of home page is that for the U.S. 56 Corridor Plan in Kansas (Case 8), a project that was generally strong in coaching citizens. The home page included the statement: "We will work with stakeholders like you…to both create and manage great expectations…we…need to be realistic and direct with you about what is possible." This

website stated that the study goal is to determine “what, if any changes” are needed in the corridor, and specified that community-based fact-finding would be done.

Most of the home pages included images such as maps, photographs of existing facilities under study, or images representative of proposed concepts, such as photos or drawings of transit vehicles. These images were very similar to those seen in the opening display boards and presentation slides for the open house meetings.

The navigation choices provided on the home page are also potentially significant. As the most prominent access points for the information on each site, they can be said to represent the site designer’s expectations--or goals--for how users will seek information or explore the website. For example, a prominent choice on the home page for the Southwest Transitway in Minneapolis (Case 21) was a clickable map of possible routes for the project; this designer evidently sought to highlight alternative routes under consideration.

For this set of 15 websites, the most common navigational choices included a project overview or background page, sometimes called “About the Plan,” with 8 sites having this type of choice; a “Get Involved,” “Meetings,” or “Public Involvement” page, seen on 11 of the sites, an area for technical reports or documents, sometimes called a “library,” present on 8 of the sites, and an area for Frequently Asked Questions. (Although 12 of these websites had an FAQ section, only 7 provided a direct link to it from the home page.) Five sites provided a navigational choice of “news,” “what’s new,” or “current topics,” and 3 had a “study update.” Less frequently seen choices included the following:

- Study purpose (1)
- Who’s involved or “project partners” (1)
- Environmental process (1)
- Links (3)
- Site map (1)
- Maps (2)
- Blog (1)

Table 4.8: Key Topics and Images on Website Home Pages

Case	Key Topics of Messages	Images
3	Traffic volume analysis	Study area map Thumbnail photos
4	Purpose, background, getting involved	Study area map Meeting photos
5	Need to address future growth, preserve future corridors	Photos (downtown area)
8	Need for corridor management, collaborative process	Roadway images
10	Environmental study phase, alternatives screening	None
11	Public-private partnerships	Photo of road at sunrise Study area map
13	Transit integration, goals, economic development promotion of streetcars	Streetcar renderings
14	Visual only – images of buses	Drawings of buses
20	Study will result in preliminary design	Photos of interchange, structures
21	Basis for conceptual design, environmentally responsible, increased use of public transit, improve connections	Map of possible routes
23	Improve traffic flow, proposed roadway improvements	Map Roadway cross-section diagrams
24	Portions of I-81 nearing end of lifespan, big choices to be made about area's future	Photos of roadway
28	Bridge, transit and highway improvement project combined	Historic photos of bridge
31	Improve mobility; passenger rail along existing line	Study area map
32	Area is major transportation hub; two-phase study	Study area map

Several sites had navigation choices specific to the type of study involved, such as “Station Area Planning” or “Transportation System Alternatives.” While only one site had a specific navigational choice for study purpose, most of those with an overview or background page included a description of the study purpose there.

Only four of the sites provided a navigational choice from the home page to a “Contact Us” area, despite the ubiquity of this choice on websites generally; another two included a direct link to a comment area. The interactive features for two-way communication were very limited on most of these sites; many had only a comment form or an e-mail contact for comments and questions, and two lacked even that, making them entirely one-way communication pieces. Only two sites had blogs or online discussion groups. However, two of the websites included online surveys with questions involving problem-setting or options generation.

The Johnson County Gateway study in Kansas City/Topeka (Case 20) included two online surveys. The first explained the tradeoff between providing a high level of access to individual sites along the highway and allowing for greater mobility along the highway, then asked respondents for their preferences between site access and mobility, thus engaging them in this particular aspect of problem-setting. It then asked them to rate the Kansas Department of Transportation’s level of responsiveness to their questions or concerns. A second survey focused on public transit. Among other questions it asked "Do you think transit should be considered as part of the solution…?"

The I-81 study in Syracuse (Case 24) included a survey with questions on “how you use and experience I-81 now,” “how you feel it affects the Syracuse region,” and “what you want for the future of I-81.” This website framed the study as a collaborative process, one responsive to public concerns. For instance, it indicated that people had “asked for more small group meetings” and as a result, these would be held around the region.

Comparison of Websites and Open House Meeting Materials

The results for the project websites were compared with those for open house meeting materials. As a group, this set of project websites were somewhat more successful in meeting the bridging criteria than the meeting materials, as shown in Table 4.9.

While the results were similar for Tests 1, 4, and 5, the websites showed superior results on Tests 2, 6, and 7. For Test 2, including citizens in problem-setting, virtually all of the websites included a discussion of needs, problems or issues; nearly half asked for help defining these, compared to less than one-third of meeting materials. On Test 6, 47% of websites invited participants to help generate options, compared to 30% of meeting materials.

For the 11 projects that had both websites and open house meetings, a paired comparison was also made at the project level. Each of the tests and indicators was examined across this set of 11 projects to see what differences might be discerned between the two types of materials on specific bridging characteristics. Notable differences were found for only three indicators. The analysis showed that for a given project, meeting materials were more apt to include discussion questions, reference prior community concerns, and provide information on environmental impacts than were websites. These results are consistent with those for the full group of meetings and websites as shown in Tables 4.4 and 4.7. As noted previously, the result for environmental impact information may be due to the apparent tendency of website designers to bury this information in reports that required downloading, rather than spelling it out in the web pages.

Table 4.9: Comparison of Bridging Tests for Websites and Meeting Materials

	Percent Met by Type:	
Test:	**Website %**	**Meeting %**
Test 1 – Keeping Findings Open to Inquiry -	60	63
Test 2 – Including Citizens in Problem-Setting -	60	30
Test 3 – Avoiding Closure in Problem Definition -	N/A	39
Test 4 – Encouraging Value Inquiry -	7	9
Test 5 – Showing What is Consequential -	33	33
Test 6 – Nurturing Dialogue About Options -	53	16
Test 7- Coaching Citizens -	60	35

Frequently Asked Questions

In addition to the overall analysis of project websites, the Frequently Asked Questions from these websites were coded using the bridging tests, as well as analyzed for their thematic and dialogical content. The bridging test results are shown in Appendix C, Table C.5. The chief differences found between the FAQs and the websites involve Tests 4 and 5. A higher proportion of the FAQs encouraged value inquiry (25% vs. 7% for the main pages of websites). In addition, two-thirds of the FAQs provided information on potential environmental impacts to at least some degree, compared with only 27% of websites.

With their familiar, structured question and answer format, FAQs are especially interesting as an indication of what their designers believe people should know, or might want to know, about a project. The practitioner interviews for this study indicate that FAQs for transportation projects are often generated ahead of time by project professionals, based on their assumptions of what people may be wondering, and later supplemented with questions actually received from citizens in the course of the project.[7] Individual questions or sets of

[7] The review of this set of FAQs suggests the presence of a third type of question, those that allow the designer to set up specific answers he or she wishes to convey through this rhetorical form. The form seems to have an ambiguous

FAQs may reflect particular assumptions about the reader's role or perspective and type of interest in the project. In effect, these questions tag the reader as a thinking citizen, a concerned user of the transportation facility in question, or a more narrowly conceived "affected party" such as an adjacent property owner who may experience project impacts, or some combination of these roles. Of course, it is possible for a person to occupy two or even all three of these positions at once; someone primarily concerned with localized impacts may take an interest in the purpose of the project or the decision-making process that has led to the possibility of those impacts occurring.

For this analysis the questions contained in the 12 sets of FAQs were examined as a group to construct a typology of question topics. Each type of question and each set of FAQs was then assessed to determine which of these different conceptions of the readers' "subject position" was evident. The analysis of topics revealed 50 conceptually distinct topic types, some common and others more unusual. The topic types were grouped into five categories:

1) questions involving the project study process, purpose, methodology, and schedule,
2) questions about the proposed features of the project,
3) questions about project benefits and impacts,
4) questions about project costs, funding, and public priorities, and
5) questions about public information and public involvement.

Each of these categories is discussed in turn below with a view to understanding the assumptions the questions make about the user's role or perspective.

<u>1) Questions About Project Study Process, Purpose, Methodology, and Schedule</u>

There were 19 distinct question topics in the study process category, as shown below. Following each topic is the number of instances in which it occurred over the 12 sets of FAQs.

---

quality that allows designers to blend apparent responsiveness to public questions with a platform for various arguments.

1a. What is the X project/study? (3)
1b. Who is doing the study? (6)
1c. Why?/Purpose of project or study (8)
1d. What is the study area/project boundaries? (7)
1e. How is the study being done? (6)
1f. How reliable are the study results? (1)
1g. Why has the approach changed/why another study? (1)
1h. Relationship to other projects/plans/studies (8)
1i. When did the study/project begin? (1)
1j. What stage is the project in now? (3)
1k. What criteria will be used to evaluate alternatives?/
How will criteria X be addressed? (4)
1l. Who will make the decisions? (2)
1m. When will a decision be made? (3)
1n. Has a decision already been made? (2)
1o. If a decision hasn't been made, why was action X taken? (1)
1p. What happens after the study? (2)
1q. When will/would construction happen? (10)
1r. Are some short-term improvements possible? (1)
1s. Who will implement/operate the project? (3)

The majority of these process-related topics assume that the reader is a "thinking citizen" with a relatively broad interest in the issues being examined, the purpose of the project, and a need to understand the current status of decision-making and the people or organizations involved. Exceptions are topic 1q on when construction would occur, which is likely to be of greatest concern to facility users or persons directly affected by the project's impacts, and questions 1r and 1s, which are most relevant to facility users hoping to see improvements in a roadway or transit service.

An especially abstract example from this group was a question of type 1k on how conflicting criteria would be addressed in decision-making:

> Q:
> How will you address all the conditions and desires [for the project] – some that are conflicting? (Case 28)

Other questions of type 1k include the following:

> Q:
> How will Environmental Justice be considered in the development of the project? (Case 10)

> Q:
> Will neighborhoods that are not comprised of low-income or minority populations be given any consideration in the selection of a preferred alternative? (Case 10)

Q:
How will the road and structures address earthquake/seismic issues? (Case 10)

Q:
How will economic, social, aesthetic, land use, urban design and other impacts of potential solutions be addressed? (Case 24)

Q:
What is the [project team] doing to ensure an attractive bridge will be built? (Case 28)

The most common questions in this category are type 1c on project purpose, 1h on the relationship to other projects, plans or studies, and 1q on construction timing. The sole example of topic 1o dealt with the perception that a state land purchase in one potential location for a new highway revealed that a decision on the location had already been made. The answer took pains to explain that this was not the case.

2) Questions about Project Features or Alternatives

There were 7 distinct topics in the category of project features/alternatives.

2a. What are the project features? (8)
2b. What alternatives are being considered? (1)
2c. Is feature/alternative X being considered? (4)
2d. Have other alternatives been considered? (2)
2e. Why not feature/alternative X? (4)
2f. Why does issue X need to be considered in the design? (1)
2g. Isn't the problem caused by X? (1)

The first three of these topics, 2a through 2c, are equally relevant for all three subject positions—thinking citizen, facility user, and affected party. The thinking citizen might be interested in design features or alternatives from the standpoint of political engagement with the associated policy issues. For example, a citizen might advocate putting more bicycle lanes on roads, based on the principle of reducing automobile emissions—whether or not he or she actually uses a bicycle. The facility user might be interested in project features that could improve or change the quality or convenience of transportation services available—in this case, because of actually bicycling, driving, or taking the bus. The affected party might be a resident adjacent to the proposed project location who is sensitive to the noise or visual impacts of the project and is hence especially concerned about certain features, such as the height of a noise wall.

The remaining topics, 2d through 2g, are mainly relevant to the thinking citizen. For example, 2d, on whether other alternatives have been considered, is logically irrelevant to a facility user or affected party, unless that person takes up a concern with the decision-making process on his or her own behalf, becoming a thinking citizen as well. Similarly, an abstract question such as 2f on why a particular issue needs to be considered is only relevant to the thinking citizen, or the facility user or affected party now in the role of a thinking citizen. The particular example this type is based on involved the relationship of a small airport's flight path to the bridge height consideration for a replacement to the Columbia River Bridge in Vancouver:

> Q:
> Why does Pearson Field restrict bridge height?
>
> A:
> Due to its proximity to Pearson Field, the height of the replacement bridge must be low enough to allow safe navigable air space for aircraft landing and taking off…The [project team] is working with design options that assume Pearson Air Field will continue to operate...in its current location, for several reasons...

Type 2e uses a "why not" construction to explain why certain alternatives or features have been rejected, as in the following examples:

> Q:
> Why not widen existing roads instead? (Case 5)
>
> Q:
> Why doesn't the project include Beverly Hills? (Case 14)
>
> Q:
> Instead of adding lanes, why don't you add more transit routes? (Case 20)
>
> Q:
> Why can't we just build a new bridge? (Case 28)
>
> Q:
> Why not build a tunnel under the river? (Case 28)

The examples suggest that this topic is primarily oriented to the thinking citizen perspective. (However, the examples from cases 14 and 20 could also be interpreted as representing a facility user's perspective, such as a Beverly Hills resident who would like to be included in the project, or a person interested in having transit routes available for personal use.)

The most common topic type in this set was 2a involving specific project features. Examples of this type include the following:

Q:
Will there be bike racks [on streetcars]? (Case 13)

Q:
How do streetcars serve those in wheelchairs? (Case 13)

Q:
Why is it running in mixed traffic? (Case 13)

Q:
Will [rapid transit] operate 24 hours a day? (Case 14)

Q:
Will Wilshire Boulevard be widened at any point? (14)

Q:
How often will the trains run? (Case 21)

Q:
How much would a toll cost? (Case 28)

Q:
Can low income residents receive reduced tolls? (Case 28)

Q:
Are there plans to turn this into a 4-lane highway? (Case 8)

Q:
Where will the stations be located? (Case 31)

Q:
Will I be able to get to Center City Philadelphia? (Case 31)

Questions of type 2c have a somewhat different rhetorical significance than the above examples, since they include terms such as “consider” or “evaluate,” implying that the particular features have not been decided on:

Q:
Will transit be considered as part of the solution? (Case 24)

Q:
Are you considering a bypass around the city? (Case 10)

Q:
Is the project evaluating land use alternatives? (Case 10)

<u>3) Questions about Project Benefits and Impacts</u>

The project impacts category included seven topic types:

3a. Expected benefits (5)
3b. Expected impacts (5)
3c. Consequences for other roads, bridges, or transit services (3)
3d. What is the effect of doing nothing? (1)

3e. What efforts are being made to mitigate negative impact X? (1)
3f. Will my property be affected? (2)
3g. If my property is affected, will I be compensated? (2)

The first two topics, expected benefits and impacts, were the most common in this group and are relevant to all three subject positions. Examples include the following:

Q:
How will it serve commuters? (Case 13)

Q:
What are the expectations for development along the route? (Case 13)

Q:
How will traffic improvements improve my commute? (Case 20)

Q:
How many people will be expected to ride on the Southwest LRT? (Case 21)

Q:
How will the project improve transit on I-5? (Case 28)

Q:
Will the project support transit-oriented development? (Case 28)

Q:
How will the project affect GHG emissions? (Case 28)

Q:
Does streetcar construction require tearing up the street? (Case 13)

Q:
Are there overhead wires? (Case 13)

Q:
Will there be a loss of on-street parking? (Case 14)

Q:
How will potential access changes affect Emergency Medical Services? (Case 20)

Q:
If Light Rail Transit is built, what will happen to the walking trails? (Case 21)

Q:
Will the gate closings cause traffic jams during the morning rush? (Case 31)

The first of these examples could apply to either the thinking citizen or facility user. The first person wording in the Case 20 example on traffic improvements implies a facility user perspective, while the abstract question about GHG emissions from Case 28 implies a thinking citizen perspective.

Topic type 3c, on consequences to other transportation facilities, is relevant to either the thinking citizen or facility user, while Topic 3d, on the effect of doing nothing, is only relevant to

the thinking citizen. Topic 3e could be of interest to the thinking citizen concerned about impacts on the natural world or to affected communities, as well as being of direct interest to affected parties. Topic 3f and 3g are only of interest to affected parties, particularly given the first person wording of these questions. An example of type 3g on compensation involves a hypothetical business owner:

> Q:
> This may increase the time it takes for trucks to get from my business to the highway. How will I be compensated? (Case 20)

4) Questions about Cost, Funding, and Need or Priority

There were eight distinct question topics related to project costs, funding, and the level of need for the project.

4a. How much will the project cost? (9)
4b. How does the cost of alternative X compare to alternative Y? (1)
4c. How will it be paid for/Is funding available? (5)
4d. Why is this more important than another use of funds? (2)
4e. Is this really necessary?/Isn't what we have now satisfactory? (3)
4f. How old is the existing facility? (1)
4g. Is the existing road/bridge safe? (2)

These types of topics are generally relevant only to the thinking citizen. The exception is topic 4g, on whether the existing road or bridge is safe, which is also relevant to facility users. This question has a distinct rhetorical status among all of those in the typology. Although conceptually related to the need for change or the priority level a project should have, since affirmative answers were given in both cases, it also appears to have the public relations function of reassuring the public that even though improvements are being considered, their safety is assured. This combined public relations and informative function is evident in the following example from the I-81 study in Syracuse:

> Q:
> Is the viaduct safe?
>
> Q:
> The viaduct is safe. The NYSDOT inspects and maintains the 124 bridge spans that make up the viaduct on a regular basis. However, all of these bridges are nearly 50 years old. The time and cost associated with maintaining them in safe condition is growing. Within the next few years, a more comprehensive solution for dealing with the aging viaduct must be found.

By far the most common of the topics in this set was 4a, on how much the project would cost, with 9 instances in this set of FAQs. Related types include 4d, on funding priorities, as in these examples:

> Q:
> Why is this imperative? (Case 13)
>
> Q:
> Wouldn't this money be better spent on the bus system? (Case 13)
>
> Q:
> Is this the most important need in Johnson County? (Case 20)

Also closely related is type 4e, a general question on the necessity for a project:

> Q:
> We already have transit, how is this different?
>
> Q:
> Why not keep the existing bridge?
>
> Q:
> How might changes in gas prices affect travel demand and therefore the need for the project?

<u>5) Questions about Public Information and Public Involvement</u>

Nine question topics dealt with the participation process and information sources.

5a. Why would this matter to me? (1)
5b. How can I find out more? (1)
5c. When will study results be available for review? (3)
5d. What has been done/will be done to involve the community/public? (6)
5e. What do local communities think of these options? (1)
5f. How can I get involved/voice my opinions? (7)
5g. How will my comments affect the results? (4)
5h. Why wasn't citizen concern X included? (1)

These topics are potentially relevant to all three subject positions. The use of first person wording in some of the questions seems designed to draw the reader in through a conversational style, but does not necessarily mean the question is intended to address localized personal concerns. For instance, topic 5a is based on a Q and A pair from Case 10 in Anchorage, Alaska that switches from the first person in the question to the third person in the answer:

> Q:
> I live in the Matanuska Susitna Valley [outside the study area]; why might H2H [the "highway to highway" project] be important to me?

> A:
> …approximately 30% of Mat-Su Valley workers commute to Anchorage [and]…more than 18,000 will commute to and from Anchorage by 2030—an increase of 10,000 commuters over current traffic levels. H2H provides an opportunity to better serve these trips, resulting in safer travel and savings of time, fuel, and money.

This answer is relevant to either a thinking citizen or facility user perspective.

Topic 5d, on what has been done or will be done to involve the community or public, is relevant both to those with a personal interest in being involved and to citizens with a principled concern about the scope of participation:

> Q:
> What is the role of the general public? (Case 8)
>
> Q:
> Will the process be inclusive of underrepresented communities? (Case 24)
>
> Q:
> How are tribes involved in the project? (Case 28)

Topic 5f personalizes this with a first person wording ("How can I get involved/voice my opinions?"), and is relevant to all three subject positions. Topic 5g, on how comments will affect the results, also relates to all three:

> Q:
> How will my input really be used? (Case 24)
>
> Q:
> Will you use the public input from the prior study? (Case 14)

The answers provided to these types of questions generally sought to reassure participants that their comments would be duly considered, as in this example from the Columbia River Bridge project (Case 28):

> Q:
> What happens with public comments?
>
> A:
> As the project is further refined over the next year, public comment is encouraged and will be critical to the project development process. Comments are presented to project partners on a monthly basis and help shape the project by informing local decision makers about public opinion and ensuring that community, natural and cultural resources and effects are fully identified and evaluated.

However, in Case 5, the Probo to Nebo Corridor Study in Utah, the answer to this question outlined a very narrow scope for the desired "input", limiting it to the affected party perspective:

> Q:
> How can my comments affect the results of your study?
>
> A:
> We welcome your input in changing the alignments to minimize impacts to your home, your property, and your community.

The answer here discourages any broader dialogue on the problem definition, project purpose, or generation of new options other than those for minimizing impacts. The wording of the question ("your study") also discourages any sense of collegiality, reinforcing the limited subject position.

Topic 5h, on why a particular citizen concern was excluded from consideration, was drawn from Case 10 in Anchorage. Though conceptually it could relate to any of the subject positions, in this instance it was limited to the thinking citizen position. It involved a decision to omit air quality considerations from the study, despite requests from citizens that air quality be addressed:

> Q:
> Why don't you change the Purpose and Need statement to include improving air quality?
>
> A:
> After careful consideration…the DOT&PF decided not to add air quality to the purpose and need…the DOT&PF's mission is to provide a safe and efficient transportation system…it would be very difficult for DOT&PF to commit to improving air quality when many sources of emissions…are beyond the influence of the proposed H2H project.

The most prevalent of the question types in this group of topics were 5d and 5f, both general questions on the participation process.

Reviewing the implied subject positions in the FAQs as a whole, it is apparent that the FAQs are much more focused on issues related to the thinking citizen perspective than are the main pages of the websites or the meeting displays discussed earlier. This may be a function of the

particular rhetorical form of questions and answers. Or there may be something in the exercise of preparing FAQs that encourages the practitioner to envision a reader broadly curious about corridor issues, one whose interests may extend beyond personal impacts to the wider community issues, policy choices or societal values involved. The form may predispose the designer to consider the audience as intellectually engaged readers, rather than casual "viewers," of information. Or a practitioner's decision to prepare a set of FAQs—which, while common, is not universally done--may indicate a predisposition to view potential participants as thinking citizens.

To further explore this point, each individual set of FAQs was assessed for its relative emphasis on the assumed subject position of the reader, based on the question types included. Table 4.10 shows the results of this analysis. It shows that 10 of the 12 sets of FAQs had a primary emphasis on the thinking citizen perspective, and the remaining two had a secondary emphasis on the thinking citizen. Only one of the FAQ sets had a primary emphasis on the affected party perspective.

Table 4.10: Relative Emphasis of FAQs by Assumed Subject Position of Reader

(1=primary emphasis)

FAQ Case Number	Thinking Citizen	Facility User	Affected Party
5	2		1
8	1	2	3
10	1		2
11	1	3	2
13	1	2	3
14	1	2	3
20	1	2	3
21	1	2	3
24	1	2	
28	1	2	
31	2	1	3
32	1		

The reason for the FAQs' greater focus on the thinking citizen cannot of course be inferred from the materials themselves. This focus appears to correspond to a greater willingness to engage in some of the forms of expert/citizen bridging that tend to be de-emphasized in the main pages of the websites and in the open house materials. The possibility of such a linkage and potential explanations for it is taken up again in Chapter 5 from the practitioner perspective.

What this analysis does indicate is that many of the information design practitioners involved in these corridor projects are capable of envisioning and empathizing with the perspective of a thinking citizen; they appear to be aware of the broad range of concerns participants may bring to the process, including how a problem is understood, some of the values issues that may be involved, the historical context, and a range of consequences beyond narrow personal impacts. The FAQs demonstrate a tacit awareness of certain strategies for bridging the expert/citizen divide that were less evident in the main web pages and in the open house materials. Assuming that the same practitioners are often responsible for developing each of these types of materials for a project, their different approaches to each suggest an expectation of different audiences for each of these types of materials. It appears that open house meetings tend to be geared towards more narrowly conceived affected parties, for example. This issue is considered further in the next chapter.

4.5 Findings and Implications of Materials Analysis

This review of sample communications from transportation plans indicates that information design practitioners do take steps—if often modest ones--to bridge the expert/citizen divide. Few do so consistently, and the materials designed for a given project rarely exhibit the full range of features specified by the normative criteria for interpretive practice. The artifacts show uneven evidence of bridging efforts. For example, they were generally more successful at expressing openness to inquiry over findings than at inviting citizens into the problem-setting process. Far more materials showed attempts to coach citizens about the decision-

making process than efforts to engage them in considering the societal values that may be associated with a project.

The weak overall results for Tests 5 and 6, on showing what is consequential and nurturing dialogue about options, indicate that transportation planning is far from meeting the ideals of collaborative design expressed in the Context-Sensitive Design movement, and still far from meeting the spirit of federal guidelines for public involvement set forth 20 years ago in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Since dialogue about options is central to common notions of what public participation means, it is striking that about one-third of the sample materials failed to express any encouragement of such dialogue.

A possible explanation for these findings is a distinction between the role practitioners assign to representative citizen groups or influential stakeholder committees and the more limited role they appear to assign to the general public in these studies. Weakness in both the problem-setting area and in encouraging dialogue about options suggests that information designers tend to view their audience narrowly, as potentially affected parties, rather than as citizens with an interest or standing in the broader decision-making process. This appears to be borne out by the minimal use of numerical data in these materials to show needs, impacts, or expected benefits of projects, in contrast to the heavy emphasis on maps showing project features. The materials tend to strongly emphasize the “what, where” of a project (of particular interest to affected parties) rather than the “why” (of primary interest to citizens, and crucial to public decision-making). The absence of material encouraging values dialogue fits this pattern. The FAQs represent an exception to this generalization, with a greater focus on project rationales and other broad issues that suggests a tacit awareness of the need for interpretive work to bridge the expert/citizen divide. The difference between the FAQs and other materials also suggests that designers may tend to make different assumptions, or use different interpretive strategies, when preparing questions and answers than when preparing

declarative materials and maps. The next chapter explores these themes from the practitioners' perspective, with a discussion of the assumptions designers make about their audiences and the information needs of citizens.

Given the emphasis the materials tend to place on "what/where," it is surprising that many failed to provide a good sense of the appearance, scale and function of a proposed project. Non-spatial images such as photos tended to be generic representations of transit vehicles, iconic illustrations of potential environmental impacts (such as pictures of threatened species or historic buildings), or pictures of an existing road. Very few projects included customized renderings, sketches or other visualizations of proposed concepts, as opposed to maps. There are many possible interpretations of this result. It may indicate a professional habit of relying on maps and engineering diagrams to tell the story, a lack of awareness of the interpretive value of visualizations, a lack of concern about making consequences clear to the public, or practical constraints involving preparation time, costs, or access to graphic presentation skills. These possibilities, with their differing implications for planning practice and education, are explored further in the following chapters.

The effect of institutional and regulatory contexts on the interpretive strategies used in information design also needs further consideration from the practitioners' perspective. The procedural and evidentiary requirements of NEPA studies and of transit studies conducted according to federal New Starts requirements appear to shape the types of information provided over the course of a study process. This has implications for the scope of interpretive efforts made in such studies, including the ability to maintain an open stance toward the definition of a problem beyond the first meeting and the ability to tell the story in a way that will be most meaningful to citizens.

A related issue is the particular course interpretive work takes over the different stages of a study, whether it is one of several months (as in some of the planning materials examined) or

several years (as is typical of large-scale environmental studies). Some bridging strategies appear to be logically tied to aspects of project development that tend to occur at different points in a study process, such as problem-setting or the generation of options. Practitioners could benefit from specific guidelines for the interpretive work needed at each stage of a corridor study. These guidelines would need to address the question of how to integrate interpretive efforts into a technical process that--while it need not be rigidly linear--is still necessarily sequential. The longitudinal data from the materials analysis suggests the notion of an interpretive "arc" in which certain types of bridging efforts tend to rise and others fall in tandem with sequential technical decisions. The challenge is to distinguish between useful practices driven by the logic of this arc and arbitrary practices that could be changed, such as the observed tendency to stop using discussion questions after the first meeting.

Some sets of meetings in the corpus appeared to have been planned as a series, with a structured progression of topics (and consequently, of interpretive efforts), while others seemed ad hoc, giving the impression that someone decided it was "time to check in with the public." This distinction is important to thinking about how interpretive work should evolve over the course of a study, particularly one that involves sequential engineering design tasks that must be performed between public meetings. The relationship of a project "arc" to what the public is told about the fixed and fluid aspects of a project's design, and when, is also critical here. The materials data showed relatively strong performance in describing remaining decisions to be made, but this requires further qualitative exploration with practitioners, due to the complexity and uniqueness of individual cases.

A related issue revealed in these materials is the inconsistent approach to orienting newcomers. As noted earlier, some projects provided orienting materials--such as historical context, background information, and an outline of the study process--only at the first of a set of meetings, despite the fact that newcomers could arrive at any point in the study. The lack of consistent orienting information is especially problematic for projects of longer duration,

when a turnover in interested citizens can be expected. An easy change in practice would be to retain orienting types of information at subsequent meetings for the benefit of newcomers. Likewise, newcomers easily could be given opportunities to comment on materials developed at previous stages, such as project goals, or to introduce new concerns (with appropriate caveats about practical limitations on the ability to incorporate these concerns in the work going forward). Similar steps could be taken to improve the orienting qualities of project websites for first-time users.

This analysis has focused on the properties of communications materials, but of course those materials are part of a larger process with elements not captured in the materials. In the case of open house meetings, informal interactions between professionals and citizens supplement the communicative work of the displays and may provide interpretive elements missing from the materials. Knowing that staff will be available at these meetings to pose and answer questions may lead practitioners to take a different approach when designing meeting displays than they do for websites, another question explored in the practitioner interviews.

The materials data also raises questions about the separability of the bridging criteria used in this study. Examining the materials again from this perspective reveals some of the ways in which these criteria are interdependent. For example, good coaching about how a process is structured and the avenues for involvement is of limited value if materials do not show what is consequential about the decision. For instance, the materials for one environmental study (Case 3) seemed to indicate an especially transparent approach to decision-making. They carefully described the no-build option, and asked citizens to help the project team define a process of environmental stewardship for the corridor. But while comprehensive information was provided about environmental impacts, there was little effort to show what the proposed alternatives would look like or how they might affect neighborhoods or facility users, lessening the value of the careful coaching and open approach used. In another case, materials for the Garden Parkway EIS in Gaston, North Carolina (Case 25) seemed designed to promote

dialogue about options, making clear what issues were still in play and describing alternatives that had been added or dropped and why, but again gave the participant no sense of the consequences of the project or of the consequential differences between alternatives. Similarly, the website for the Seward Glenn Connection in Anchorage (Case 10) encouraged citizens to help shape the options under study, spelled out remaining decisions and coached citizens on decision-making procedures, but did almost nothing to convey the consequences of the project for the communities involved.

Conversely, showing what is consequential about a decision is insufficient to bridge the expert/citizen divide if no effort is made to enable citizens to understand or help shape the study purpose. For instance, on the Arapahoe Road project in Centennial, Colorado (Case 6), meeting materials provided a reasonably good sense of how project concepts would function, clearly defined an initial series of alternatives, and encouraged citizens to help refine these, but provided no discussion of the issues at stake or why any change was needed. Materials for the first meeting for the Lake Oswego to Portland Transit EIS (Case 26) gave no sense of why a new transit line might be a good idea in this location, despite a good presentation of the options on the table and how they differed.

The interdependence of the bridging criteria can be fairly subtle. For example, materials for the Kuna-Mora Road study in Idaho (Case 9) provided an excellent background on the reasons for the study and its historical context, and presented what appeared to be a well-conceived list of criteria for evaluating options. However, there was no indication of where this set of criteria came from, and no encouragement to consider whether or not the list of criteria was complete, suggesting that values issues were not subject to dialogue. In this case, based on the thorough background and encouraging tone of the other materials, it seems unlikely that the designer intended to stifle values inquiry. The inconsistency may have been due to a lack of awareness that evaluation criteria could be developed in a participatory fashion, indicating a gap in training. The interviews discussed in the next chapter

shed some light on the training, experience and professional norms practitioners bring to the work of information design for corridor projects.

Chapter 5: Practitioners' Approaches to the Interpretive Task: Part I

5.1 Practitioner Interviews

A series of interviews with practitioners provides another perspective on the interpretive task. In-depth interviews were conducted with 22 practitioners involved in designing participant orientation materials for corridor projects. The respondents varied by geographic location, professional discipline, stage of career, type of organization, gender, and the principal transportation modes and project phases involved in their work. Table 5.1 provides a breakdown of respondent characteristics.

As noted in Chapter 2, 16 of the interviews included discussions of specific projects. Sample materials from open house meetings or websites developed by the respondent and reviewed prior to the interview were used to focus these discussions and elicit reflections on the choices involved.[8] The other 6 interviews were conducted with senior level practitioners concerning their general experiences and observations on public communications for corridor projects. Both types of interviews explored the ideas, inclinations and skills practitioners bring to their interpretive work, how the work is carried out in practice, and the types of challenges and constraints practitioners face in deciphering complex projects to facilitate citizen understanding.

Interview transcripts were coded and analyzed using a modified grounded theory method, as described in Chapter 2. In analyzing the interviews, particular emphasis was placed on practitioners' understanding of citizens' information needs and of their own roles in interpreting technical information for citizens, in order to reconstruct the theories of interpretive action evident in their work. Data from the field observations conducted for this study were coded similarly and incorporated into the database along with the interview data.

[8] There is no overlap between the projects described by the respondents and the materials analyzed in the previous chapter. This was avoided in order to preserve the respondents' anonymity.

The bridging criteria developed and applied in the previous chapters were used to gauge respondents' understandings of their roles and the extent to which their theories-in-use align with the normative theories drawn from the literature. This chapter analyzes these issues, as well as describing several related norms and practices that support the respondents' interpretive efforts.

Table 5.1: Respondent Characteristics

Location:	
Northeast	9
Southeast	4
Midwest	3
West	6
Organization:	
Small firm	10
Medium-size firm	3
Large firm	6
Public agency	3
Discipline:	
Planning or related	9
Communications	13
Gender:	
Female	15
Male	7
Transportation Mode:	
Highway	9
Transit	4
Mix	9
Project Phase:	
Planning	6
Environmental	7
Design	4
Mix	5

5.2 Alignment with Bridging Criteria

This section considers the respondents' understanding of their work as it relates to the seven bridging criteria previously applied in the materials analysis. Statements or accounts of actions that indicate apparent alignment, or lack of alignment, between respondents' views and each of the bridging criteria were coded as such. These are summarized and discussed in this section. This exercise also revealed a number of related norms, strategies and practices described by respondents that are distinct from the bridging criteria but appear consistent with interpretive efforts to bridge the expert/citizen divide. These related norms and practices are discussed at the conclusion of this section.

Keeping Findings Open to Challenge

A number of respondents described actions consistent with the norm of keeping findings open to challenge, inviting inquiry, or otherwise making clear the "contingent, negotiated character" of expertise (Jasanoff 2003). Two respondents reported a practice of asking citizens "Did we get it right?" when presenting data about transportation problems in a corridor. One said she tries to "outline the problems that we see and ask them 'Does this sound right to you?'" The other described similar attempts to get traffic engineering data confirmed by local residents:

> This whole meeting was, 'So here's some ideas about a mission and goals and objectives. Think about that. And here's what we've learned about existing conditions. Does it in your mind reflect the situation accurately? And then what did we leave out? What bothers you that we haven't identified?'
>
> I: So almost like validating your own work.
>
> Well, because no one knows the roads as well as the people who live there and drive them every day.

Asked what advice she would give a new planner on developing materials for open house meetings, she answered that it's OK to go in without knowing the answers:

> It's okay to go to a public meeting, and be able to ask questions and not already know the answer. That's why you're doing a public meeting…That's what the whole process is about. I mean if you say…'We have a high crash intersection here and here's a base map and some traffic volumes. What do you think the problem is and what do you think might be some ideas for solutions?' So you're still identifying the problem and still identifying what alternatives you might consider to come up with a solution. And I think many of our engineers are trained to have the answer, the problem and the answer before they go out and announce what the solution is.

This respondent had used a presentation technique consistent with this perspective, in which she attached a sign diagonally across the top of a display map that said "What are your traffic issues?" The technique of attaching the sign at an angle seems to suggest visually that participants' concerns are more important than the information on the board, downplaying the authority of the information presented.

Another respondent mentioned the importance of giving people time to review data, such as on project impacts, and offer refinements to it prior to decisions being made. The implication was that people would be more comfortable with a decision if they had had time to review the data. Another stressed the need for a "transparent process that allows stakeholders to question the data and verify its validity."

> I hear that theme a lot – 'we have to be transparent.' When you have impact studies, stakeholders need to be able to look at them when they're complete. They can look at… the ecology studies, and they need to be able to see--what is really the methodology that was used, and what are the conclusions we came to, and--do they agree? I mean yes that might open--lawyers for the opposition group might take a look at it, or the group might say 'Let's hire our own ecologist to see if they can validate or pick holes in the analysis.' But if you don't allow the public to see how you came to the conclusions, then they can be very suspicious. So I guess the idea is that whole transparency. Let's make people feel like this is truly a transparent process, and we can see what you've really done.
>
> I: So how much do you see that done, that effort to make the methodology and the conclusions transparent?
>
> Probably not as much as it should be done! We're starting to see technical studies put on websites, once you publish the [Environmental Assessment] EA or EIS, you also put the technical studies up there. so people can go through them. This would be separate technical studies that are referenced, not part of the appendix of the environmental document – so getting those studies out there so people can look at them as well.

These remarks suggest that for this respondent, the point of allowing data to be questioned is more to build credibility than to promote shared inquiry.

Another reported practice related to keeping findings open was the use of placeholders for concepts or designs yet to be developed. One respondent described the use of broad preliminary corridors instead of defined alignments to allow for earlier discussion of potential issues with citizens.

> My clients have been moving toward showing corridors–'Here's where we think it might go.' The corridors might be north of the river, south of the river, along the river. Ask them – 'What goes on here in this area? Are there historic properties, natural resources, neighborhoods, environmental justice communities?'

For these meetings she likes to do some preliminary GIS analysis of each corridor, which enables the planners to show these maps to the public and say "This is what we see going on here, what else should we know about?" Another respondent spoke of the importance of being candid about the use of placeholders and the uncertainty entailed:

> Maybe the thing that you have to impress on the public, if you're genuine about it, is, 'You know, I know it may feel like this is on the table because it's in the long-range plan, but in fact that's a placeholder. We're looking for good information and that holds the place for a solution to the problem, but we haven't necessarily found the solution yet.'
>
> I: Admit their uncertainty.
>
> Yeah. So just understand that it's okay, that we don't have certainty. We don't have the final. So we really need to hear from you.

Another spoke of needing to maintain a "higher level of tentativeness" in communications during the earlier phases of a project.

In addition to these respondents who directly addressed the contingent character of expertise, many exhibited flexible attitudes about project decisions and a desire to incorporate citizens' concerns and suggestions into their projects. The respondents' attitude of flexibility is consistent with the tentative manner of presentation documented in the majority of project materials analyzed in Chapter 4. Respondents described a number of tactics for presenting preliminary project concepts so that they will appear tentative or conceptual as opposed to final, as described later in this section. In addition, several respondents described using discussion questions in their materials.

Including Citizens in Problem-Setting

Relatively few respondents described efforts to include citizens in problem-setting. Three practitioners described using interactive mapping exercises at open house meetings in which

participants are encouraged to jot comments about traffic issues on sticky notes and attach them to the display map. These are then documented to capture the information at the end of each meeting.[9]

> We put post-it notes, we had people write down ideas and put post-it notes up there…And it's like where do you find a transportation problem that we ought to know about? And they would write on a post-it note and stick it on the map.

Another respondent stressed the need to get agreement on whether or not there is a problem and defining the problem before proceeding to solutions. She couched this belief in terms of a consensus-building strategy rather than joint inquiry, however:

> Like why are you even doing [the study]; what's the problem?…And then what's some information so you can confirm that you agree there's a problem?...I think what you have to present to the public at that first interface is what is it you're trying to accomplish, which really is defining the problem; if the public doesn't think there is a problem, they're probably not going to be interested in figuring out a solution…
>
> I think that that is really important, you know, to get everybody lined up to agree that there is a problem, even if people don't want the solution that you've dreamed up ahead of time, when you should've waited…If the public isn't beginning at the ground floor to start feeling like there is a problem, they're going to feel like a solution has been shoved down their throat…You aren't able to get meaningful input because you're presenting a solution rather than 'Help us decide what to do.'
>
> You start day one, because you really have to define the reason you're even out in the public. So you might not call it quite that, but you could at that meeting answer, 'What's the problem?' and you've presented sufficient information to tell the public there's a problem, because they're not going to go, 'We're having a meeting and you haven't talked about the problem.' They're going to want to get in there and say, 'Okay, what are we going to do?' So even the public gets antsy for the solution side, but you do want to be sure that you're clear there's an issue that you're resolving.

In the final comment above, this respondent implies that both professionals and citizens have a tendency to "get antsy" for solutions, shortchanging the problem-setting foundation for these studies. She also suggests that citizens will not fault planners for failing to present information about the problem.

Another respondent offered an account of changing practice with respect to engaging the public in discussions of project purpose, stating that to do so is a relatively recent

[9] This technique appears to be fairly common: it was also seen in field observations for this study and in one of the sample projects described in Chapter 4.

development in transportation projects, one prompted by legislation in the 1990s and reinforced by the SAFETEA-LU legislation of 2005.[10]

> I: I'm seeing that in many projects there is little or no discussion of the purpose of the project. Even sometimes at the first meeting, it's all about the characteristics of the project rather than why it is needed. Does that match your experience?
>
> Well, I've begun to see some changes in that. I would say that several years ago that was the norm – that we went to the public in a corridor study, or an environmental study, we'd just say 'Here's the project, here's the alternatives we're thinking about.' But getting people engaged in why do we need this is a relatively recent turn of events. We started doing it here…probably in 1996, and on this project…we used the first meetings to talk about 'Well what do you see as the problems in the area?'
>
> I: But that's a newer approach?
>
> Yes, it's newer. On the highway side, it began to come about really with SAFETEA-LU, which requires that you get public input on the Purpose and Need and the alternatives before the final decisions are made.

Her perspective is that the practice on this varies across the country, but that many states are "finally starting to get that understanding, at least for the major projects." She stressed the contributions residents could make based on local knowledge:

> I think it is important that they provide information about what they perceive to be the problems. Because we as engineers and planners, when we're looking at data, 'Oh, here's the traffic data, here's the accident data, and here are some potential solutions to that.' But if you don't ask the public what is going on here, you may not get the whole story.

She related an example in which traffic counts did not reflect the heavy traffic generated by evening church services; the project team learned about the latter from citizens.

> If you just did your traffic studies during the weekdays you would not know that, and you might plan for something different.

Avoiding Closure in Problem Definition

Only two respondents described beliefs or practices aligned with the norm of avoiding closure in problem definition. Both of their comments involved the need to maintain flexibility in the Purpose and Need statements developed for environmental studies, beyond the initial drafting of these statements. One respondent mentioned a practice of revisiting the Purpose and Need statement with the public as studies move from the planning to environmental phase:

[10] Safe, Accountable, Flexible, Efficient Transportation Equity Act of 2005 (Public Law 109-59)

> You know, 'We looked at the purpose and need during planning. Is it still valid?'

Similarly, another respondent described an environmental study in which the public was asked for input on issues both during scoping meetings at the outset of the study, and again after a year-long gap during which technical work was underway, when the project team again met with the public to talk about initial alternatives:

> At that point, we brought the Purpose and Need back and said 'Based on our analysis, here's what we <u>think</u> the purpose and need is, what do you think?…We actually had two meetings, about three months apart, so we could bring back some changes based on what we heard at the first one…

She believes the Purpose and Need Statement should not be considered a static document:

> It should evolve somewhat as you go through the project and get new information–at least up to where you're doing the environmental study, where it shouldn't change much–but you can still be massaging things, and the information that supports it, as well.

Encouraging Value Inquiry

Consistent with the findings from the materials analysis, very few respondents described efforts to encourage value inquiry or ideas about their practice that are aligned with this norm. One respondent has engaged citizens in identifying core values of the community that should be considered in a project, as well as a formal set of evaluation criteria. He described this as an innovative approach that had not previously been used for corridor projects in his area. The project he described involved difficult choices, such as between displacing residents and taking farmland, which were discussed at length over a period of several years. Another respondent has involved the general public in establishing evaluation criteria for planning studies. A third respondent described efforts to expand the terms of discussion in a corridor study to incorporate issues of housing affordability that were related to transportation conditions.

Showing What is Consequential

Nearly every respondent demonstrated practices consistent with the norm of showing the public what is consequential about a project or decision. Of the seven bridging criteria, this one had the most meaning for the respondents in the study sample. Depending on the project phase involved, their concerns tended to focus either on showing a project's impacts in a way that would call attention to their significance, or giving people a good understanding of what a project would be like, which they often preferred to do through visual means. Other aspects of consequentiality touched on in the interviews included providing historical context and showing sensitivity to community concerns.

Many respondents stressed the need to make people aware of potential impacts, particularly those affecting them as individuals. One respondent explained that she insists on an honest approach to showing potential project impacts at open house meetings:

> There are going to be property impacts. There are going to be definitely homes lost…But pretty much at my insistence…we've been very honest in those meetings. We've shown them the maps, we've shown them the numbers, we've shown them where we think this alignment, which properties it would take down, and how many wetlands it would have and stuff like that. So people, a lot of the people who have come have been...the residents who are going to be impacted. But, again, I'm always sort of amazed, because occasionally there will be somebody who's just like, 'I'm really frustrated this is taking so long,' but it's not like somebody's like, 'How dare you take my house,' or screaming and yelling. They're very, I think, you know, I think they feel like they've gotten plenty of notice that they should be thinking of relocating.

This respondent describes the information transaction mainly in terms of providing adequate notice to directly affected parties in a project that was moving toward final design. This was also the case for another practitioner who developed graphics to emphasize the consequences of proposed median barriers along a commercial corridor. The barriers would improve safety and traffic flow but eliminate left-turn access into some of the retail establishments along the corridor. Knowing that this might be controversial, the practitioner emphasized the medians in open house displays in an effort to "wake people up to it:"

> We were putting out this information trying to call attention to medians because we knew it would likely be sort of a controversial thing with businesses…We were trying to kind of wake people up to it.

Another respondent described her project team's rationale for choosing which environmental impact findings to show in open house materials for an EIS, out of the numerous maps and charts prepared in the supporting technical studies. They decided to show those impacts that differed between alternatives, those that they knew people would ask about (even if there was no difference between alternative), and historic impacts, for which documentation of public involvement is a federal requirement:

> We didn't cover all the impacts. We only covered the ones that were differentiators. And so like we didn't talk about, for instance, fisheries in the water or something like that because they're all the same. There's no difference. So we only talked about those that were differentiated [as well as] noise and air, which weren't differentiators, but we knew people were going to ask about them, so we focused on noise and air, we focused on wetlands, we focused on the property impact primarily. And then some of this minor stuff, you know, historic stuff, we almost just had to cover it for [Section] 106 purposes, and there are a couple people that were interested in some of the historic stuff. So some of these other things were just to say, 'We looked at this. It's fine. There's no difference, you know. There's no impact, so there's no differentiation.'

Another respondent tends to show all of the impact data, "but we'll highlight the ones we think the pubic are most interested in, even if there's no effect." These would typically be "noise, construction, property takes and visual impacts."

Several respondents talked about the need to provide the most central information available about a project in order to interest and engage participants. One stated:

> People should know the alternatives that are being discussed and what are the key differences between them in terms of what they do and how much they would cost and how long they would take…You need to emphasize certain things to get people more interested.

He observed that in an open house meeting about project alternatives, people tended to gravitate to information about the "most intrusive alternative," rather than moving through the displays in order:

> They did a presentation, then had people come over and look at all the alternatives and laid them out like a snake. But people didn't do that [the snake], they went to the one that interested them, that was usually the most intrusive alternative.

Throughout the interview this respondent expressed frustration with agency staff who are overly afraid of controversy and unwilling to allow key information to be shared. He argued that without this information the presentations will lack meaning and interest. This point was

echoed by a number of other respondents. Several also expressed frustration with project managers or clients who would not allow them to simplify engineering drawings to call attention to the significant characteristics of a project or to eliminate confusing details. These and other organizational constraints affecting information design are discussed further in Chapter 7.

Another common theme of the interviews was the need to use graphics that "really mean something to people." One told a story of an alternatives analysis in which the graphic presentation did not work well. He attributed this to the expert's lack of attention to what would be needed for the information to be meaningful to lay people.

> We were all waiting for the results of the modeling effort to see what the results would be and if people would [divert to a different route]. And finally there was this slide. It comes up and it was the most complicated slide in the world. A bar chart – it sort of hid all the information that was good to see. He had 12 bars on the chart. I felt like everybody was waiting for this and then it was like 'So what? Who cares? You didn't prove anything to me.'…I was so disappointed.

A number of respondents described painstaking efforts to prepare visual representations that would give citizens an accurate idea of a project's scale, appearance and expected impacts. One described a how-to guide her firm had developed for the maps and graphics they prepare,

> …because really those are the two pieces that help people to visualize what's going to happen and understand the magnitude, in order to provide meaningful input. We spend a lot of time on those products…It's important for them to be able to understand what they're looking at and in many cases the engineering plans are extremely difficult to comprehend.

Another practitioner described the challenge of conveying differences in the noise impacts that would be experienced in various sections of a transit project. This involved reworking displays about these impacts several times. She also struggled with how to convey the expected appearance of the track and landscaping in an affected residential area without making it appear that design decisions were already final. This concern about the proper balance between realism and a forthright representation of uncertainty was expressed repeatedly, both in the interviews and in field observations of other practitioners at work.

A different concern involved the ability to give citizens a feel for the overall significance of a project as opposed to the details. One respondent explained that he would like to be able to use visualizations that help the general public understand the "big picture" of a project, but seldom gets the opportunity to do this. He observed that on most of the projects he has worked on, resources for visualization are devoted to showing localized visual impacts, such as the appearance of a proposed rail line from a particular resident's front yard, rather than illustrating the project's broader significance. He finds this especially true of visualizations done for environmental studies:

> The perspective used to show differential impacts is too mundane…It's a squeaky wheel process. Nothing is done to help the larger public understand the big picture.

Another aspect of showing what is consequential involves providing historical context for a project. This was mentioned by several practitioners. One respondent generally uses the first meeting of a planning study to "review any previous work that's been done."

> You probably would show a mapping of the study area, some of the problems that previous studies uncovered. You know, you're usually not starting with a blank slate…There's, you know, in most urban settings—in [Project X] we had over a dozen related studies, at least…I mean there were many, many EIS projects that were done by developers within the study area. There were at least a half a dozen or more transit studies prior to this, different elements.

Several practitioners seemed to be especially attuned to community residents' concerns, enabling them to develop materials that reflected issues of particular local consequence. In one example, involving an historic bridge that was to be replaced, a respondent showed particular respect for the community's feelings of attachment to the familiar landscape represented by the bridge and their sense of loss about its replacement. At a meeting to discuss the replacement bridge, along with materials on the replacement options, she included display boards soliciting ideas for ways of commemorating the old bridge.

Nurturing Dialogue about Options

Relatively few respondents described beliefs or actions specifically aligned with the norm of nurturing dialogue about options. Much more common were descriptions of efforts to solve

specific problems expressed by affected parties about a project concept, in order to address those concerns and gain agreement. This might involve dialogue about alternative ways of mitigating a problematic impact. While most respondents seemed to feel it was important to be flexible about proposed projects, and to provide a chance for the public to react to proposals while there was still time to address concerns, these views seemed to be motivated more by a sense of fair play than an interest in what the general public could contribute.

One respondent did stress the value of working with citizens early in a project to tap their creativity. She related an example in which a citizen at an open house meeting came up with an idea for adding a missing sidewalk to a neighborhood street as part of a drainage improvement project, an enhancement later implemented that would allow neighborhood children to walk to school. Another respondent stated that "citizens usually have the best ideas." One described a practice of telling open house meeting participants "Here are some things that are emerging as alternatives, what do you think?" Another spoke of the challenge of being presented with new ideas from citizens at the final meeting of a planning study, after a recommended strategy has been outlined. He stressed the importance of being willing to go back to the drawing board if new ideas have merit.

> A good consultant says 'Gee, you know, we hadn't considered that, and we're going to go back and take a look at it.'

Two respondents described incidents in which citizens' suggestions had helped professionals break out of preconceived assumptions about the constraints on a construction alignment. In one case, citizens suggested moving a railroad track that had been regarded as a fixed constraint on the location of a highway, an idea which was determined to have merit and was further investigated. The other case involved a second look at a potential alignment for a proposed bridge which project engineers had discarded as infeasible. Further investigation, prompted by citizens, revealed an error in the original assumptions, allowing this alternative to be seriously considered after all.

One respondent noted the importance of being willing to "consider alternatives that at first blush may seem flawed or unworkable."

> Don't just dismiss them out of hand. When you say 'Here's some issues, what solutions might help? Would it be a transit project?' And they say 'How about monorail?' You give it an honest appraisal, tell them – 'Here are the characteristics of monorail, here is what we know about costs, but there is very little experience with monorail around the country to draw on.'

Asked why she felt this was important to do, she responded "to build trust, to show you've heard them." The respondent later related an example in which a citizen's seemingly flawed idea proved to have merit for a project, suggesting she also sees some epistemic value in dialogue with citizens.

Another respondent took a different view, saying that unrealistic alternatives should not be pursued "just to humor people." He described a situation in which project engineers had investigated a tunnel option sought by an environmental group, which he thought should have been rejected:

> In my opinion, we probably should've allowed the reality of the situation to be more present… We got bogged down in all the choices, instead of saying, 'Look, realistically we can't afford a new tunnel. We need to face that, and deal with it and move on with other choices.'

Coaching Citizens in the Rules of the Game

Many respondents described practices aligned with the norm of coaching citizens in how they could participate effectively in decision-making. These practices took varied forms. One respondent described materials she had prepared to make it "very clear how people can communicate with the project team and be involved in the project." Others stressed the importance of timing, of helping citizens to understand exactly what issues are on the table at a given point.

Three respondents described efforts to explain the key differences between alternatives so that citizens could better participate in evaluating or selecting them. Another believes it is important to show the public the alternatives that have been discarded along the way, not just

those that are still in play. One reason is to give the benefit of this background information to people who come to a meeting or visit a website for the first time later in a project. He also feels that this practice helps to clarify which alternatives are actively being considered and prevent the discarded ones from being brought up again and again.

A number of respondents described efforts to orient newcomers to the decision process. For example, at an open house meeting one respondent used both presentation slides and display boards to review the process to date and decisions previously made:

> This was a recap…in case somebody came to the meeting that had never been there before. The purpose of this is to show there's been some decisions about design, regardless of alignment, so we took them through what the decisions were about design regardless of alignment. Then these are the alignments…

Another respondent spoke of providing background information at each meeting, both to assist newcomers and help returning participants review what has been done to date. She has had as many as 200 new people come to a meeting midway through a project:

> At the beginning of every presentation we'll say, 'Where have we been? Where are we going? What's the purpose of tonight? Let's just review. What did we hear? How did we react to it?'

While acknowledging the importance of orienting information for newcomers, this respondent prefers not to dwell on discarded alternatives and get right to the "meat of the matter" for that session:

> So you always have to have some piece that can educate a new person. But do you belabor monorail? No. You say, 'We looked at some modes, but, you know, we've dismissed them. Now here's the meat of the matter. You have these three alternatives here, and we've dismissed one of them and here's why.' So you take the broad with a broad brush, and you get down to the narrow, and if you've eliminated some in the narrow, you know…

A number of respondents mentioned the importance of keeping in touch with the general public during a long project, even if there was no particular news to report. One was frustrated by agency managers who allow citizen communications to lapse without any explanation:

> Sometimes the client tells the public, we'll have another meeting in 3 months, but they don't really for 9 months. People wonder 'Where'd you go?' We can't even tell them why we're not there. I'd fill in the gaps, send them more information.

Another aspect of coaching mentioned by several respondents was encouraging participation by affirming its effectiveness and value. One respondent stressed that people "should know that they can influence project decisions," even if some of the decisions have already been made.

> And also, what role they can play, how they can participate…I think we could show examples of how people's influence meant something – and say 'We still want to hear from you – there's a lot more decisions that need to be made. Although we're not making decisions right now, we're doing a lot of analysis, but we don't really know [how it will turn out] yet.'

In his view, this step of letting people know how they helped shape the project isn't done enough.

5.3 Related Norms and Practices

The interviews revealed several norms and practices that appear to support practitioners' interpretive work, while being distinct from the bridging criteria. These included encouraging citizen learning, establishing trust or acting sincerely, and adopting an attitude of problem-solving. Additional practices described included specific strategies or informal knowledge related to information design, including the use of images, maps and numbers.

<u>Encouragement of Learning</u>

Many respondents described their work in terms of teaching or encouraging citizen learning, as well as learning from citizens. Some find this the most personally satisfying aspect of their work. For instance, one respondent, asked what she finds most rewarding about working with the public, spoke of helping people understand the problem at the root of a project:

> I would like to say, 'Oh, it's when you have a great idea,' and people get it and they really think it's wonderful. But I actually think it's more when you have a real problem on your hands, and you get people to see that you're not trying to put one over on them, that, yeah, they're not happy about it, but, you know, they understand it now and thank you for explaining it…It's being able to get them to the table to say, 'We really have a problem. We didn't,' you know, 'Thank you so much for explaining it and teaching us about it. We see the perspective now. We'll work with you to solve the problem.'

Another respondent observed that people's daily experiences with transportation give them a starting point to understand technical material. She tries to build on this common sense understanding and create educational materials that help them understand how the professionals see things.

> I think the thing I like about transportation is that most people consider themselves experts, even, you know, you meet someone on the street and they all know traffic, and they all know traffic issues, and they all have something to say about it…So I find it's not that you're explaining something very dry and technical. Well, some aspects of it may be a little bit more dry and technical, but for the most part people get it. And so I find it really interesting to inform people, and get them engaged, and if they have issues to sort of educate them about the process, and try to get them to understand.
>
> I: So do you think that starting point that they have, you know, they drive, they know something about traffic, does that help in explaining things to them?
>
> I think it gives them an understanding, so that you can then explain the different facets.... And so they can say, 'Oh, well, I didn't know that.' You know, I mean they understand that intersection, but then they want the change made to a certain thing…They want something. And then you explain to them, 'Well, these would be the steps. This is why it can't be this, but perhaps why it can be that.' And if you provide the educational components that they can walk through it and understand it, even if they don't completely buy in, at least they're understanding it, so that's how you're building some consensus for it. So I do think it helps.

A teaching orientation was evident in another respondent's account of a planning study for a congested corridor. She described a series of maps prepared for public meetings that were designed to share the project team's concerns, educate people on complex issues, and expand the terms of discussion. One pair of maps showed a striking correspondence between geometric conditions on the roadway ("sight line restrictions, and grade changes and things like that") and the location of accident clusters. The project team considered this an important part of the study background that the public would need to appreciate to understand why change was needed.

> And when we did the PowerPoint presentation, this overlaid this, and it was amazing how wherever there was an issue with geometric conditions, it also corresponded to the accident [locations]…And so the community just went, 'Oh.' Like a huge light bulb went on, that something that was very dry and traffic-y, sight lines and grade changes, became why people…They could see, and this is why, this is why engineers study sight lines and grade changes, because it does have an impact on the community.

Another map prepared for these meetings showed the origins and destinations of trips throughout the corridor. This was intended to show the relative volumes of trips by residents

versus through travelers. The team anticipated a concern commonly expressed on such studies that traffic congestion is caused by outsiders using "our" roads, and developed this graphic to clarify the sources of traffic.

> This is a lot of information on one board, but it [shows]…the volumes and to give people an idea of who was local, versus who was traveling through…because I think some people get concerned that 'It's not us, it's them.'

The team also used this and other maps in the series to point out that the combination of severe congestion and a lack of affordable housing in the corridor was making it difficult for some local businesses to hire employees. This was something they had learned anecdotally in focus groups with corridor businesses, but it seemed to be borne out by the demographic and traffic analyses performed for the study.

> We…went out to the field for a day, and we were talking to some employers, and several employers [said], you know, 'We can't get people.' Like in [Town X], they could never; this woman owned a beauty salon. 'I can't get staff because it's too expensive to live in X and nobody can; the traffic issues are so bad that I can't get people to come up from City Y. I have a hard time finding employees.'

Here the data collected and mapped on traffic volumes, congestion and demographic characteristics served as an opener for the planners to talk about the broader issue of housing affordability as it relates to the need to travel in a corridor. This also provided an opportunity to move people from thinking strictly in terms of "us vs. them" when it came to who is clogging the roads, by showing that "those people" could include valued employees of local businesses.

Another respondent, asked about his ideal open house meeting, described one he had worked on in which community residents were able to learn in detail about the noise walls proposed for a highway project. He felt this had helped to defuse some of the concerns that had been building up about the project.

> And that was so gratifying, because at the end of this meeting, and it was a long meeting, it went on for hours…people were calling all their friends and, 'You have to come down here. You have to come down to this meeting. I'm learning so much. This is great.' It was like that night sort of this groundswell of interest came, and people came and came…and 95% of them were in favor of it…And as people left…almost to a person they were like, 'That was worth my time. That was a worthwhile meeting. I learned something. I thought it was a fair presentation. You guys obviously did a lot of

> work to prepare for this and we really appreciate it.' That to me was one of the best open houses ever.

In contrast to these examples of materials that provided sudden illumination at a particular meeting, several respondents described citizen learning that had occurred over time as part of a structured participation process. This type of learning requires some consistency of participation by individuals over the course of a project. While that is likely easier to achieve through citizen advisory committees than in casual interaction with the general public, open house meetings played a role in some of the examples respondents provided.

One example was an alternatives analysis for a highway. The practitioner described this study as an educational process that helped people understand "why a bypass wasn't the right solution" to the traffic problem. As in a previous example, it involved helping people to recognize that much of the traffic on a congested road was generated locally.

> We started out with a multitude of offline alignments. Many people wanted us to leave Route X as it was and to just bypass the area. But through a really intense alternatives analysis, we were able to get people to understand that bypassing Route X would not solve the traffic problems that they have on Route X. While there were some people whose origins and destinations were outside of the study area, the majority of the traffic came from within. So if we did a bypass, we weren't solving the need on Route X…And I think in the end there was no resistance to that. There were still a few people who came and talked about the bypass, but everybody agreed, and we brought them along, and that was where sort of the educate, inform, involve really worked.

Another respondent described a planning study that helped a community come to terms with what she described as the irreversible loss of their area's former rural character. This planning process was allowed to take more time than most. At the outset, the established residents of a rapidly developing area sought to preserve their rural way of life and small village character and were opposed to either road widening or construction of public transit lines. The practitioner was sympathetic to these goals, but thought the "horse was already out of the barn" in this location: development had proceeded too far to be able to reclaim a rural way of life. Although she understood their opposition to road widening, she thought the severe congestion and serious safety problems along the corridor required it, and prepared

materials to demonstrate this point. Eventually, these citizens were "forced to confront the fact that they had already lost their rural way of life" and were willing to begin discussing alternatives for a road project.

Establishing Trust

Another commonly expressed norm of practice that is closely related to interpretive work is the importance of building trusting relationships with citizens. This includes basic principles of sincerity and honesty that have not been emphasized in this study, but are clearly not trivial considerations for these respondents. It also includes an interpersonal dimension that is important to many of these practitioners.

Many respondents spoke of the importance of sincerity. Two made a point of saying that while they might help a client "sell" a project, they would never knowingly lie to the public. Several respondents exhibited strong feelings of responsibility for how data was presented and strove to be fair in making information design choices. For example, one respondent was reluctant to present transit ridership forecasts and estimates of travel time savings that were "just rough estimates" at that stage, saying this information "makes me nervous." Another practitioner talked his client out of using a map that he felt made a spurious argument about the rationale for a project.

One respondent is particularly bothered when people "talk about transparency out of one side of their mouth" but only provide it to a certain degree. He gave the example of meetings that occur too late for public input to be used:

> Unless you do things in the sequence that makes sense, like now is the time where we should get input, because it's going to…it can have a material affect on how we advance the project. Unless you do that, it's pretty disingenuous to just sort of check off the box, well we held an open house, and we showed 'em what we thought, we had comment sheets, and we made a summary report and then we stuck it on a shelf and went along our merry way.

Several other respondents mentioned how troubling they find this "checkbox" attitude, in which public involvement is only done for the sake of "covering your legal butt." One related this attitude to the assumption that the public is apathetic:

> I definitely have strong opinions about how public participation should or shouldn't be done…I think one of the things that bothers me the most is insincerity. And this really goes to trust. When I hear people talk down about stakeholders, or simply assume stakeholders are dumb or uninformed, misinformed, don't care, apathetic. I mean if you start with that position of assuming that your audience is that apathetic, I don't think you do a very good job. You get apathetic…
>
> If you just do the checkbox, and the checkbox is that apathetic attitude. 'I'm going to hold my public meeting and put out the announcement, if someone doesn't come it's their problem, they weren't paying attention'--that's the covering your legal butt, but it's not really sincere in reaching out to say, 'Hey, this really affects people in some way. How does it affect them? What's going to make them interested in this project? What information do we need from people to help make it better?'

Several respondents mentioned the importance of empathy, listening, and being able to hear when respondents have been hurt by agency decisions. Considerations involving the emotional, interactive side of meeting facilitation are distinct from the bridging norms most relevant to the design of participant orientation materials, but do appear to play a role in respondents' information design practice. For example, one practitioner sought to convey an acknowledgment that certain residents would have noise impacts from a project, even though the impact was below a threshold that would officially qualify them to receive noise walls. She thought these citizens had been hurt by the agency's unwillingness to acknowledge these less severe noise impacts. Another respondent spoke about her efforts to make sure people on the losing end of a decision (about a project alignment) "don't feel taken advantage of or mistreated." Another stated that at open house meetings it's important to "make sure participants feel that their contributions are appreciated."

Problem-Solving

Some respondents view their roles as going beyond facilitation of public participation to include problem-solving in response to citizens' concerns. They may make efforts to initiate modifications to project features, or work with engineering staff to determine whether changes

can be made. Problem-solving can also include behind-the-scenes negotiations with involved parties to find points of consensus.

Some of these actions can be seen as instrumental efforts to fix problems that create opposition to a project. In other cases, they can be seen as a practical extension of bridging norms such as nurturing dialogue about options. One respondent described her main goal as "learning everything we can from the public to make this a better project." Another said that the most rewarding part of her job is "helping to craft projects that meet people's needs," especially the needs of "those who have to live with the consequences of the project." While these views may place the viability of the project ahead of the deliberative process, they also involve working to discover the needs and concerns of affected citizens, which means reaching across the expert/citizen divide.

Informal Knowledge and Practices

In addition to the related norms described above, the interviews revealed specific strategies and practices for information design, including rules of thumb and other types of informal knowledge that appear to support their interpretive work. Many of these rules of thumb relate to the visual elements of communication that respondents find effective in giving citizens an idea of what a proposed project will be like. These are discussed here for the additional insights they provide about the respondents' approaches to the interpretive task.

Several respondents mentioned the importance of setting goals for communications before beginning design work. This might mean "first considering what it is you want to communicate" or "storyboarding the issues that you want to explain visually." One respondent feels it is important to give people a "unifying idea" telling them what you expect them to learn from a particular communication.

> We usually had an idea, whether it was understanding the impacts, or like the last one, not focusing on specific impacts or specific communities, but focusing on selecting which of the 6-8 alternatives. We tried to have, we usually had a very general goal, in terms of what we were trying to do.

Another advises practitioners to avoid overwhelming people with information. "You need to avoid making it too much work for people to read the displays." Some respondents offered rules of thumb for limiting the amount of information:

> "There should be no more than twenty questions" in a set of FAQs.
>
> In an open house meeting, "20-25 boards should be the limit."
>
> "I'd rather have less boards that are accurate and valuable than more boards that are a waste of time."

A strategy described by many respondents was to use a familiar reference point to help citizens understand what a proposed project would look like or how it would function. One respondent described using pictures of a similar project that had already been constructed to provide a familiar reference point:

> We wanted to add the pictures – and the pictures were taken on the previous segment that was reconstructed a couple of years ago. So we assumed people would be familiar with those locations, but help them understand – 'OK, here's what a noise wall looks like, here's what a median intersection looks like'…We thought it would help them connect something familiar.

Another respondent used examples of the other bridges in an area to explain how high a proposed bridge would be and the type of visual impact it would have. A third described the effectiveness of photo-simulations that showed a proposed highway in relation to familiar surroundings. She found these the most useful of the various graphics used in her project.

> The ones that were really the most helpful, in terms of final decision making, were the photos with overlays. Because then you would have the actual area that they could relate to, and it was just superimposed, the expressway, what it might look like. Without, you know, without decisions being made about pillars, there would be some arbitrary things, but you get them to feel a sense of what that would look like and that was very helpful. I think people really appreciated those…Those were the ones that really made them feel ready to make a decision. It was as real as you can get I think at that point.

Many practitioners spoke of using large aerial photographs of a project study area both as a reference point and to spark conversation at open house meetings. Four mentioned encouraging residents to pick out their house or another reference point to draw them into a discussion. Two described these aerial photos as the most important display they had used.

> It was…a Google Earth kind of photo. It was just a big blowup, huge, many different panels...We put it up on a bunch of different easels and everybody, what the first thing they'd do is they'd walk right up to that and find their house. Everybody did that.

Another rule of thumb described by several respondents was to use multiple visuals to illustrate an issue, or multiple perspectives to depict a scene. One practitioner stressed the importance of choosing the right perspective for a visualization. At a minimum, he always includes an eye level view, which he considers "more experiential and personal" and "necessary to establish viewer perspective." If possible, he adds a bird's eye view as well.

Respondents differed on whether visualizations in a planning or environmental study should be realistic or not. One discussed the importance of getting details right, even down to making sure the people shown in a visualization are representative of those in the area, with the appropriate ethnicities and styles of clothing. Another feels that for visualizations, "more real is not always better" and "the simpler the better," since if one tries to make it too realistic, any deviation from the actual location becomes a distraction. "If we forget to put in a building, people know." One respondent described the skeptical reaction citizens had to a photorealistic rendering:

> It's a continuing challenge. We're really getting grilled about 'You show us these beautiful pictures, can you promise us that's what it's going to look like?' And of course we can't. It's very shady and green now, so we tried putting things in, now we've tried taking trees out, just putting blue sky in, then it became too open. So we don't have the "before" picture to start with.

Practitioners have developed various informal strategies for addressing the interrelated issues of credibility and tentativeness in presenting conceptual proposals. One aspect of credibility touched on in the example above is how to represent the "base case" in a before/after comparison, which can include deciding on the right amount of vegetation to use or making sure the seasons shown in each image are comparable. One person recommends "defoliated" visualizations, because with foliage, "people think you're trying to hide something." For visualizations of preliminary concepts in a planning study, one respondent makes sure to show at least two different variations in the appearance of a scene, such as different choices

of materials or colors, helping to reinforce the tentative character of the proposal. Another respondent likes to include watercolor sketches allowing people to get a sense of what something might look like, but still understand that it's "just a drawing."

> This [computer rendering] is what we started with and then people wanted the photo sims but I think this is almost better…because it's clearly not real. Yes, we're not claiming this is actually what it's going to look like. I wish we'd had–I like those watercolor sketches as a nice balance between photo sims and engineering drawings…I think it gives an understanding for people, to understand that it's just a drawing.

Practitioners also described several beliefs and practices related to the use of numbers and technical concepts in meeting materials. One respondent thinks numbers should "never be used" at a public meeting, because the public does not relate well to numbers.

> I try to avoid that stuff. I really don't think presenting that kind of technical information at a public meeting is ever a good idea.

No other respondents voiced this opinion, and many took the opposite view. One thinks it is important to attempt to explain complex concepts to lay audiences:

> I think you have to introduce those concepts because if you talk about roads being over capacity, what do you mean? A road is congested, and there's a time when it's not, and then there's a time later when it is, and what's that threshold? Well, it's at that threshold when it approaches and reaches or is over capacity.
>
> I: So it sounds like you have confidence that these concepts can be explained to the average Joe?
>
> Absolutely. I mean a traffic engineer is just a person and they didn't know it when they started school either.

Another respondent stated that it is important not to underestimate the capabilities of the public.

> Don't talk down to them. Don't assume that they won't get it. Don't assume that you have to put technical information in…idiotic childlike language.

She described her negative reaction to a government report about how to communicate with disadvantaged or non-English speaking participants:

> I just thought…my head was going to pop off because of this idea that you have to do like little line drawings of Jack and Jill going up the hill in order to explain a project. It's like no, you don't really have to do that. People are very smart, or they're willing to learn. I just remember being so irritated by that. If I went to a meeting and people were explaining something in that level of simplicity, I would think I was, you know…I just think you have to really respect the fact, particularly if people come out to a meeting. If they've actually spent their own time to come out to a meeting, then you

> should put numbers on the line...They deserve that and you have to respect them with as much information as you can give, and, again, in a way that's not completely boring, or awful to listen to or opaque.

One practitioner thinks it is important to present demographic trends as a way of prompting discussions of citizens' own mobility and transportation issues.

> You need to look at trends, population and employment trends, to get people to talk about how they get from, you know, where do they go in the course of their day and how do they get there?

This example is analogous to the use of aerial mapping to spark conversation.

5.4 Alignment with Bridging Criteria: Summary and Discussion

The practitioner interviews revealed a high degree of alignment between respondents' espoused beliefs or reported practices and three of the bridging criteria: (1) keeping findings open to inquiry, (5) showing what is consequential, and (7) coaching citizens in the rules of the game. There was less evidence of alignment with the norms of including citizens in problem-setting or nurturing dialogue about options, and very little evidence of concern either with avoiding closure in problem definition or encouraging value inquiry. The practitioners bring a number of related concerns to their interpretive work, including a focus on citizen learning, establishing trust, and helping to solve problems or meet people's needs (as identified through discussions of citizen concerns with a given proposal). The interviews also suggest that a number of information design tactics have emerged to support particular forms of expert/citizen bridging valued by these practitioners, including showing what is consequential and maintaining a tentative stance toward project proposals.

These findings are similar in some respects to those for the materials analysis in Chapter 4, with some important differences. The strong results for the first criterion, keeping findings open to inquiry, and the weak results for encouraging value inquiry are consistent across the materials analysis and interview findings, as are the intermediate results for including citizens in problem setting and nurturing dialogue about options. The greatest difference between the two is in the strong alignment of respondents with the fifth criterion, showing what is

consequential. The respondents showed a high level of awareness of the value of showing environmental impacts clearly and providing a good sense of what a project would be like. These aspects of expert/citizen bridging were much more evident in the practitioner interviews than in the sample artifacts. In addition, practitioners showed significantly more awareness and concern with coaching citizens than was apparent in the sample materials. Possible explanations for these discrepancies, including constraints affecting information disclosure and design choices, are discussed later on.

With respect to the first criterion, keeping findings open to inquiry, the results closely mirrored those seen in Chapter 4 for the supporting indicators in Test 1. Many respondents appeared interested in maintaining a tentative, flexible stance in the way material is presented. Several informal design practices have arisen to support their efforts to preserve the tentative quality of a proposal. A number of respondents also mentioned the use of discussion questions to promote dialogue. However, consistent with the materials analysis, only a few described efforts to invite participants to comment on data or forecasts.

While relatively few respondents seemed concerned about engaging the general public in problem-setting, those who did described efforts to solicit needed information on local conditions, particularly traffic problems, with several reporting a low-tech, interactive use of display maps to do this. A senior level respondent with national experience provided a plausible explanation for the lack of emphasis on involving citizens in problem-setting, stating that this is a relatively new idea in corridor planning, one that arose with a legislative mandate in 1996 which has been implemented unevenly throughout the U.S. Despite the respondents' relatively limited alignment with this criterion, it is interesting that most of the examples they gave of supporting citizen learning involved helping people to appreciate the problems underlying a proposed project.

The most striking result of this analysis is the strong intuitive understanding almost every respondent expressed about the need to show the public what is most consequential about a project or problem. Many respondents appeared to have a nuanced, if not fully articulated understanding of this principle. For example, one stated that project impacts should be presented in a manner that highlights both what is most interesting to and potentially significant for citizens, which may not be the same thing. Several mentioned that participants deserve to see the most central, “intrusive” alternatives under discussion, and a number also discussed the importance of highlighting the key distinctions between alternatives. Many spoke of the importance of efforts to convey the appearance or scale of a proposed project so that citizens could grasp its significance and comment meaningfully. Much of the informal knowledge reported about the use of graphics relates to this goal. The respondents’ remarks on the subject of consequentiality also show a tacit awareness of practitioners’ roles in structuring attention (Forester 1989), which was less evident in remarks on problem-setting, nurturing dialogue or coaching citizens.

Surprisingly few respondents expressed interest in nurturing dialogue about options with the general public. This may be due to perceptions that this type of dialogue should occur with smaller, more informed groups of stakeholders, with the general public being given only an opportunity to ratify, reject, or at best make minor modifications to concrete proposals. This issue is addressed further in the next chapter. Some practitioners do seek to engage participants in more circumscribed discussions about ways of fixing the problems they identify with a given proposal. This accords with the problem-solving orientation some respondents exhibited. Circumscribed problem-solving dialogue may be an appropriate form of bridging in later stages of project development, when alternatives have been narrowed down or a preliminary design is in progress. However, even those practitioners working at the earlier planning stages generally appeared to place little value on the potential contributions of citizens to the initial process of generating options. Several noted that citizens had on occasion come up with creative solutions to a problem, but these were apparently seen as

isolated, serendipitous events rather than the expected outcome of a process of mutual inquiry by professionals and citizens.

Many respondents expressed concerns closely aligned with coaching citizens in the rules of the game. Their interest in coaching citizens often appears to focus on personal interactions with meeting attendees, rather than being embodied in the design of materials. This may explain the stronger focus on coaching evident in the interviews as compared to the sample materials. A number of respondents brought up aspects of coaching that were not evident in the materials analysis, such as the importance of letting people know how their participation had helped shape a project.

Another point of commonality between the interviews and materials analysis is the emphasis on project characteristics (the “what, where” of a project) as opposed to the reasons for a project. As in the sample materials, the respondents tended to emphasize information designs involving project features and impacts and downplayed those involving problem-setting. Their discussions of challenges, strategies, and personal norms of practice revolved around the depiction of “what” rather than “why.” Their strong alignment with the criterion of consequentiality is consistent with this emphasis.

The interviews also revealed a tension between efforts to provide a good “feel” for a project and efforts to preserve the tentative quality of a proposal. This indicates a potential conflict between the norms of keeping findings open to inquiry and showing what is consequential, at least as they have been defined in this study. The issue is how to give citizens a meaningful sense of a project’s characteristics without making it look so finished or realistic that it seems like a “done deal.” This point came up again and again in the interviews, as well as in field observations for this study. Respondents offered several solutions, including showing several variants of the same scene (to make the hypothetical nature of the proposal apparent) or using watercolor sketches. The frequent mentions of this issue and emerging informal

strategies for addressing it suggests the need for applied research and guidance for professionals on this particular topic.

Chapter 6: Practitioners' Approaches to the Interpretive Task: Part II

6.1 Assumptions about Citizens' Roles and Information Needs

In addition to examining practitioners' interpretive norms and their alignment with the bridging criteria, the interviews explored their conceptions of the roles citizens should play in a corridor study, what they are entitled to know and discuss as a result, and corresponding assumptions about the type of understanding citizens need to contribute meaningfully. It was assumed that these foundational beliefs would affect interpretive practices, and could potentially account for some of the patterns of alignment with the bridging criteria seen in the preceding chapter and in the materials analysis. This chapter considers these questions as well as related topics, including the temporal aspects of interpretive work and practitioners' specific perspectives on open house meetings and websites. Also examined are other operative concepts and orientations the respondents bring to their work, as well as their training and preparation for their communicative roles.

Conceptions of Citizens' Roles

The interviews included several questions designed to elicit respondents' notions about citizens' roles. It was apparent from their responses that most of the practitioners make a strong conceptual division between the general public--unaffiliated persons who might attend an open house or visit a website out of interest, curiosity, or concern about a project--and "stakeholders." In this conceptual division, stakeholders are viewed as more informed, involved citizens who participate on advisory committees or in organized interest groups that engage in influencing project outcomes (such as civic and environmental organizations, commuter groups, and ad hoc project advocacy or opposition groups). They may also include elected leaders and influential agency decision-makers, such as historic preservation boards.

Based on their accounts of practice, it is apparent that many of the respondents assign a much higher priority to working with such stakeholders than to the work they do with the

general public. Not only do they tend to view members of the general public as less important in a corridor study process, they also tend to adopt a qualitatively restricted notion of the public's role, often equating their interests with those of narrowly affected parties or complainants rather than thinking citizens. While most respondents viewed the general public as capable of understanding the technical issues of a project when properly explained, few appeared to seek or expect contributions to discourse about a project's merits, the pros and cons of different approaches, or the best options for the wider community. The typical association of the general public with the affected party subject position matches the emphasis on affected parties seen in the materials analysis, and offers a plausible explanation for the emphasis of the materials on project features rather than needs, goals, or expected benefits.

This limited view of the unaffiliated citizen's role likely reflects practitioners' own interactions with people who fit this perspective. Several remarked that most of the people they see at open house meetings have a specific axe to grind, one commenting that most people that "don't have any problems or issues rarely go to public meetings."

> It usually has to be something they're either very interested in or they have a real problem with it, so those are usually the types of people I see entering a room.

One noted that despite her efforts to focus a meeting on a general goal such as selecting an alternative, "to everybody it is about their neighborhood." This perspective was particularly evident among practitioners whose work involves the later phases of projects, where property impacts become most acute. One such respondent observed that the visitors to her project website are mainly interested in personal impacts. They typically "go to the alternatives page to look at the maps and property impacts." Another viewed the function of an open house meeting as one of "controlling rumors" or "allaying anxiety." And another later-phase practitioner described the ideal open house as one in which participants "arrive with burning questions" they want answered, implying that they would already have a knowledge base about the project and be concerned from the standpoint of personal impacts.

Besides the project phase, the level of controversy is another exogenous factor that affects practitioners' perspectives on citizens' roles. Two respondents who work mainly on large, controversial projects see little practical opportunity for unaffiliated persons to help shape a decision, due to intense political polarization that leaves room only for organized groups. One of these respondents, asked whether a citizen could come to a meeting in the middle of an environmental study and participate in developing alternatives, thought it unlikely:

> I would say they're going to really have to rally the troops. And if there's major opposition, they've already probably been rallied…And I think, you know, I think the real problem, too, is, you know, some people just may need to get food on the table…So their ability to care about this when their basic needs aren't being met is pretty minimal. So when you're saying who gets to make the decision, that's probably still people with time or who belong to special interest groups…So you still don't hear from the public. You hear from people that have a vested interest.

This response combines a sense of the general public's strategic irrelevance with a standard argument about people not having time and interest to participate in a planning process.

Respondents who have worked with the public in the planning phase of projects tended to be more favorable about their potential contributions. One pointed out that casual participants could provide important information at a meeting.

> They may be the ones to say, 'Oh, I never use that route. I always connect from A to B by this road,' and the whole study team goes, 'Oh.'

In this instance, the ascribed subject position is that of a facility user, who is assumed to contribute key local knowledge. Another spoke of the role local bicyclists had played in planning for a highway project. One respondent likes to begin planning for an open house meeting by thinking about how the project will affect people, what will make them interested, and "What information do we need from people to help make it better?" And one specifically spoke in terms of getting people thinking, saying that she starts her planning by asking "What is it we want to get people to think about at this meeting?"

> Focus what is your message, what are you trying to get people to think about. Make sure you have good introductory stuff, you know, what is the project, why do we need it? I really like the question and answer format, not everybody does, but I think it's very friendly and engaging to the reader. You know, why do we need this project? I think that's just great – I think it really engages people, so think about what people really want to know. What they need to know.

Another respondent, asked if the general public's role should be to contribute new ideas or validate the work of others, commented that she had "mixed emotions" about that but tended to think the validating role was "the best reality we have," because of the difficulty of getting people out to meetings.

What Citizens Should Know

In the interviews that focused on sample projects, respondents were asked what they thought a citizen should know about the project being discussed in order to be an informed participant. Their responses provide additional insight into their perspectives on citizens' roles and their own roles as facilitators. Answers included knowing "where we are in the process," knowing the "scope of the project," and knowing "what alternatives are being discussed and the key differences between them." Few mentioned that citizens should know the reasons for the project. A typical example is as follows:

> Hopefully they would walk away with a good understanding of the scope of the project, the project area, depending on where you were in the alternatives of the project…the schedule, where we were in the process--the beginning, middle or end?--and what the next steps would be.

Several answers focused on dialogical or process issues. Some reflected a public relations perspective, either on behalf of the project or the sponsoring agency, suggesting a primarily instrumental view of what citizens should know. Others combined epistemic elements with accounts of efforts being made to respond to community concerns. A dialogically focused example emphasizes the timing of public input:

> Ideally, philosophically, they should know what the problem is. But absent that, I think they need to know what it is they need to convey at the meeting to give input at the proper stage.

Another is that citizens "should know what role they can play and know that they can influence project decisions, even if some of those decisions have been made."

Other responses combined substantive issues with reassurance about a process being open and sensitive to community wants, as in the following example:

> I: So at this stage, what do you think a citizen should know about this project to be informed? What should they be able to walk away from this type of meeting knowing or understanding?
>
> They should know pretty much the study area. They should know that there are areas of focus that are being looked at. They should know it's going to be looking at land use and to make good decisions that follow what the community want, that are sensitive to community wants and desires, and that the people are working towards a common goal, that it's not really, it's not, there are no preconceived answers…And that's why the public is being involved early in the process, so we can record it and make sure that what's being laid out is going to be satisfactory for as many people as possible.

Similarly, another response combined substantive points about a bridge project with reassuring messages about the procedures being followed and the efforts being made to minimize impacts:

> Well, I think they should know that there's a strong likelihood that it's going to be replaced and that there's a federal process that's being done, with following the letter of the law and all that stuff, and that there is going to be some tradeoffs between the type of properties that are impacted. There's going to basically be a debate between residential properties versus industrial properties that could be developed, based on the alignment. I think people need to know that all efforts have been made to minimize impacts on things like wetlands, when that's accurate, and that the facility, when built, will be much safer. It'll have a bike lane…That's what I'd like them to know.

This response includes technical points (anticipated project features, impacts and benefits), an indication of a key decision to be made (about residential versus industrial property impacts), and messages of reassurance about the agency's efforts to minimize environmental impacts and that the "letter of the law" is being followed. The substantive elements might be considered the project narrative, while the coaching on decision points and the public relations aspects might be considered a meta-narrative. Information on project benefits could fall into either category. For instance, the fact that bike lanes are planned for the bridge could be considered a project feature that a citizen might want to act on, or a public relations talking point that would make the project appear more favorable. That the bridge will be safer is mentioned as a talking point, but there is no indication that safety issues are the reason the project is being pursued.

One respondent's answer was couched in an agency customer service perspective:

> Well, I think they need to know that safety and access and mobility are important, not only to them, but to their Department of Public Works, and that the Department of Public Works was working hard to ensure that…their safety and access, mobility would be accommodated.

Here she defined the needed knowledge in terms of the image the agency would like to project, one of taking care of people's needs. Another facilitator responded that people should know there are "solutions that can address their concerns," and "places to turn to provide suggestions." Another practitioner focused his answer on the trustworthiness and responsiveness of the project team:

> I think that when you have major issues…and you have a way for this group to solve them, even though it may take time, I think you really ought to know that. We're in the process of addressing this in a way that's going to hopefully give us the best policy outcome, and we have decent people on the [team]. Here's their phone numbers. Feel free to call them, if you have input. You know, mention the website.

Many of the responses to the question about what citizens should know combine substantive epistemic elements with messages of reassurance--about project characteristics, the efforts being made, the procedures being followed, the openness or responsiveness of the process, and even the decency of the people involved. Some of these messages are designed to encourage participation or build trust, while others appear to be more instrumental, serving to enhance people's impressions of a project or sponsoring agency. This distinction can be a subtle one. The results for this interview question show some of the complexity of the information design process for these respondents. Even if their aim is to decipher technical choices for citizens, they must be sensitive to the communications objectives of sponsor agencies and to citizens' initial concerns and fears, some of which may seem to be "off topic." The challenges of handling these multiple objectives and some of the strategies practitioners use to address them are considered in Chapter 7.

Temporal Aspects: Project Phase and Study Stage

A limited number of interviews, primarily those with senior level practitioners, included discussions of the temporal aspects of information design, including the different uses of meetings at various stages of a study and the evolution of the technical topics discussed.

These respondents were asked to pinpoint which meeting within a typical sequence tends to yield the most open and fluid discussion (whether of issues or options). The purpose of these questions was to gain a better sense of how interpretive work meshes with the evolving nature of a study or design process and where the best opportunities can be found for bridging efforts.

These respondents agreed that corridor planning studies typically included two or three public meetings.

> There's always one at startup. There's usually one on existing conditions. You know, there's usually one when a draft plan comes out. There's rarely one on a final plan.

One described the typical first meeting of a planning study as an "intro meet and greet. You're telling people 'We're ready to get started and this is our process. Just want you to know.'" She described these first meetings as having relatively little interaction:

> Well, that one would have more; it would be a lot more going out, as opposed to information coming in. And, you know, there; it's more of an explanation of what's going to happen, and how you can track this, and who the people are, and there's a lot less interaction at that kind of a startup meeting.

Another respondent provided a different view of a first meeting, saying that it would typically be used to discuss the project purpose, problems, and goals and objectives. While it would be "difficult to have the existing conditions ready for that first meeting," you would "probably do a review of any previous work that's been done."

> You probably would show a mapping of the study area, some of the problems that previous studies uncovered. You know, you're usually not starting with a blank slate.

He described a corridor study he had worked on in which the corridor had been studied in various ways "at least half a dozen times" previously.

At a second meeting on existing conditions, one respondent said there would usually be "stations around the room, you know, a lot more one-on-one conversations." Others agreed that there would be "a lot more interaction" at a second meeting. One practitioner thinks that

the typical third meeting devoted to the draft plan provides the best opportunity to get useful information from people. He contrasted the typical second and third meetings as follows:

> I think that the draft strategies one has the opportunity for the most useful information. The existing conditions, people can identify things that you don't have on your map and they tell you what's wrong with it. They don't usually tell you what's right with it, but it's not in, it's not normally in a challenging way. Then the strategies one, the final sort of recommended plan one, that's the one where you get more disagreement and more disappointment, where people think that; you know, they might go into something with a preconceived notion, and if your proposal does not meet their preconceived notion, then you've got an issue.

He offered suggestions for how this could be handled in a way that validates the participants and takes account of citizens' ideas.

In an environmental study, the number of meetings is more variable. The respondents confirmed that the first public meeting is usually a scoping meeting. The final meeting would typically include presentation of environmental impact findings and evaluation of alternatives. Intermediate meetings vary in technical content and the type of dialogue sought.

One respondent felt that the second meeting of an environmental study is where the best discussion with the public would usually occur:

> I think the most fluid discussion would be at the second meeting, after the scoping or initial meeting. But I think at the initial meeting, you're going to get the most off-the-cuff comment, like somebody will go, 'I don't want it here,' and they don't know anything yet. So you're going to get the most kind of knee-jerk reaction, which is important because it'll tell you something for the future, but you won't really get a good comment.

At the second meeting, in her experience "people have kind of sized things up," allowing for a more robust conversation.

Respondents pointed to two communication problems characteristic of the intermediate period between the scoping and final meetings. First, there tend to be long gaps while technical analyses are being done, which one respondent referred to as the "black hole of an EIS." These gaps can also occur in planning studies, but are not usually as long or as unpredictable. A second, related problem reported by practitioners was the difficulty of

determining whether and how to present preliminary information on alternatives. Some feel it is important to do this, so that citizens have a chance to help form the alternatives that will be formally studied and evaluated. Others are troubled by the prospect of showing potential project alignments that may change, since this could cause needless concern for property owners along the proposed alignment.

> And I think it's like, gee, do you want to have a meeting and start talking stuff that isn't really vetted? You might not. And then the people go and they go, 'Why are we here?' And so I think it's a real gray area to the public.

Another factor contributing to the lack of communication during the "black hole" period, noted by the same respondent, is that some people will not bother to comment on the issues in an environmental study until the formal comment period at the end.

Several respondents discussed what they consider the appropriate evolution of public participation over the course of a project's development. One uses an adaptation of the spectrum of public participation concept promoted by the International Association for Public Participation[11]

> I sort of twist that model a little bit…where I'll hinge it...instead of going from one-way communication on the left to full, total involvement on the right. I'll twist it and I'll make the framework the infrastructure development process, where you have initial visioning and planning and policy decisions, and then project identification and project selection, and then the environmental process and alternatives analysis, and then final design and then construction…And it goes from the very beginning is extremely participatory to being you're only notifying citizens of changes in traffic phasing…When a city does a visioning process, it's hugely participatory. But when you're doing, when you've been through and then, you know, consult and collaborate, or collaborate and then consult. And then the further you get down to construction and then maintenance, it's more notification and one-way communication, and telling people, 'You can still go into this strip mall. They're still open for business.'…so it's notification.

Another respondent expressed a similar view, using a metaphor of a window that starts closing:

> In the early stages there's a lot more latitude for public influence. So early planning stages, early NEPA stages, scoping, alternatives development, and the closer you get into building a project or making a decision, the window starts closing. And for good

[11] IAP2 Spectrum of Public Participation, International Association of Public Participation, 2007. The spectrum describes an "increasing level of public impact" with five steps: inform, consult, involve, collaborate, and empower. It appears to be loosely based on the Arnstein ladder of participation (Arnstein 1969).

> reason, because at a point you have to say 'We're done taking input. And we have to make a decision. And we're the stewards of this money, of these public funds, and we have to make the improvements that are for the greater good of the community.'

Open Houses and Websites: Specific Assumptions and Practices

Interview comments specific to the two forms of communication examined in this research were analyzed as a group to better understand the situated practices and contextual factors associated with open house meetings and websites. For all respondents, work on these two forms constituted only part (and sometimes a small part) of their work, so an effort was made to place this work in the context of their overall practice as facilitators of public participation. Many had strong opinions, particularly on open house meetings, and expressed specific norms of practice for their use. These remarks also provide a context for better understanding the results of the materials analysis in Chapter 4. They also indicate several ways in which these common techniques can be improved from the perspective of bridging the expert/citizen divide.

Practitioners' Perspectives on Open House Meetings

Three main themes emerged from the analysis of remarks on open house meetings. First was the belief that the display materials used at these meetings are an insufficient form of communication, and must be supplemented with personal interaction with the project staff in attendance. The second theme was the use of open house meetings as a public validation of private work with smaller numbers of stakeholders. The third theme involved the deliberative limitations of open house meetings.

Although this research began with the premise that open house meetings represent a largely self-serve method for citizens to learn about a corridor study, few respondents agreed with this conception. Almost all think the open house format requires a significant staff presence to be effective. They expressed different reasons for this view. The first was the need to explain technical material verbally. According to one respondent, many times people do not

understand the information displays, “no matter how carefully you’ve crafted your boards…Or they have questions, they don’t understand things.” Another respondent echoed this view, with an example involving maps about traffic issues. Even though the maps were specifically prepared for the public meeting and designed to be as “user-friendly and colorful as possible,” she noted that since “some of these were quite technical, we had staff stand beside each map to explain them and answer questions.”

The practitioners differed on whether open house participants should be led through the displays in sequence, or simply encouraged to view whatever interested them. One described steering participants to particular alternatives of interest to them:

> We had big maps of alternatives in a gallery format, and signs--Here’s Alternative 1, here’s Alternative 2, and people knew a little bit about it, and they could either go through it all or go to what they wanted to see. So we could say ‘You want to see the alternative on commuter rail? It’s on this side. On this side is light rail.’

Others expressed doubts about people’s ability to move independently through a set of displays and comprehend them. One thinks people need help knowing what to pay attention to, based on her own experience as a citizen attending open houses:

> I’ve been to too many open houses that people walk in, they don’t really know what to look at or what to pay attention to…and then they end up leaving without talking to anyone. To me, that’s a failure. And so, when I train staff for an open house, I put a lot of emphasis on their role and responsibility, and that being to approach people and talk with them. Because for me, when I just attend an open house as a citizen, I kind of wait to be approached unless I have a burning question. And even though we put a lot of thought into trying to plan the boards and a logical sequence and all this, as a citizen my experience is I’m really not sure what to pay attention to or what it all is supposed to mean.
>
> I: You want a guide as you go through?
>
> Yeah, someone to explain it to me.[12]

Another respondent distinguished between the needs of newcomers and people who had been to previous project meetings:

[12] In contrast to these perspectives, during participant and field observations of open house meetings, my own observation is that while some people prefer to be guided through the displays, others prefer to go through on their own and resist staff attempts to draw them into conversation.

> If you have some folks coming in who have never participated in the project before, you really need a team of people that's willing to take them, and walk them through, and give them a one-to-one presentation at each board and answer their questions.
>
> I: So don't just expect them to go through and read.
>
> Yeah, I just don't think that everybody is going to do that. I think you're making an assumption about people's ability to read and comprehend…I will say if you have your first meeting or second meeting and you do presentations, and then you have a community that shows up, and they understand the project, and they've been to all the other meetings, they will navigate their way through an open house just fine.

Two other reasons given for having a significant staff presence at open house meetings were to promote interaction on the issues and to make people feel welcome and attended to. Many respondents viewed the open house technique as useful only if staff actively engage visitors in discussion. In this view the information displays work together with the personal interactions to create the meeting. Here the dialogical and social aspects of meeting facilitation appear to be intertwined; respondents spoke of the need for staff to be friendly and approachable so that meaningful discussions would occur. Several described training staff for their roles at open house meetings, including coaching engineers on ways of being more approachable. One appoints a "hostess" to guide people through the displays:

> I usually assign a person as a hostess or two, to take people in groups…On an open house for Project X, I stood at the first station, and I gave everyone an overview of where we are, so I just gathered people, I did a presentation, and then I sent them along to the next display board, and I made sure that the team members that we have were willing to talk, and tell them what they were looking at and explain to them what was there. That's important. I don't think you can just put the boards up and have a couple engineers stand there…If you're only going to have 25 people come it will probably work. But when you've got something this complex and controversial...you need to make sure people understand what they're looking at.

Another respondent has someone stationed at the exit of an open house asking "exit questions."

> So I always ask that question, 'Did you get the information you need? Do you understand what's happening with the project?' And having somebody asking those exit questions at open houses is really important, if you're going to do it that way.

In contrast to the many practitioners who emphasized the need to answer participants' questions, one spoke of the need for the project team to learn from participants:

> And it really should be about lots and lots of discussion between the public and the project team members, talking about issues and hopefully learning new things that we didn't know about the project…The discussion is the most important thing. You really need to talk to people Otherwise you'd just mail this to people's houses. The point is it's not just about teaching them, it's about us learning. And if we don't get stuff back from them, our project doesn't go forward any better. And that's really what it should be about. It's not just public information displays.

Another respondent described open house meetings as a substitute for individual meetings with various people concerned about the project. In this sense it is an efficiency measure.

> Instead of doing a bunch of individual meetings or telephone conversations you say OK, we're going to be here at this time and location, and you can come talk to us then.

This view provides another rationale for the emphasis on personal interaction. It also implies that participants are affected parties with specific concerns known in advance, but not necessarily known to the project team.

A second prevalent theme evident in the practitioners' remarks was the use of open house meetings as an opportunity to explain, confirm or "validate" the prior work of a citizen advisory group. This validation function was also observed in some of the sample meeting materials. On one project, open house meetings were held after a community advisory committee had been meeting for some time and a series of individual interviews had been held with stakeholders, including affected property owners. The respondent viewed the open house meetings as a form of validation for this prior work with stakeholders:

> We had the buy-in from the CAC and stakeholders, but we had to get buy-in from the larger public.

Another respondent included a significant amount of information on the advisory group and its makeup in her meeting materials in an attempt to show open house attendees that a representative process had been conducted. In one case, the advisory group itself took on the task of preparing for and hosting open houses with the general public.

The third theme of the comments on open house meetings involved their limitations for public deliberation. There were two aspects to this view, one involving people's need to hear from

officials and to be heard, and the other involving the greater efficacy of small-group discussions for tasks such as problem-setting and discussion of options. Several respondents spoke about people's need to be heard in an open forum, which could not always be accommodated in an open house meeting, particularly if there was no initial public presentation or question-and-answer period. One said "I think people benefit from hearing a presentation, hearing other folks ask questions." Another felt there was a need for project sponsors to appear before a group and formally acknowledge the "tough decisions" related to the project.

Several practitioners described a preference for a hybrid approach that combines a formal presentation or open forum with open house displays. Some find that their clients deliberately choose the open house format to avoid making a presentation and coping with public confrontation. One practitioner pushes her clients to include at least a brief presentation and question-and-answer session at the start of the meeting. She offers to facilitate that discussion "so they don't get beat up too bad." Others accept the client's position, or themselves prefer the idea of an open-house without a public program, since it discourages "grandstanding." One finds open house meetings more informative than presentations:

> Here they can ask people as many questions as they want, and really get to dive down to something that's of particular interest to them. Presentations can be very frustrating because sometimes people don't hear the information, they don't understand the information…In an open house, you can still get the comments, but I think people walk away–if they want to–with more information in an open house format than in a presentation format. I think it genuinely serves the public interest better.

The need to hear from an accountable transportation official and speak publicly is perceived to be greatest when projects are controversial or when major findings are being presented, such as the results of an EIS. For example, one respondent worked on a very controversial project and had as many as 800 people attend some of her open house meetings. She used what she described as a "blended meeting," an open house that included a short presentation to set the context that was repeated throughout the evening.

> We did short presentations, where we gave the background, and we sent people out to the open house to talk one-to-one with team members at various stations. So I actually think we had like between 400 and 800 people at some of those public meetings, so we were really busy. I think one night, the one night we did like seven presentations in one…It was actually more like rolling presentations…They'd leave and we'd fill the room up, and there was a line, and we'd take a few questions from a big-picture standpoint, but specifics we directed out to the open house.

She commented that this hybrid approach "allowed the people who didn't want to hear the grandstanders to get moving," and those who were frustrated could "take it out on the people at the boards." Another respondent offered the same assessment and hybrid meeting strategy, adding that a presentation alone is also insufficient--"you owe it to others to do the boards too." (By others, he meant people who had come with a specific concern or question needing more interaction than is possible in a large gathering.)

The importance of the information being presented was also considered to have some bearing on whether or not an open house should be used. One respondent thought it was inadequate for an initial presentation of environmental impacts:

> I mean this is important. This is almost the end of the DEIS. This was when we were presenting the impacts for the first time, so I don't think you could do this in static displays.

Conversely, another respondent described a project that had become less controversial over time as the proposed concept was modified to have fewer community impacts. She felt that reliance on open house meetings was now appropriate for this project, since there was no longer a need to work through polarizing issues.

Practitioners' Perspectives on Project Websites

Compared to open house meetings, respondents had less to say about the issues involved in using project websites to communicate with citizens. Several believe that it's critical to have a project website, since people are accustomed to getting information online. One respondent considers websites mandatory at least for large projects.

> People use it. They go to it. They expect it to be up to date. They inform you if it's not up to date. And they use it as a tool to keep informed.

Another thinks having a website where project materials can be shown is important "from a transparency standpoint."

> I think they're good, especially to have as a resource for materials and for transparency. I don't think if there wasn't a website that the project wouldn't succeed. I think there are other things we could do. I just think that it would mean that people had to work harder to access the information that it needs, and from a transparency standpoint it's best if they can be out there.

Several respondents criticized the current state of the practice of websites for corridor projects. One thought they were underutilized and that "not enough thought goes into it; it becomes a backup. It should be more current, more innovative." Another had a similar view, noting that on one of her projects the website had become an afterthought, with no one monitoring it or keeping it up to date, and no particular thought given as to how to select and organize the information. These remarks suggest that in contrast to open house displays and presentations, which are created (or adapted) for a particular occasion with an eye to the overall structure and content, websites have an archival aspect and tend to build up over time with less attention to the whole.

One respondent noted that the agency review process for web content tended to be different than for other types of communications, involving "different silos." For example, it might involve the agency's information technology department as well as a technical project manager. As a result, the review process could be slow and cumbersome, making it difficult to keep information current. (In field observations conducted for this research, one agency was responsive about posting official project documents on a website for downloading, but slower to approve explanatory content or images.)

Another respondent pointed out that more use could be made of web surveys to keep people engaged over time. She noted that "we tend to only ask for input at particular times during a project."

> I: So could you describe for me what an ideal website would be like for a transportation project…If you could do it exactly the way you wanted to, you know, no

> constraints, no budget problems, no client telling you what to do, what kind of, how would you describe it?
>
> Simple, interactive, visually appealing and inviting. I guess when I say interactive, I mean from a multimedia standpoint, but also from a feedback standpoint.
>
> I: So what kinds of feedback might it have?
>
> Surveys, directing people to offer their thoughts, whether it be through an online blog. We tend to only ask for input at particular times during a project. I mean we have an area where they can contact us, but I think there's a lot of opportunities for simple surveys throughout to keep people engaged in checking back in.

Another respondent likes to ask website users for feedback about the website itself. This practice could potentially be seen as a method of keeping findings open to inquiry.

> I: Is there anything you would do differently on another project, when it comes to developing a website, based on the experience on this one?
>
> More opportunities for feedback I would say. I like to have an easy comment form that you can kind of click on. On this one, we kind of just directed them. It had a little feedback form that we ask, 'Is the website helpful?' and stuff like that, so that was placed there. But I think it's good to more directly ask people questions about parts of it, so that you know how to maintain it, or suggestions for information you might like to see, and I'd probably do more like that.

Several comments related to the preparation of Frequently Asked Questions for websites. Three respondents mentioned that they like to use a question and answer format for materials, one finding it "very friendly and engaging to the reader." Another described FAQs as a "human tactic" for arranging information and the main place people go to look for answers on a website. One respondent's firm has a standard set of FAQs that they adapt to the particular project.

> I think we have, you know, just over the years developed sort of the standard, the most commonly-asked questions…And we really just tweak them to the specific project. And then, you know, basically sit there and try to put ourselves in the shoes of the person who might be visiting and what they'd want to know about…But we find that we try to keep that dynamic, so that if a particular issue is cropping up in comments, then we can add it.

Another respondent described a practice of preparing short white papers for the project website in response to specific issues raised by an opposition group. In contrast to much of

the discussion on information design for open house meetings, this activity assumes a thinking citizen perspective on the part of the reader.

The relationship between interpretive work with advisory committees and the general public also came up in discussing project websites. Two respondents described maintaining two project websites, a private one for a community advisory committee and a public website. One of these respondents was responsible for determining what information from the private website should be shared with the general public "so they could understand the decisions the committee was making." In both cases, it appeared that the respondents devoted more attention to maintaining the committee's websites than the public sites.

Implications of Assumptions about Citizens' Roles and Information Needs

The interview respondents as a group strongly value face-to-face interaction as a mode of working with citizens. As facilitators, they tend to emphasize interaction with two audiences: 1) influential stakeholders, whom they view as having a role in big picture decisions, and 2) affected parties, who bring concerns about localized project impacts. The emphasis they place on facilitation of personal interactions with these two types of participants tends to leave little attention for interpretive work on big picture issues with the unaffiliated general public. Most pay scant attention to the epistemic or dialogical character of the technical materials they prepare for open houses and websites. On the whole, websites and other forms of mass communication hold little interest for them. Open house meetings tend to be valued for the interactions they provide between citizens and project staff, more than for their self-paced learning function. In particular, these interactions are seen as a way of identifying and addressing the concerns of affected parties, who are often the primary participants. The practitioners see the open house more as a way for citizens to "get their questions answered" than an opportunity to ask questions to of them, although both were mentioned.

The preference for one-on-one discussions and the use of staff to help present and explain the displays suggest that some respondents do not try to build interpretive characteristics into the display materials, preferring to supply interpretive services “on the fly.” Instead of relying on the display materials to tell the story, they customize their interpretive work based on the particular concerns and questions participants bring. This allows them to make up for some of the communicative deficiencies of project maps and other materials in conversation. It may also explain why some of the sample meeting materials reviewed in Chapter 4 lacked bridging features such as discussion questions and invitations to comment on the information presented, while sample websites, and particularly their FAQ sections, went further in providing bridging features. The one-on-one interaction at these meetings allows practitioners to gauge what is likely to be consequential to each participant and tailor the presentation accordingly. In this sense it provides for bridging the expert/citizen divide, but in a labor-intensive manner.

The respondents’ view of open house meetings is very different from the initial premise of this study, which saw these meetings as similar in function to project websites. The respondents do not view these as comparable forms of communication. In fact, their skepticism about the potential for self-paced learning at open houses logically implies that other forms of unstaffed communication, such as websites, are not well suited to helping people understand and engage in project decision-making. The respondents’ skepticism about the extent to which written and visual materials can tell the story of a project, coupled with their lack of interest in providing deliberative roles for unaffiliated citizens, has serious implications for the ability to extend public participation in transportation decision-making to greater numbers of people along a corridor. In this respect their view of public participation is at odds with that of many civic advocates calling for broader forms of participation supported by technology, such as the Kellogg Foundation (2010).

Some of the practices and assumptions that have emerged for open house meetings may stem from their legacy as public unveilings of design proposals. The planning tradition of public unveilings of proposed projects (Beauregard 2003) may tend to influence the form these meetings take, even when they occur in the earlier study phases. The rhetorical form of the unveiling or "plan display" meeting may affect how information is presented even at a first planning meeting, tending to skew the discussion toward project features (the "what, where" of a project) and away from deliberative questions about underlying issues and problems. The notion of an unveiling is inherently incompatible with the use of discussion questions to engage people in thinking about values issues, for example, although there is nothing to prevent doing this at an open house meeting. The characteristics of a public unveiling, such as suspense and surprise, might also be seen in the presentation of environmental study alternatives or impact findings that have been kept under wraps until the public meeting. It is possible that the practice of providing friendly staff to answer questions at these meetings has emerged as a way of compensating for the dialogical deficiencies of this rhetorical form.

6.2 Other Operative Concepts and Practice Orientations

The interviews revealed a number of operative concepts that are central to practitioners' approaches to facilitation, but distinct from the interpretive roles that are the focus of this study. Some of these concepts are at odds with the bridging norms. Others simply represent different, but potentially competing, concerns. This section reviews these concepts, beginning with the most significant organizing principle for much of the facilitative work respondents describe, the notion of project delivery. This principle has several variants which are touched upon briefly. The remainder of the discussion explores several distinct orientations that respondents bring to their practice and the implications for their interpretive work with the general public.

Project Delivery as a Facilitation Principle

Respondent comments, field observations and sample materials all indicate that a constant metaphor in transportation projects is that of forward motion, “moving the project forward.” The term “project development,” with phases corresponding to standard models of rational planning, has been officially sanctioned in federal guidance for corridor projects since 1964 (Federal Transit Administration 2006). The term “project delivery” is commonly used as well, but is subtly different, as it carries the implication that a project will be built and that construction, rather than a valid study or environmental review process, is the end goal. These two concepts, while similar in their emphasis on forward motion, have very different implications for the public participation process and hence for information design.

The concept of project development, which allows for the possibility of failure to find a feasible or acceptable solution, is in theory compatible with facilitation practices based on interpretation across the expert/citizen divide. While linear and goal-oriented, it contains implicit question marks or checkpoints enabling public dialogue: Do the identified problems warrant further study? Are there other problems or issues that should be considered at the same time? Is a capital investment (i.e. physical improvement) the appropriate way to address these problems? Are there options that are both feasible from an engineering standpoint, acceptable to the community, and affordable? Which of these is best, and would it have acceptable environmental consequences? If not, how could it be changed or impacts mitigated?, etc. The principle of project delivery, in contrast, is at odds with the interpretive function for planning and environmental studies. It inhibits fulfillment of the bridging norms, since questions and checkpoints are avoided. Either way—project development or delivery—the notion of a project is an abstraction whose creation and reinforcement becomes part of the communicative task these practitioners take on.

The project delivery model yields an inherently instrumental approach to public participation, often called “getting buy-in” and sometimes frankly referred to as selling. One respondent

offered a defense of selling based on the responsibility of experts to make decisions for the greater good:

> Asking us to help sell a project comes up all the time, and sometimes I'm actually okay with it because…if you work for an agency, it's your job to be smart about a certain project. That's what your job is. And so if you think this is a good project because it's going to improve safety and it's going to do whatever, and you have a community that's not trusting you or believing you, I think there is room for sales. Because if you're a professional, it's been determined that this is the wise thing to do for the greater good.

Facilitators working from a project delivery principle have developed informal knowledge and tactics for communications designed to nurture and promote buy-in. These clearly differ from the informal practices supporting bridging efforts that were described in section 3.2. An example is the use of visualizations to showcase appealing features of a project, such as a roadside park, or to camouflage less desirable features through the choice of perspective and use of attractive vegetation. One respondent spoke of to choosing "warm" images for a project website to make the project seem "more human and approachable," for instance.

Buy-in is often described as a fragile commodity that must be carefully nurtured. One respondent explained that she uses different facilitation skills early in a project when there is still a need to build community support. "You don't have support, so you have to be very cautious."

A variant of the project delivery principle seen in the interviews might be called the "trial balloon" model of project development. One respondent described a proposed project as one in a series of successive political experiments that were worked out completely behind the scenes up to a certain point, then "sent up" to see if they would stick. When one concept was rejected by the public, a different concept was launched. In this model, discussion begins with a specific proposal rather than a problem to be studied. She provided the following hypothetical example of a politician wanting to build a signature bridge.

> They're saying, 'We've got an idea. We need a bridge…Oh, why? Well, we have to cross the river…' And somebody is saying, 'Oh, this is my signature piece. I only have two years in office…And a bunch of people in the community want it.'…Well, then all

> of a sudden you discover somebody doesn't want it and it's like, 'Oh, I had no idea.' And then the next thing you know, it's like, well, there's other money that needs to be spent on other things...And so you didn't say, 'Hey, here's our thinking. This is our problem. We need to get across the river because we have two highways on either side,' and, you know, so that becomes sort of like, it's like you might start suggesting it, like, 'Wow, you know, I was thinking bridge, but what do you all think?' You know, it's more like, 'I want a bridge. I'm going to figure a way to convince you I want a bridge, and I'm not going to spend a lot of time building the blocks, and I'm not going to spend a whole ton of time listening because I want something.' So you don't have a dialogue to even build your case…It's like just a minute. Just slow down a minute. You can drop your idea into the mix, but let's be sure we have a foundation.

The trial balloon model leads to different ideas about engaging the general public and providing information than the official view of project development, with its built-in checkpoints for public dialogue. There is little or no scope for public dialogue prior to the "release" of the balloon. Collaborative problem-setting is irrelevant, as are the enumeration of options and weighing of alternatives. The trial balloon model is consistent with the sample materials examined for several transit projects, which presented the projects in relatively packaged form and provided little background on their purpose or on the remaining decisions to be made.

Although this respondent provides a critique of the trial balloon model, it was evident that the strategic concerns it engenders form a backdrop for her work. This was true of several of the practitioners in this study. Some are clearly aware of the limitations of an instrumental approach to practice, but feel they have little discretion to resist this approach, since the agencies they work for are eager to get buy-in for projects. The issue of organizational constraints on interpretive work is developed in Chapter 7.

Instrumental Use of Bridging Norms

A related point is that the bridging criteria can and do show up as part of the instrumental orientation, but in a somewhat distorted form. Most of the bridging elements can be subsumed in or attached to instrumental purposes. For example, for a project sponsor to get buy-in, it can be useful for the public to understand the problem and have a chance to identify potential community concerns early on, giving the project team a basis for easier resolution. Allowing citizens to view and critique initial data can build credibility for the effort. If residents

have a good understanding of how a project may affect them and their community, their fears may be lessened and they may be less likely to organize against the project. If the public contributes to defining alternatives, they may have more of a stake in the project, and so forth. One respondent seeks to cultivate a sense of project ownership among citizens to build support:

> If you involve people in the initial problem statement phases and the collaboration from the very beginning to the very end, they ultimately end up owning it and supporting it.

Several expressed the view that more participation up front saves time and money in the end.

> My philosophy and what I've seen is that more public involvement on the front end saves you time and money later…Sometimes folks don't take the extra time to do it and they end up with a bigger problem in the end….I definitely have seen the benefits of proactive public involvement, and not just in getting your environmental clearance, but there have been plenty of projects that have kind of quietly worked themselves through the process, only to be held up in construction, or later in final design, when the price tag is much higher to go back. I think that there have been some lessons learned by sponsors, as far as that goes.

For practitioners working towards project delivery, it becomes critical to understand the people and communities along the corridor, not to help convey the import of technical decisions for those communities, but to nurture buy-in. Some develop informal theories about these communities, acting as folk anthropologists to scope out a situation and develop a strategy. For example, one respondent relies on a theory of "town culture" to size up a community and plans meeting presentations accordingly.

> Towns have drastically different cultures – you want to get an idea what a town is like, look at the town hall – is it a new building or an old one with crooked floors? In Town A, there were a lot of old fishing people who don't want change, so don't introduce the project by talking about the creative ideas for the bridge.

Another practitioner maps the "hotspots" of opposition along a corridor, which may shift over time.

Practice Orientations

Apart from the operative concepts of project delivery and buy-in, a number of different personal orientations to facilitation practice were evident among the respondents. One such

orientation, the “fixer” or problem-solver, was introduced in the previous chapter. Other orientations identified from the interviews include “managers” and “welcomers.” The following are brief generalized descriptions of these three orientations to facilitation practice. These are idealized constructs presented to illuminate some of the distinctions that bear on interpretive priorities and decisions. Individual practitioners may reflect combinations of more than one of these orientations.

Fixers

Problem-solvers, or “fixers,” are motivated by the desire to make a project “work” for affected parties. Although they put the project’s viability ahead of the deliberative process, they may nurture dialogue about options with respect to localized issues. One spoke of “bending over backward to find a solution” that would make a certain neighborhood happy with the outcome.

Fixers require detailed knowledge of local conditions and concerns that might lead to opposition, both now and in the future as project details are developed. Rather than selling a project, they need participants to genuinely understand the import of what is proposed so that significant problems can be identified and solved. This may involve alerting citizens to potential problems first. While this orientation is basically an instrumental one, some fixers seem to become advocates for the communities they work with as well as for their projects.

Since fixers work one-on-one with individuals or small groups, information design for general audiences tends to be a side issue. At an open house meeting, they are apt to be most concerned about making sure individual concerns and questions are addressed. Displays are viewed as props for these conversations; having detailed maps at the appropriate scale to review with attendees may be the most important informational tool. Fixers show little interest in project websites as a communication tool, perhaps due to the cumbersome agency protocols often in place for responding to comments via email.

Managers

Some practitioners have a managerial outlook that colors what they do. Many seem to thrive on the logistical work of planning meetings, arranging room space, publicity, presentations, etc. Orderliness, organization and predictability are important to this type of facilitator. For public meetings, the key consideration is that they go smoothly, which may involve attention to crowd control.

Asked to describe an ideal open house meeting, one respondent answered first in terms of the organization of the room:

> Well, there would be a flow to the information that made sense. Many times we've actually done maps [floor plans] on some of the larger public meetings, as a way to say 'If you're especially interested in x, then go here,' like a floor plan, labeled with what the different displays were. That is the ideal situation, if you have a large public meeting for a big project, to have stations that are either organized sequentially or topic-wise.

Another respondent described the many elements to planning a successful open house meeting, including the checklists she uses to evaluate potential meeting rooms, her views on the proper room size, and publicity.

Managerial facilitators tend to be instrumentally focused and motivated by a desire to satisfy superiors or clients with a well-organized participation program. They are apt to be more concerned about controlling the message, controlling rumors and protecting sensitive information than eliciting dialogue. However, their organizational skills can also support genuine bridging efforts. They are likely to pay attention to information design for general audiences, with well-conceived meeting materials and a well-maintained project website. The dialogical functions of these materials are apt to be secondary.

Welcomers

The third and most common type of practice orientation noted among these respondents is the welcomer, a "people person" whose facilitation work is focused on personal interaction. At

public meetings, welcomers are most concerned with creating a warm environment. For project websites, they seek to project a friendly impression. Two respondents spoke of trying to control the tone of an event by hand-picking staff people to attend who will be good listeners and sympathetic. Another trains engineers on "how to be approachable" at public meetings. A third described the ideal open house meeting as follows:

> You make sure that the facility is as comfortable as possible. You put out refreshments. You try to make sure that there's people right up front who smile, and make people feel welcome, and make them feel like if they have a stupid question, it's fine, that they're among friends and it's not adversarial and the consultants aren't just a bunch of stiff suits standing around.

She described a planner who she feels is a good example of a nice, non-threatening presence:

> She's so friendly…but she has all of this knowledge at her fingertips, and she'll just chat with the whole gang, and she'll go from person to person, and say hi, and shake their hand, and introduce herself and then just talk to them…I can't tell you how many times I have to go to the suits, who are all standing around talking to one another and say, "Go talk. You're standing. You look intimidating. Who's going to go talk to you guys? Go up and take your jacket off, and go shake somebody's hand and say, "Hi. Welcome. Thank you for coming to our meeting," and try that.'

Another respondent described her efforts to create a safe space at these meetings where shy people can feel comfortable asking questions one-on-one:

> I always try to, and most of the time I succeed at this, try and have these kind of informational open-house areas, so if somebody's just a shy person and they just are really confused about something, they can ask a dumb question to someone who's nice, where they would be far too embarrassed to ask it in front of the group.

Another described herself as a trouble-shooter who sought out unhappy people and tried to soothe them:

> I scope out a room and find the people who are loud and complaining and pull them into a corner and walk them through everything about the project.

Another finds satisfaction in seeing people leave the room looking happier than when they arrived:

> Having people perhaps walking in that may have been walking in frustrated or upset, and then having them leave looking happy – just the body language changing…Just to have it run smoothly and have people thanking you as they leave. 'This was very helpful. This was informative.'

For welcomers, epistemic concerns are secondary. They are apt to rely on engineers or other more technically trained colleagues to carry out bridging work. For example, several

respondents spoke of preparing a shell for a presentation or meeting displays, and simply incorporating the maps and other materials that engineers provided. However, welcomers are empathetic and sensitive to situations in which complex information might be intimidating to citizens. They may engage in efforts to coach and encourage citizens and to explain how a decision process will unfold. While they are solicitous in seeking responses to citizens' questions, they seldom focus on interpretive matters such as problem-setting or encouraging dialogue about options.

Implications of Other Operative Concepts and Orientations

Project delivery is a central concept shaping facilitation practice for transportation projects, one which stands in contrast to the official account of how project development occurs. In contrast to the official model, which includes checkpoints for public dialogue, the project delivery model tends to inhibit bridging efforts. Many practitioners perceive little choice but to work within this model. They may make instrumental uses of bridging efforts that place the forward movement of a project ahead of the interpretive process. Any actual bridging of the expert/citizen divide is a by-product of these efforts.

Within this constrained framework, one of the main openings for genuine interpretive work is provided by the problem-solving orientation to practice. As facilitators, "fixers" require detailed knowledge of local concerns, which in turn requires that participants genuinely understand the consequences of a proposed project. Fixers are well suited to nurturing dialogue with citizens about options for fixing identified problems, if not dialogue about the broader decisions and alternatives for a project. However, their need to work one-on-one with affected parties limits their attention to the dialogical needs of the general public; designing communications materials for general audiences are a minor concern in their practice. The other practice orientations identified through the interviews, managers and welcomers, allow for more attention to general audiences and information design, but the focus of that attention is on control and warmth, respectively, rather than interpretive bridging. As a result, none of the

three types identified in this preliminary typology is focused on interpretive work with the general public on big picture issues. This point is illustrated in Table 6.1.

Table 6.1: Practice Orientations and Interpretive Focus

Practice Orientation	Interest in the General Public	Focus on Interpretive Bridging between Experts and Citizens
Fixer	no	yes
Manager	yes	no
Welcomer	yes	no

6.3. Role Preparation and Training

The interviews also explored the respondents' training and work experience and the particular career avenues that led to their role as public participation facilitators for transportation projects. The purpose of these discussions was to gain a better understanding of how respondents had acquired the skills and perspectives they bring to their practice, since there are no formal academic degree programs corresponding to this professional specialty. The questions were also designed to elicit information on other influences bearing on the respondents' work and on the personal motivations and rewards of performing the work.

The respondents' years of experience in this type of work ranged from 5 years to over 30 years. For several, this was a second career or an adaptation of prior work, such as providing facilitation services in a sector other than transportation. Approximately one-third of the respondents spend all their time doing public participation for corridor studies or projects, one third spend between 50 and 100%, and one third spend less than 50%. Other roles, for those not spending all their time on this work, include transportation planning, environmental

analysis, facilitation and conflict resolution work in other sectors, project management, and managerial roles within their organizations.

There were a number of different avenues by which these practitioners arrived at a career involving public participation work in transportation. The most common route was through professional training and work experience in transportation planning or civil engineering. Several respondents, after being trained as planners, found that they particularly enjoyed working with the public and developed facilitation skills. One planner, after leading several studies, found that she “had become a facilitator without realizing it.” She now specializes in public participation work and no longer performs technical planning. Another planner made numerous official presentations for his agency and was then called on to lead public meetings, due to the skills he had gained in public speaking.

Another common avenue into this type of work was training in communications, journalism and related fields. This was sometimes followed by employment in a public relations firm, with an initial assignment related to transportation prompting the development of a professional focus on transportation communications. In addition, several respondents without formal training in communications had skills in either writing or graphic design and were tapped by their organizations to prepare public communications, roles which ultimately expanded to running the overall public communication effort for transportation projects.

Several others got their start by doing mediation, conflict resolution or organizational consulting. These skills were learned either on the job, through continuing education programs, or professional degree programs in fields such as education, social work and management. Civic leadership, including volunteer or paid advocacy work for environmental and community organizations, was another avenue. One respondent described having been successful as a citizen advocate, and bringing the insight gained from working in citizen

movements to her work in participatory planning: “I know the strategies, I know the language, you know.”

Almost all of the respondents mentioned the rewards of interacting with people as a reason for their career focus. Asked what they found most satisfying about the role, responses included “enjoying the dynamics of a process,” “being out there with the public sharing information,” and “seeing how people process things.”

Those respondents with formal technical training in planning and engineering were asked whether their degree programs had involved any training in working with the public. Most said no. One had had some training in preparing community surveys, and one was required to attend community meetings as part of a course. The professor for this course had stressed the need to “go beyond the key players in a city and find out what you can from the public” as well. The respondent described this professor as an important influence for getting involved in this line of work.

Besides formal training and experience, respondents described a number of other influences that affected their career paths or perspectives on working with the public. One was influential mentors. For example, a relatively inexperienced planner learned to value citizens’ local knowledge by working with an engineer who strongly believed in the importance of public participation:

> I actually learned this from an engineer. We had a very difficult public meeting to go to, and I said, ‘I’m not looking forward to this meeting,’ and he said, ‘Oh, I always look forward to public meetings, even the tough ones. You always learn something about the project that makes you do a better job with the design of the project. You learn about the communities you’re going through. And the more information you get about the communities the better your project will be because of it.’

Another respondent mentioned building a toolbox of facilitation techniques and knowledge gleaned from different sources:

> You get elements from different places. You see an idea at a conference…and you think ‘Now that’s a neat idea, I’m going to try that.’

The respondents were also asked whether there were any particular public participation handbooks or training programs they have used or would recommend to their staff. Several mentioned the facilitation training available from the International Association of Public Participation or the International Association of Facilitators. Others mentioned in-house training programs on public involvement that are provided by several state departments of transportation. One firm has its own how-to guides for public meetings. Another provides informal on-the-job training:

> Mostly the staff learns by doing and talking together about what went right and wrong. We've done exercises as a group among the staff to give them some techniques. Last year we had a project…facilitating at tables and all of the staff learned how to get people to talk.

A number of respondents remarked that comfort and skill in working with the public can only be learned through experience. One compared his colleagues who do only technical work with those who have been "on the front lines."

> Many of them think public involvement is a waste of time, they think 'Aw, that's sissy stuff.' But that tends to be people who are just doing design and never get out. And if they don't get out, they don't get it…Anyone who's been on the front lines in design or construction, or even planning, understands it.

Similarly, another respondent observed that people who have only worked at the latter stages of design or construction may not understand the value of a fuller kind of public participation unless they happen to experience its benefits.

> I think there are some people who only live in that design or construction world and I don't think they quite have a grasp of it…But project managers and design staff who've been involved in something where there has been a good outcome because of the public outreach, they sort of become the champions for being proactive and paying attention to what people are saying.

One respondent, a manager, requires staff to attend a few public meetings before deciding whether facilitation work is for them.

> Because a lot of times people think they do, and then they get out there and they say, 'Oh, I don't want to have anything to do with this.' And I've had several people start out like they wanted to do it, and they came to a couple of our meetings and they never wanted to come back. So I think that's what I try to do is say, 'Well, try it out first before you say this is what you want to do.' I like to get someone who builds up the passion to it and wants to do it. Then I feel better about it. That's probably the best thing.

He also described having evolved in his thinking about what makes a good facilitator. While previously he considered speaking and interpersonal skills most important, he now finds it important for facilitators to have an ability to understand issues in-depth, ideally, through planning expertise.

> I: If you were hiring a public involvement specialist, what kind of qualities would you look for in that person?
>
> That's changing…I used to think it was someone who could get along with people, that was very great doing presentations and could speak in front of a lot of people, but now I don't think that. Now I think it's people who are willing to really learn about what the problems are, what you're trying to do, and take the time and be able to write about it, think about it, and then be able to get out, and make the contacts with the public and work with the public. And so I've evolved.
>
> I: So more insight about the issues?
>
> Yeah. I think if you understand the issues that can develop, a really good description of the project, description of what you're trying to do, present your materials, show you've done your homework, that you've developed a solution or solutions, and you, you know, when they ask you questions, you're not fumbling along. You really at least have a preliminary answer, or you're willing to say, 'We haven't considered that, but we certainly will now.'
>
> I: Instead of the polished presentation.
>
> Right. Much more the one-on-one and the input from the public. So we try to create dialogue and have meetings that are more like meetings, as opposed to presentations. We do the presentations because we have to, and they're a necessary part of the process, but I much more prefer getting input from people and letting them have their speak.

This respondent appears to value the contribution of planning knowledge to interpretive work, stating that such a person can understand the issues and provide a "really good description of the project," which relates to showing what is consequential. There is also the implication that a technically trained facilitator will be better able to address citizens' suggestions by knowing whether a given option might be feasible or worth studying, allowing for informal, real-time interpretive work across the expert/citizen divide.

Another respondent described curiosity as the most important quality in staff hired for project communications work. She felt that without curiosity, non-technically trained communications staff would not be sufficiently motivated to delve into the dry, technical details of a transportation project and figure out what it is that lay people most needed to know.

6.4 Implications of Practitioners' Approaches to the Interpretive Task

The practitioner interviews revealed an interrelated set of assumptions and practices that point to relatively circumscribed efforts to bridge the expert/citizen divide. As facilitators, these practitioners emphasize interactions with stakeholder groups and affected parties over broad-based engagement of the general public. Most have adopted a widespread theory-in-use that conceptually separates stakeholders and the public. It entails a qualitatively restricted view of what unaffiliated citizens can contribute to transportation decision-making. In this view, only stakeholders are assumed to have standing to participate in problem-setting and generation of options, while the unaffiliated public is assumed to have only narrow, neighborhood-based interests. This conceptual division stems partly from the respondents' experience with the parochial concerns typical of many meeting participants, and as such represents an understandable response to real-world conditions. However, the rigidity of this division results in lost opportunities to engage wider audiences in dialogue about the purpose and values implications of transportation projects, including the effects different choices may have on local economies, the environment, commuting costs, or urban development patterns.

As a group, the respondents strongly value face-to-face interaction as a mode of working with citizens. Some practitioners emphasize one-on-one problem-solving, which may include dialogue with citizens about options for fixing localized problems. Communications materials for general audiences tend to be a minor concern for them. The other practice orientations identified through the interviews, managers and welcomers, allow for more attention to general audiences and information design, but the focus of that attention is on control and warmth, respectively, rather than interpretive bridging. Thus none of the three practice orientations identified affords a focus on interpretive work with the general public.

The practitioners' conception of the open house meeting differs from the working assumption of this study, in which it was expected that these meetings would serve to orient newcomers, help them learn from the information presented and give them a foundation to participate in

shaping a project. Instead, they were viewed primarily as opportunities for tailored one-on-one interaction, often focused on the specific concerns of affected parties. Where big picture issues are concerned, open houses were seen, at best, as a way to validate the prior work of stakeholder committees. The interactive approach to these meetings, which emphasizes the role of knowledgeable staff, allows for interpretive work to be calibrated to specific issues of consequence to those who attend. However, it does little to meet the broader public's need for interpretive information designs that can stand alone without intensive staff involvement. Thus there is a disconnect between the respondents' understandable preference for face-to-face interpretive work and the discursive requirements of a regional scale dialogue. Project websites, which might support such an expanded dialogue, appear to have been largely neglected as communicative tools for transportation decision-making.

The use of open houses to validate the work of small stakeholder groups could be a reasonable practice if they are done in an "intake" mode, where new ideas and concerns can still have some influence on decision-making. If, on the other hand, they represent a "last call" for any objections to decisions already made, they will be irrelevant to bridging the expert/citizen divide. The latter approach is consistent with a project delivery framework that conditions the work of many practitioners. Many are sensitive to the limitations of this approach and several have developed strategies to counteract them, which are touched upon in Chapter 7. The concept of project delivery stands in contrast to the official account of project development, which includes legitimate checkpoints for public dialogue. In the project delivery model, facilitators are not expected to engage citizens in evaluating alternative conceptions or perspectives on a decision. They may, however, make instrumental uses of bridging efforts that place the forward movement of a project ahead of the interpretive process.

As a group, the practitioners' approaches are strongly aligned with three of the bridging criteria: keeping findings open to inquiry, showing what is consequential, and coaching

citizens in the rules of the game. There was less evidence of alignment with the other criteria. Most of the respondents appear to view data and expertise as open to challenge, although only a few explicitly encourage inquiry about the data they present. Most are aware of making efforts to structure attention or tell a story about a project, rather than viewing their task as information delivery. Many are concerned about the ability to convey the tentative character of project concepts. Other prevalent concerns related to expert/citizen bridging included sensitivity to issues of trust and a desire to foster citizen learning.

The respondents' alignment with the bridging criteria is similar to that in the materials analysis, with two exceptions. First, the respondents placed a much greater emphasis on showing what is consequential than would be predicted from reviewing the materials. Second, they showed a greater concern with coaching citizens than was evident in the materials. The discrepancy on coaching can likely be explained by the respondents' apparent preference for face-to-face coaching at meetings, which may substitute for incorporating coaching in information designs. The discrepancy with respect to showing what is consequential may be due to constraints on practice.

Almost every respondent showed an intuitive understanding of the need to show the public what is most consequential about a project or problem as a basis for citizens to form appropriate judgments. Many appeared to have a nuanced understanding of this principle consistent with the general formulation used in this study (showing environmental impacts, providing a good feel for a project, providing historical context and reflecting previously expressed community concerns). They also described a range of information design tactics used to convey consequentiality. However, it appears that some respondents do not get a chance to act on their awareness of the consequentiality principle due to situational constraints. This issue is explored in the next chapter.

The respondents' strong alignment with the criterion of consequentiality is consistent with their interpretive emphasis on project characteristics (the "what, where" of a project) as opposed to the reasons for a project. As in the sample materials, the respondents tended to emphasize information designs involving project features and impacts and downplayed those involving problem-setting and dialogue about options. Their discussions of challenges, strategies, and personal norms of practice revolved around the depiction of the "what" rather than "why" of a project. This was evident, for example, in their responses to the question on what people need to know to be informed about a project. While the responses were quite varied, very few mentioned needing to know the reasons for the project. Some of this focus on project characteristics is likely driven by the project delivery model. It may also reflect a "solution-oriented" bias on the part of practitioners, agencies and the public, as one respondent suggested. Either way, most practitioners are still developing materials in a way that asks people to react to proposals, rather than to think and question the assumptions underlying those proposals. Overall, their chief concern where expert/citizen bridging is concerned is that people genuinely understand the significance of what is being proposed.

An emphasis on declarative presentations of project features is an ingrained habit in information design for corridor studies. Newer conceptions of information design that pose questions to encourage public inquiry, including consideration of a project's purpose and values implications, must compete with this ingrained habit. A transformation of this kind will likely depend on leadership from planning schools, as well as continuing professional training capable of reaching practitioners with diverse backgrounds.

Chapter 7: Organizational Factors

7.1 The Organizational Context of Information Design

A full understanding of the practice of information design for corridor projects requires consideration of the organizational context in which this work occurs. The practitioner interviews helped to illuminate this context and to identify some of the chief constraints and challenges that arise for facilitators. The field observations also contributed insights concerning the situational context and organizational mechanics of practice. This chapter reviews these findings, beginning with the mechanics of practice and a key element identified, the interpretive division of labor among the actors contributing to information design choices. The chapter also considers four common interpretive challenges arising from the organizational context. These include constraints on information disclosure, the tension between engineering precision and the significance of information, the difference between the "real story" of a project and the official stories imposed by formal study procedures, and the challenge of communicating project change.

7.2 Mechanics of Practice

Understanding the mechanics of information design for corridor studies includes consideration of the people and organizations involved, their respective roles, and the steps these actors take to develop public communications materials. In general, the most significant organizational factor is the dominant role of the agencies sponsoring these studies. This section considers respondents' accounts of the agency review process for their materials, the divisions of labor among project team members, and habitual practices that influence design decisions. Agency constraints on the disclosure of information are discussed in section 7.3.

The presence of an agency sponsor was a constant element in the projects discussed in the interviews, as well as in the sample materials. This was almost always a transportation agency, such as a state Department of Transportation, a city public works department, or a

transit authority. These agencies often contract with professional service firms to assist with the technical aspects of a project as well as facilitation of public participation. While this is especially true of larger projects, outsourcing of facilitation services was also evident on some smaller projects. Facilitation services might be sought either to supplement the agency's staff or to establish a degree of independence for the facilitation process, if not an actual expectation of facilitator neutrality. A typical arrangement is for the agency to hire an engineering firm to conduct the study and another firm--specializing in either facilitation services, communications, or public relations--to either lead or provide support for the public participation program. The firm providing facilitation services is often a subcontractor working under the supervision of the engineering firm, but in some cases is an independent contractor working directly for the sponsor agency. In other cases, the engineering firm responsible for the technical work also takes on the facilitation aspects of the project.

These arrangements are significant for the work process, decision-making and outcomes of information design. The pervasive use of outsourcing for facilitation work means that much of this work entails relationships between consultants and agency clients. In the cases discussed, draft materials were generally developed and submitted for agency review as part of the work process. Where multiple firms were involved, the review process was sometimes a layered one. The involvement of multiple actors also results in a division of labor for information design. These divisions of labor take different forms, but usually involve multiple contributors to information designs. In some cases they involve negotiations over interpretive decisions, with a need to reconcile differing norms of practice within a team. These conditions have important implications for the interpretive process.

Agency Review Process

When information design was handled by private firms, as was the case for most of the interview respondents, an agency review of draft materials was required in every case. Respondents' accounts of the review process showed significant variation among the projects

discussed. Some described elaborate approval chains for meeting materials, website content and other documents. One described getting a "lot of input and change" to draft materials.

> I've had very few that just said 'Let her rip,' and even when I thought it was great, and I knew it was great, or I knew it was better than what they came back with. They just want to make their mark.

At the other end of the spectrum, one respondent said that she had had the freedom to design a project website as she saw fit, saying that there were "not a lot of constraints" and "they pretty much left it to us."

One practitioner reported that her client reviews a draft of the text and looks closely at the wording of sensitive topics, but generally goes along with her judgment. Another, when asked if he usually has the freedom to tell the story of a project as he sees fit, responded that he has influence, rather than freedom.

> A lot of meetings, very interactive with the client. You'd have to do a draft and there'd be a back and forth even up til the last minute. There'd be a lot of discussion about what was going to be in it. But you could have good influence.

Another respondent described a review process in which ten different people at the client agency had to approve any information going to the public. For a meeting presentation such as the sample one discussed in the interview, she would attend a meeting with these ten people and they would go through the slides one by one. The respondent was ambivalent about this process. Though tedious, she found that it sometimes resulted in useful conversations about how to characterize and order information:

> This takes hours, a slide-by-slide group meeting. They worry about wordsmithing…And I'm like 'They're paying us. If they want to sit here and go through whether we want to put "the" or not in there, it's fine, whatever.'…In some ways, though, it's good, because that's when something will come up like, 'Wait a minute. Do we really want to characterize something that way, or is this the right place to put this, or is this too much information?' It's not, typically with them, it's not like, 'Oh, we can't say this.' I've had actually very few of those kinds of experiences with them.

She contrasted this with a much simpler review process for a website she prepared for another client. Similarly, another respondent described being struck by the differences in the review process from one agency to another:

> Some things go super fast and other things take forever, and I haven't figured it out yet… Like you know at [Agency A] it's going to take forever. Like you can just guarantee that, and you know they are going to go up to their public affairs people, who will have absolutely something to say about it. But [Agency B] is different.

One respondent finds the review process quicker when regional agencies are involved, compared to state agencies. The review process also depends on the type of material involved. A meeting notice might only need to be reviewed by the immediate project manager, while "a press release has to go through their press people."

Differences were also noted in the discretion allowed individual managers within the same agency. One respondent spoke of an agency in which some project managers had considerable autonomy over communications, while others were expected to clear everything with the public affairs department.

Personal relationships between practitioners and clients also seemed to affect the level of scrutiny draft materials received. One respondent described having to prove herself initially, and then being allowed more freedom to make design decisions:

> There was almost like a…credibility building period, where we had to demonstrate to him like, 'We got your message...and we're going to communicate it for you.' So once he got that, he got--I don't want to say lax. He gave us great freedom in communicating that, and he wouldn't have wordsmithed something.

Another compared a favorite project with some that were less satisfying, due to differences in client relationships and attitudes about participation that affected the role she was able to play. The first project was more satisfying because the lead agency is "very engaged…I feel like we're asked to provide strategic input. The client trusts us…It's a real team feeling,"

Many of the practitioners indicated that client reviews of draft material were primarily focused on the accuracy of technical information. Clients also tended to pay attention to the overall message being conveyed. Few described client concerns about whether the material was comprehensible for lay readers or provided a basis for meaningful participation. The following discussion illustrates several of these tendencies.

> I: And so what was the client review process for the website like?
>
> Oh, those are always a challenge. These were pretty intense, depending on who you were working with. [Client A] was pretty good…So we kind of worked with him to get it all going, and then the engineers took a look at it and they would give us edits…We typically did that on paper, before we posted the content…Very few comments on design and how things looked from [Client A]. They don't seem to care as much. I think we cared more about making it simple and easy for people to navigate than the client did.
>
> I: So what were their concerns about?
>
> The technical information, and making sure that it was accurate and that we weren't oversimplifying.

Another respondent finds that there is often wordsmithing about terminology, such as whether something is to be called an "alternative" or an "option."

The respondents described a variety of communication practices for working on draft materials with their clients, including getting initial agreement on the messages to be conveyed, creating mockups of materials, holding a dry run prior to a meeting, and discussing information issues at routine project status meetings. One respondent described a process for gaining agreement on new messages for a project website:

> Typically the way we would handle that is before we would do any updates, we would send out a memo with the key message points that we wanted to convey, and we would try to get agreement on how we wanted to phrase those messages, and then we would turn it into web pages from there.

Another respondent said it would be typical to have a dry run before an open house meeting to "make sure that everything is on track, that nothing's been overlooked." On one project, open house displays were developed in a collaborative process, with the respondent and her team taking a first cut and then revising them together with the client. They invited the client to come and view mockups of the draft boards:

> Before the meeting, before the boards went to print, I took 8-1/2 by 11 mockups, and put them on the wall, taped them to a wall, in the order and kind of grouped around the stations.

Another respondent described the use of regular status meetings of the project team and agency manager to make decisions on the project website. The website was a standing

agenda item for these meetings. Discussions usually revolved around what new information should be added to the website, which was decided as a group.

Several respondents described the difficulties posed by a client's lengthy review process for draft responses to citizens' emails submitted through project websites. This affected their ability to be responsive to citizen questions.

> On some larger projects it's difficult to get clarity about policy responses, so that <u>we</u> can be responsive. Bureaucracies that create a lack of efficient exchange of information. For example, someone emails you and asks a straightforward question and it takes weeks to get them an answer.
>
> I: Because they're worried about what they're going to say?
>
> Yes.

Another respondent had the same complaint about an engineering firm that was the prime consultant on her project. Her role was to design and maintain the project website, and she found that questions emailed to the project team through the website were not being responded to promptly. She would try to explain the importance of a timely response to the engineers:

> Like, 'Okay, guys, do you know what happens when you don't respond to people for six weeks? They either get pissed off, or they forget, or they start to rally.'

She contrasted this with a website her firm did for another project that was under her control and allowed for more interaction.

Constraints on the straightforward exchange of information through project websites clearly prevent their use for the type of person-to-person interpretive communications that many respondents valued being able to do at open house meetings. This may explain why many of the respondents seemed uninterested in websites as a tool for citizen engagement.

<u>Division of Labor in Information Design</u>

Public participation practitioners working on transportation projects are often part of a larger team that includes technical professionals and agency managers. The day-to-day working practices of such teams provide additional insight into how communications are developed

and the potential afforded for expert/citizen bridging efforts. The interviews suggested some characteristic divisions of labor for information design.

Where project teams include multiple firms, the information design process tends to become a team activity with multiple contributors. Practitioners may need to gather materials such as maps, images, and data from multiple sources to prepare a coherent presentation or website. In these cases, the practitioner may serve as an "assembler" or editor, collecting materials and stitching them together. These materials may be used in the form provided, or reworked to be more accessible to lay people.

In some cases the participation practitioner is in charge of the event and tells the engineers what he or she needs in the way of content, and in other cases the practitioner is more of an editor or translator. One respondent described the technical staff on her project as the "keepers of the content and accuracy" for meeting materials. Although interested in how the meeting displays would flow and be perceived by the public, she expressed little sense of ownership of the material being prepared. Another respondent had a similar view.

> I tell people that I view myself and my staff as translators. We're not creating the content, we're just trying to put it in understandable terms.

Another facilitation specialist described her role as one of "branding" –-designing the "look" of project materials and a "brand banner" for the website. This firm's effort sometimes extends beyond branding to developing the content for the more basic pages of the website and drafting the FAQs for approval by the engineering firm leading the study (and ultimately, the client).

> Sometimes we'll design the shell and they'll want to populate it with their text. We may do the basic pages, but they may want to, you know, certainly their documents would be loaded, but they may want to have a specific; or we certainly work with them. We may develop all the FAQs and they just approve it, but they may provide the background text…So it makes sense for them to pull in their project background and have the correct wording that they want in it. So we sort of try to be efficient with pulling it together and make sure it works.

Other practitioners described more active roles in shaping the technical content. This was generally true of those trained as planners.

Team efforts for information design within individual firms were also noted. One practitioner described her reliance on graphic designers for visual materials:

> We have visualization specialists that do nothing but renderings, probably one or two people in the company we draw on. We also have graphic designers that do different pieces, even if they're just schematics. I rely on them. I really don't do anything…I'm a director…They do all the work and they make me look good, that's for sure. I don't know what I'd do without them.

Another respondent described her role as one of supervision for the development of open house displays. Although her staff drafted most of the displays for her review, she would write those requiring more complex judgments.

The divergent professional subcultures and skills of the different firms can lead to dialogue and negotiations over what information should be shown and how it should be depicted. Lines of argument may be shaped by various parties to the process, either sequentially through hierarchical reviews or in a collegial fashion. The involvement of multiple firms can also produce competition. In one instance, where two different firms on a team were each responsible for one segment of a project, the information designer for one segment expressed concern about being able to do "as good a job" as the other firm with open house displays.

Several respondents described the development of meeting displays or presentations as an iterative process among the project team members and client agency. Decisions could involve the story line, how to make it accessible, the level of detail and the availability of images:

> I: So let's say you're working with an engineering firm, how does that work – are you getting maps from them, are you changing them, or using them as is?
>
> It's basically an iterative process where we'll try to create the outline…then we'll go and sit down with the lead engineers and say 'What do you guys have?' and determine what level of detail we want to show, we'll go back and forth, we'll make some changes and send it to them, they'll make some changes and send it on to the client, they'll make some changes, so it turns into an iterative process. And part of it's what do you have, and do we want to show it on an aerial base, or on a topo, or on a plain background – all those things are determined as you go along – and ultimately what you're trying to do is tell a story, and do it in a format that's accessible to folks, and intuitive, and helps them understand the project.

Time constraints can be an issue if a communications firm is waiting for draft materials from an engineering firm in order to prepare displays or other presentations. One respondent notes that there is often little opportunity for the communications specialist to "weigh in" on how the "very technical stuff" is portrayed,

> …because so much of that is done at the last moment. And they [the engineers] just handle it. It's a placeholder – it gets plopped in. It typically doesn't work that well. It's [the kind of thing that's] usually better to read in a report or on a website.
>
> I: How much lead time do you usually have to put the materials together?
>
> The general [information], you can have weeks and weeks. The very specific parts, you might have a day or two. It often seems that the work is going on until the last moment.

Another respondent described a situation in which the travel demand model results for a project were finished the morning of the public meeting where they were to be presented. This provided no time to intervene in how this complex information was distilled for the public. He wondered if it might have been possible to "come up with a process" for how to show the information ahead of time, then "fill in the numbers" when they were ready. Another facilitator usually has more lead time, but finds that "on some of the projects, you go from fire drill to fire drill."

> On one project I work on the actual technical work is coming out like right before we're getting it to convert…it's a very difficult circumstance under which to work, but we don't really have a choice, so we just do what we can. And they're all rushing. And what happens is, we take it and convert it into what we think is accessible and then we'll kick it back to the technical folks to make sure that we haven't characterized something inappropriately or missed something…In the best case scenarios, it's run smoothly with enough time and enough forethought, unfortunately that's not always the case. The actual technical reports themselves are almost coming out almost at the moment when we need to show the exhibits, and it's tough…

One practitioner described needing to continually check with the other members of a project team to make sure that meeting materials were being developed in a timely fashion. She reasoned that since meeting space had to be booked far ahead, there should always be ample lead time for team members to prepare needed materials.

> Oh, definitely you need to have everything established, and sometimes venues you need to book four to eight weeks in advance. Really you need to book them so far in advance, there's really no excuse not to have pieces rolling forward…Then just make sure to double check that each of your team members are developing the materials

> they're responsible for in a timely fashion. You know, it's kind of, you have to sort of, I don't want to say baby sit.
>
> I: Be on top of things.
>
> You just have to really; yeah, you just really have to plan…Don't assume that someone, because someone says, 'Yeah, yeah, I've got it. I've got it covered.'

Asked what advice she would give a new planner preparing for an open house meeting, she stressed the need to get early agreement on the "story you're trying to tell."

> I would try very hard to make sure that you get involved in the presentation materials as early as possible, that you start off with having everybody agree what story you're trying to tell, that once you figure out what story you're trying to tell, you use your all the resources you have at hand to come up with the best way to present that story. And by that I mean it looks good, and doesn't have people squinting in the back of the room because they can't read the type font, all that stuff.

Another issue affecting project teams is different expectations for the quality of presentation materials. One respondent spoke of imposing quality controls on the materials others develop:

> I learned very clearly that, you know, you have to step in sometimes and say, 'No, we're going to take the time to do it right, and it really does matter what it looks like.' It's not…I mean some people don't care what it looks like, but I find that 99 out of 100 times it does matter.
>
> I: What might be wrong with how it looks?
>
> It looks hokey or you're not taking the time to show…or it's not very polished, or it looks like you threw it together…Or you didn't think it through. Your slides are repetitive.

Another respondent was generally critical of the state of the raw materials furnished by technical team members.

> The highway ones, usually what will happen is the engineers figure out how they want to explain it and will put it on the boards, and it's not good. And the same thing happens on the demand estimates for transit, the travel demand modelers come up with slides and its either too complicated or its not explained well enough.

This respondent seemed to have little latitude to improve the quality of the materials, in part due to time constraints.

Authority structures within a project team are another key aspect of the division of labor for information design. Although the agency sponsor is the ultimate authority for the work of

contractors, within a team of contractors one firm usually has the lead technical role. That firm often manages the work of the other specialists involved, including facilitation or communications staff. This has significant implications for interpretive work, as it gives technical experts authority over facilitation specialists. This authority structure, with engineers supervising facilitators, was typical of the working relationships of the interview respondents. Very few commented on the arrangement or appeared to take issue with it, perhaps because it is so common, or because it seems natural for engineers to direct transportation studies.[13] This structure tends to isolate the facilitation practitioners, making their ability to perform bridging work contingent on the attitudes of the lead technical staff. Greyling (2000) has noted the limitations of this structure for integrating participation and technical work in environmental impact assessments. She comments that having the public participation practitioner regarded as subordinate to the technical team "leads to viewing public participation as separate from technical evaluation, rather than integral to all components of the EIA."

One manifestation of the facilitators' subordinate position was an ambiguity about their role, particularly for those without technical training in planning or engineering. Some were seen as having expertise of their own to contribute and given a strategic role in developing project communications. Others were viewed as little more than clerical assistants, who would make things "look good" and arrange meetings. Most of the respondents' accounts fell in between, with those acting as planners as well as facilitators on a project reporting greater levels of authority and strategic involvement.

A number of respondents expressed the wish that they could be involved earlier and in a more strategic way in developing project messages or structuring the way in which materials would be presented. One noted that when his firm is hired directly by an agency there is much more freedom to design materials than when he works as a subconsultant to an engineering firm.

[13] Professional engineers directed many of the planning and environmental studies discussed in the interviews, although a few were led by transportation or environmental planners.

Another contrasted the experience of working with a firm that valued her communications expertise with one that would not accept any feedback on the technical materials prepared.

> And so we're given maps, or we're given simulations, or we're given schematics, or we're given whatever the it is that's trying to be shown. We try to be the ones to sort of outline the story that's being told. But then the things that get inserted, the pictures, are almost always done by whoever the technical prime is that we're working for…And the worst example of this has been [Project X], where, I mean it's [Firm A] has been the ones to do almost all of the visualization stuff for the EIS and it's really hard to interpret, and it just drives me crazy…I just look at the stuff…and they won't let us change it.
>
> I: They don't want your feedback?
>
> They don't even want our feedback on it…it's so frustrating...and then the public's like, 'What are we looking at?' and we just know that if we're confused by it, then you know the people in the public are too. So the best ones are when we're sort of allowed to at least sit with the person who's drawing the stuff.
>
> I mean I have to give a lot of points to [Firm B]. They're wonderful. The difference between like a Firm A and Firm B, Firm B would come to our office and be like, 'Okay, let's sketch it out. Like what do we want to show and what do you think?' and it was just this completely collaborative effort, even if they were the ones who had the cool simulation model that was going to actually show it, show the engineered thing.
>
> I: They trusted your expertise.
>
> Absolutely, and then came and saw it and it's wonderful. That's what we hope will be the case, but it's often not. And then sometimes it's even like we just show up to put out the sign-in sheets. I mean we're not even, we haven't even seen the presentation.

Another facilitator described having a more satisfying role, with more respect from engineers for the communications expertise he offers. He often takes a lead role in structuring the materials and seems to be able to get involved earlier and in a more collegial way with the technical team members. He attributed this to having strong personal relationships with the engineers and having learned a great deal about the way in which they think and work.

> Well, I've established relationships with people. In the same ways that they've been educated in the ways of communications, I've been educated in the ways of engineering. I have a much better understanding of highway design, roadway design, I'm by no means an expert but I have a much better understanding of it. I know of instances where I sit down with the engineers and the project lead--I did this with Firm X--we sat down in my office, they came down for the day, and we sort of walked through the whole story, and we did thumbnails of each of the exhibit boards, and talked about what we could show, and started to talk about the language that we would use, and the narrative, and talked about the graphics and the visuals that we'd use…and laid out – like a storyboard, jointly, together.
>
> I: And that's not atypical for you?
>
> No!

This respondent's remarks suggest that more systematic, structured communications between engineers and facilitators could enhance their ability to jointly interpret technical choices for citizens.

Habitual Practices and Temporal Aspects

Beyond the mechanics associated with the contracting process and the division of labor on project teams, the interviews revealed a number of habitual practices potentially relevant to interpretive outcomes, some with a temporal aspect. These include the iterative development of materials over the course of a project, the use of pre-meetings and post-meetings for planning and assessment of open house meeting materials, and the use of templates as starting points for materials.

Several respondents reported using a trial and error approach in designing meeting displays. If a display board turned out to be too difficult for citizens to understand, it would be simplified the next time, or eliminated. Similarly, a website designer reported monitoring hits by page to see which pages got the most attention, then concentrated further design and updating efforts on those pages. Many respondents modified communications materials to add answers to questions that had arisen at previous meetings or in public comments. For example, a new display board might be added in response to questions about a particular environmental impact. Two respondents tracked the comments received via a website as a way of determining which issues needed to be added to the FAQs section.

> If a particular issue is cropping up in comments, then we can add it.

On some projects, team members met after major public meetings to discuss how things went and to plan the next meeting. On one project, these sessions involved 10-12 people:

> So we had a pre-meeting and a debriefing after every meeting, so each meeting entailed three meetings. One was, 'Okay, guys, here's what happened. How do we think we can; what were the things that went well? What didn't go well? How can we help people better understand?'

The graphic displays used at the debriefing meetings were a big part of those discussions.

> Every one of those entailed, 'Okay, what visualization pieces are we going to use? What communication tools are we going to use?'
>
> I: And the pre-meeting, was that immediately before?
>
> It was a week earlier, like a week or 10 days before…and the engineers would bring back their visualization tools, and everybody would get to say, 'We like that. That doesn't make sense. We think you need to do; this is perfect,' that kind of thing. So there was a lot of time spent on, 'Is this going to do what we need it to do?'

Several respondents described the use of standard templates as a starting point for preparing project materials. Some of these are agency templates, while others were developed by the firms involved and are adapted for multiple clients. The use of agency templates was especially evident for project websites. For example, one agency includes a web page in each project website on the project's "Purpose and Need," taken from the associated environmental document. This practice has the effect of ensuring that at least a minimal discussion of project context is provided for readers. One respondent described being at the mercy of an agency's webmaster in creating a project website. He was able to provide content to be uploaded onto the agency website, but was unable to influence the navigational structure, tone, or appearance of the site. Another practitioner described a standard format used by her firm for the websites they prepare.

> We have a standard format…a general format that we find it's easy to navigate. It first of all has to be easy to navigate and easy to read. Then it has to be comprehensive, in terms of getting the right information onto it. And then it really has to be easy to maintain and update, so that it doesn't become so cumbersome that you just can't even possibly keep track of it…We try to keep the, you know, just have a welcome page that's very brief, just tells you what the website, so for people who are surfing....They don't want to get into it. They just want to read what it's about. So we usually have a very brief welcome page, but then we have different pages that you can link into. So then we try to keep those, you know, public involvement, where are the meetings, what's the study background, where are the documents, contact us with; we usually put a set of fields to reach out to the study team for like comments on the website because that's another great way to get public comments for people who are too busy to attend meetings or can't.

Even without a template, materials are sometimes modeled on those developed for a previous project without rethinking the approach. Or these previous materials may serve as a starting point. On one project, two planners from different locations met and worked together on open

house displays, each bringing along examples from previous projects as a starting point for consideration.

Varied Roles and Attitudes of Project Engineers

There was considerable discussion in some of the interviews about the roles of the engineers serving on a project and their attitudes towards working with the public. These remarks suggest additional factors relevant to the potential for expert/citizen bridging efforts. One type of remark expressed commonplace views about engineers tending to have either poor communication skills or poor social skills, and therefore needing help from a "people person" or someone trained in communications. One facilitator commented that she found transportation professionals particularly hesitant and uncomfortable around the public.

> I: Compared to some other people you've worked with?
>
> Yeah. Like some people it's just very natural. Well, the government officials, they get it. They do it. It's part of what they do every day. But for engineers, it's a different way of thinking about things and it forces them to get out of the sort of the facts and figures into like the human piece, which isn't always natural to them.

Other respondents had more favorable impressions of the communications abilities of the engineers they worked with. One observed that "many are extremely good at communicating with the public." Another spoke of engineering design staff who had learned to create materials attuned to public needs:

> I'm quite proud of our designers, because they've really become tuned into trying to take their engineering drawings and give people the salient stuff in a way they can understand it.

One respondent described differences in the attitudes of the engineers she had worked with on various projects. She found the engineers at one firm more flexible than others, recounting that they were "able to learn" from local residents that flooding would make a particular design for a proposed roundabout unworkable, and as a result retooled the design. She observed that other engineers she has worked with "cannot hear this kind of information" from citizens.

Another respondent spoke in terms of a learning process in which “engineers are getting more enlightened about public involvement.” He now sees some instances where engineers “are the ones pushing the clients for more transparency” in the process, where before “they were the ones dragging their feet.” He described this as part of a broader change in the profession, in which the participation process has assumed more importance in planning.

> Twenty years ago the entity that would drive much of the project was the engineering/ technical firm. It used to be driven by the engineering process and focus---now in many respects this has been flipped on its head – it’s now a question of political will [so the participation process becomes more key].

He gave examples of projects that were led by planning and communications staff, working closely with citizen advisory groups, instead of being directed by the engineers as in the past. These examples, while anecdotal rather than conclusive, point to the possibility of general structural changes in the organization of corridor studies that could result in a less dominant role for engineering professionals and openings for improved communication across the expert/citizen divide.

7.3 Interpretive Challenges

The interviews identified four common challenges for information design that arise from the organizational context described in the previous section. These include agency constraints on information disclosure, the tension between engineering precision and the significance of information for citizens, the difference between the “real story” practitioners wish to tell and the official stories often imposed by formal study procedures or methodologies, and the challenge of communicating project change. This section considers each of these challenges in turn, along with some of the strategies practitioners use to address them and the implications for expert/citizen bridging.

Constraints on Disclosure

Constraints on information disclosure form one of the most important situational challenges affecting interpretive work on corridor projects. Many transportation agencies are reluctant to share information with the public before key technical findings are in hand, or before major

decisions are made. Some will do so only to the extent required by federal laws. Constraints on information disclosure are particularly noticeable when there is uncertainty—whether for political or technical reasons--about the direction of a project. Paradoxically, the very condition allowing for public dialogue—an unsettled question or decision to be made—makes agency managers and decision-makers anxious about talking with the public, while they tend to be much more comfortable sharing certainties.

Facilitators of public participation know to expect constraints on disclosure, so they have devised various coping methods that allow them to proceed with partial information. One respondent spoke of waiting for a project to get to the stage where her firm would be "unleashed" to work with the public. Often the constraints on disclosure are so significant that they become a backdrop for the overall public involvement process, a situation that severely challenges the ability to undertake interpretive bridging efforts.

Transportation agencies seem to differ widely in their willingness to share information or establish a collaborative tone in information materials. One respondent said "I've seen it go from 'We don't want to talk to anybody,' to 'We've got to put everything out there.'" However, he also notes that most of the agencies are "getting better about engaging and wanting to engage" compared to in the past when they tried to "minimize all public stuff…They understand they have to do it or they won't get it done…Or they'll wind up doing it again." This remark was echoed by several other respondents, who pointed to agencies having learned the instrumental value of a more open approach to working with the public.

Another respondent similarly describes some agencies as more progressive and open to public involvement and others as more "shut down." She has observed what she considers a recent trend toward this "shut down" mode, a retrenchment in her clients' willingness to involve the public that she attributes to the state of the economy. She finds that this has affected the choice of communication techniques: lately she is being asked to do more websites and fewer

meetings. And the websites are less interactive than she would like. For example, one client will no longer include an email link on websites allowing people to contact him about the project. Another cancelled a web survey after initially approving it:

> I'm telling you, it's very much closed down right now. Clients have gotten very conscious of 'We don't want to give 'em surveys, they might have an idea that we [would need to deal with].' We had a survey, it's just whether they like the [color scheme for a bridge], and the agency said 'I know we approved it, but we've had second thoughts.' Welcome to today.

In subsequent interviews, other respondents were asked whether they had noted any trends in the degree of openness showed by agencies: no others agreed with this respondent's assessment. However, two other respondents independently mentioned the issue alluded to here, the fear that by talking to citizens, people "might get ideas" for a project that could lead to costly new demands. Along with concerns about expressing uncertainty, this concern about community demands appears to be another common reason for agencies avoiding communication with citizens. One agency practitioner said "Every time we go out, there's something new they want."

In a related concern, some agency staff seem to worry that presenting a set of options or alternatives will be confusing to the public, leading to unrealistic expectations of what an agency can do. On one project, the agency's chief concern was not to overpromise, or create too ambitious of an agenda for the project, giving the impression that the agency could do more than could actually be funded. The practitioner had in mind showing a range of possible actions from which priorities could be selected, but the agency manager did not want to present all of those possibilities:

> …things that might reflect a commitment that they didn't think they had the funding or the ability to follow through on, and they wanted to be able to say, 'Anything up here we could do.'

Consequently, information on alternative actions was scaled back. This type of constraint clearly inhibits the ability to nurture dialogue about options.

One respondent sees considerable variation in the disclosure permitted by the different district offices of a state DOT. "A lot of them don't want to do [public involvement] at all…We have a couple districts that they're like—this is a pain in their side." But one district "wanted to share a lot of information" and she was "always surprised how willing they were to post information" online, including sensitive information such as maps of potential displacements. In addition to variation by agency or district, variation in willingness to communicate with the public was sometimes seen across different divisions of an agency or between individual project managers.

Respondents attributed some of the variation to individual personality factors, with some staff more concerned about speaking to potentially hostile citizens than about the political risks of information disclosure. One respondent spoke of efforts to gauge each client's "tolerance level" for engaging the public. She then calibrated her communications efforts accordingly:

> Every client is different, every engineering firm is different, you know…So we have to figure out, okay, what do we know works and what are good communication, what are good tools that we have, and what's this client's tolerance level, what's the owner's tolerance level, what do they want to accomplish?

Two respondents observed that when a public process has gone well and contributed to a good project outcome, it can lead to a change of attitude and result in a more positive approach to participation, either by individuals or by an agency as a whole. One described the emergence of agency champions for public outreach:

> And so project managers and design staff who've been involved in something where there has been a good outcome because of the public outreach, they sort of become the champions for being proactive and paying attention to what people are saying. But so it's partly on the individual and then there's a culture within the organization of how much public involvement is accepted.

She also described a situation in which an agency had learned from a negative experience with environmental litigation. The next time the agency had a similar project, they instituted a more collaborative process, reaching out to environmental groups to work out a compromise.

> They wanted to do it right this time…They were careful to engage the project opponent...and some of the previous litigants became advocates of the project. Both

> successes and failures helped create a culture at [the agency] that what the public has to say really matters.

These accounts suggest that attitudes toward participation and information disclosure are part of an agency's organizational culture, which can change over time.

A constant metaphor throughout the interviews and field observations was one of information being "inside" or "outside" the transportation agency. This includes both the idea of "letting information out" and of deliberately "getting information out" or "going out," as in "It's about time to go out to the public now." The question of disclosure becomes not only whether to go out but when to go out and how much information to put out. While "going out" was a routine, unremarkable step on many smaller projects, for more controversial projects the decision to "go out" was sometimes perceived as a momentous one, often following months or even years of silence from the agency. The idea of information being under wraps and then disclosed is conceptually related to the unveiling metaphor discussed in the last chapter.

Decisions about when to go out and how much can be said and in what form are often shaped by agency concerns about revealing uncertainties. One respondent described a client who said "Don't take anything out or even say anything until you're absolutely like 1,000% sure." Another quoted an aphorism used among some of his colleagues: "If you don't know it, don't show it." One practitioner mentioned that on her project, handouts were rarely provided at public meetings, to avoid having tentative concepts circulate beyond the meeting room:

> We rarely ever brought stuff that people could take with them for a couple reasons. One, when people see something on paper, they tend to think 'That's it,' and they take it out to the broader community, and the broader community is like walking around with something that's like nowhere near it.

Some agencies were reluctant to provide an account of the choices that had been made (with public participation) earlier in the same study, as if even revisiting a prior period of uncertainty was problematic.

> It's usually 'You can't show that. It's too much information. You're showing too much.' They're scared to have all that out there. Not because it's secret, but for example,

> they want to let [the public] understand that we've knocked out a lot of [alternatives] already, so we don't need to show it.

Generalizing about this example, this respondent finds that agency clients often avoid showing the process by which alternatives were narrowed to those that remain. For instance on one bridge project, there was originally a tunnel option that was eliminated early on. After that there was always a struggle as to whether to mention the tunnel or not:

> This happened a lot--it went back and forth all the time when there was a tunnel option. And early on they knocked out the tunnel option. Sometimes for public meetings we'd say 'Let's tell them we looked at this, let's play that up.' And they'd say 'No, no, no, we've been through this, don't remind them.' And then a month later, they'd go 'What happened to that tunnel?' Well now we need to – we'd have to show it now. They didn't trust us! A lot of back and forth on that and it's whatever somebody sort of gets in their mind… And also 'Let's get through this quick,' so less information is usually better.

A similar view was expressed by another respondent, who noted that on some projects, whenever there is ambivalence about how to explain a complex or potentially controversial aspect of a project, the agency clients resort to a fallback position of "Let's just take it out." Both respondents found this attitude frustrating. One has urged clients to "get it out there and let them see it," suggesting that they acknowledge the reasons for not doing so until that point:

> 'We want to show you these things. We haven't been able to show them to you at all yet, whether because we didn't want to, it wasn't our policy, or they weren't ready yet' – there's a hundred reasons, but get it out there and let them see it.

A special challenge mentioned by several practitioners is determining when to disclose a project's potential right-of-way impacts. This is particularly significant for large-scale projects to be built on new alignments, which can involve dozens or even hundreds of property takings. One of the dilemmas practitioners described is whether or not to show potential alignments at a preliminary planning stage, before an official set of alternatives are developed for environmental review. Many agencies are reluctant to "put lines on map" early on in a study, to avoid unduly alarming citizens and potentially affecting property values. One respondent notes that "if you have a public meeting and a map, people are going to look to see if it affects their homes. That's the reality of it." While sympathetic to these concerns, some of the

practitioners feel that by waiting until a later stage to introduce potential alignments, the opportunity for dialogue will be lost.

> If you wait until it's set in stone, people's opinions aren't going to matter. I like to err on the side of providing more access to information. But you know…one of the most difficult situations is once you put a line on a map you set in motion all these things. 'Is my property worth the same as it was before that line was on the map? Should I build?' Last night I got, 'We're thinking about building another barn, should we do it?' They're in purgatory until this thing is settled. But you can't not plan. So if you have to plan, you're going to create these circumstances where people are in this limbo…I don't know of...anything you can do to avoid this circumstance except make sure that people are as clear as they are about what the process is and what the steps are.

Agency decisions on the disclosure of potential right-of-way impacts are thus significant both from the standpoint of showing what is consequential and nurturing dialogue about options. Where significant right-of-way impacts are expected, agencies have understandable concerns about showing possible alignments before having investigated their engineering feasibility. One approach to addressing this issue, described in the last chapter, is to use broader corridors rather than alignments in preliminary discussions with the public.

Another situational factor affecting agencies' willingness to disclose information is the fear of environmental litigation. Control of public communications may be seen as a way of minimizing legal risks. Concerns about potential lawsuits over technical findings can affect the disclosure of interim findings in an environmental study, lessening opportunities for dialogue. One respondent thought this was a reason why her clients would avoid discussing a draft environmental impact matrix with the public, in contrast to a planning study, where such a matrix might be openly discussed.

Faced with agency constraints on information disclosure, many practitioners described making efforts to soften an agency's stance and push for more timely release of information, or for more public engagement in general. Several saw this type of advocacy as an important part of their jobs. One described "working surreptitiously…to push for as much information to be out there as possible." Another pushed a reluctant client to hold public meetings during a feasibility study. One respondent tries to document the value of public participation as a way

of educating her clients, keeping track of how citizens' contributions have influenced the project design.

Several respondents described efforts to coach agency staff on how to communicate better with the public. These efforts generally fell short of advocacy and were more focused on instrumental goals. One described working with client project managers who dislike dealing with the public.

> So those you have to, we have to be really sensitive and try to find things that you know will work. And the one thing we try really hard to do is to help them avoid things that we know are going to just kill them.

She gave an example of a potential widening project on a commercial arterial in which the client wanted to start by sending registered letters to business owners. She was able to help them see that this would set the wrong tone. She described differences among clients in their degree of receptivity to this type of coaching.

> But one thing that was hard to help some of the engineers understand is that without good communication, you are setting yourself up to fail with the public, that if you don't have some interaction and you don't respond to them--because they were afraid to respond, I think, in some cases--and it was hard, really hard…Some allowed us the luxury of coaching them. Others didn't.

Another respondent described working with a shy, inexperienced agency project manager and helping him go from a refusal to allow people to ask questions at the first meeting to being comfortable fielding questions at a later meeting.

One practitioner described coaching agency staff as the most rewarding aspect of her job:

> What I actually find the most rewarding of my job is not the actual interfacing with the public. It's the helping the clients, the agencies do that better. That's what I take the most pride in. If I can get them to get it, and appreciate it and do it well, then I feel like I've really accomplished something.
>
> I: So you've educated them a little.
>
> If I can leave my toolkit behind and they can actually do it themselves, I feel like I've done my job best.
>
> I: How do you do that?

> It depends on the client. Some of them really get it. Either you put it in terms of like this will help you avoid litigation, or you put it in terms of this might actually come up with a better solution…But the point is that it's like if I can have people, even if they feel like public involvement is a necessary evil, but they appreciate the necessity of it, then I feel like I've come halfway. And if they actually can walk away and say, 'This is actually a process that works,' with all of its warts…

She empathizes with agency officials and what they sometimes go through with the public, saying that they often hate public involvement.

> Because they're doing it at night, they're tired and some jerk is calling them a thief, or a liar or worse…and all they want is to be home with their feet up, watching TV, having a beer with their wife or husband. So if I can sort of get them to have a different mindset about it.

Engineering Precision

A second recurrent challenge for interpretive work on corridor projects is the pervasive tension between showing information with engineering precision and focusing on what is most significant or consequential for the public. The latter approach often means reducing the detail, relaxing the degree of precision, or both. Respondents described a characteristic struggle in the information design process between these two approaches. Transportation engineers tended to consider a high level of precision and detail essential, while facilitators found the resulting materials difficult to comprehend. Several facilitators also commented that the engineers they work with lack a good understanding of what the public needs to see.

The interviews suggest that achieving simplicity by eliminating engineering detail is not as simple as it sounds, particularly where visual representations are involved. More than efforts to translate or make information user-friendly, it requires agreement between differently trained professionals on what constitutes veracity in a presentation. Several respondents described the intense discomfort project engineers experienced when asked to modify engineering drawings to include less detail, or when they saw visual elements used suggestively rather than precisely in an artist's rendering.

An example of the tug-of-war between engineers and communications specialists was seen in a discussion about the visualizations one firm creates to help the public make sense of complex engineering plans. The respondent described the roles she and her staff play in this process.

> We spend a lot of time on those products…it's important for [people] to be able to understand what they're looking at and in many cases the engineering plans are extremely difficult to comprehend.
>
> I: So are you involved in developing the visualizations or deciding what they should include?
>
> Yes. We talk to the engineers, get their base plans. Then we work with our GIS and computer specialists and graphic design specialists, and depending on what we need, we work together to get there, and it definitely takes a while to get through…to make the engineers comfortable, and in many cases they get bogged down in the details so much that the public would never worry about.
>
> I: So is it mainly a matter of reducing the level of detail, or are there other kinds of changes you find yourself making to those?
>
> We try to reduce the level of detail as much as we can, but there's always the qualifying statements and making sure that we're not, by simplifying it, taking the accuracy away…But then there's the other side and I think especially now, with the renderings that we developed…Just to give you an example, if we're rendering a bridge and it's a concept that we want people to see, you know, the traffic folks might worry about the type of guard rail or the height of it on the picture…But the public might not look at that detail …just understanding that it's going to be a nice bridge that maybe isn't a truss, but will have some treatments to it and that this is a concept, and we try to get that through, but they struggle with some of those details. So we work back and forth and, again, those details might not confuse the general public, but they might not also be necessary from a let's spend 12 more hours on those kind of details.

Later in the interview this respondent referred to another example of this phenomenon involving an artist's rendering of a proposed boulevard. This example more clearly drew out the concerns about technical veracity that engineers tended to express when confronted by the need to show preliminary concepts whose feasibility had not been thoroughly tested.

> If I were going to a public meeting and looking at those renderings, I would not think anything but, 'Oh, it's going to be a nice boulevard and it's going to look like this. That's so much better than a median barrier down the middle and a jug-handle turnaround. This is great.' But the engineers were concerned that, 'Oh, my gosh, that looks like a pin oak and I don't know if we'll be able to put a pin oak there. And what about maintenance? What if they all die? And look at this fence. This fence is…And if we put a signal there…'

Another respondent found similar differences in engineers' and facilitators' expectations about the level of design precision that would be needed for public presentations. He described waiting for months for engineers to give him a piece of information that they felt would be essential to creating a valid visualization of a proposed rail project. The information, the height of the proposed platform, took some time for the engineers to work out technically, but turned out to be completely unimportant to creating a useful visual representation for the public. In this respondent's view, the ability to show what was consequential was delayed because of a misplaced belief that engineering precision was critical to the drawing.

These concerns about whether all of the elements of a conceptual image are technically truthful are similar to the concern of one client, described earlier, that everything shown at a meeting should be something the agency could afford to build. This restrictive view of the function of visualization is one promoted by an official guide on visualization from the American Association of State Highway and Transportation Officials (AASHTO). The guide states that "it is important to show only those proposed features that will be built." The visualization is described as a "visual contract" that the agency could be accused of violating in the future (AASHTO 2003). Many agencies have addressed this concern by placing prominent caveats on the images stating that these are "preliminary concepts." This practice was repeatedly noted in the materials analysis. Nevertheless, some agencies are reluctant to allow early conceptual images to be displayed for the public, which limits deliberation. In this respect, the issue of engineering precision is linked to that of information disclosure.

The tension between precision and significance affects other types of communications materials besides project visualizations. Other examples discussed in the interviews included the mapping of environmental impact data and the wording of a meeting display. One respondent described a back-and-forth effort with a technical specialist at a client agency concerning the wording of a display board on noise impacts. The specialist insisted on

including “legalistic” policy language that the respondent had removed in an effort to simplify the material for the public.

> And we went ahead and checked with the environmental person who is over noise to make sure he was comfortable with it. And he reinserted some of the language that he felt we couldn’t do without, and that’s that fine line that – the sort of policy language and the way that gets written, and then trying to explain it in – the whole plain English initiative thing – that tension between the legalese - the criteria that they’ve haggled over, this is the criteria and how we state the criteria, and then making that easy to understand.

This respondent finds it a frequent challenge to put information in understandable terms, with clients very particular about how technical or procedural material is worded. She also noted that the demand for this type of precision seems greatest when projects are controversial.

Another example involved an environmental study where very few significant impacts had been identified. In preparing maps for an open house meeting, the facilitators wanted to focus attention on those few impacts. However, the lead engineer on the project insisted on showing all of the environmental impact data on the same base map, using different symbols for each of over 30 categories of potential impacts. The resulting map was incomprehensible even to the facilitators, but the engineer felt it was more important that it be a complete representation of the findings. He reasoned that if anyone asked questions about the impacts at the meeting, he would be there to look up the symbols and answer them.

Concerns about precision sometimes have the opposite effect, resulting in a decision to show nothing rather than either showing highly complex information or trying to simplify it. This again shows how closely related the issue of precision is to that of disclosure. One respondent described this as follows:

> I think one of the things I have to do with some of my technical clients is push them to show more…They’ll say – well what if we said this? And then they’ll all just throw their arms up and say ‘let’s just take it out.’ That’s their sort of fall back. And I don’t think that does anything for the public, or the potentially impacted parties, to just take it out. I mean sometimes it might be appropriate, but lots of times it’s like, you know, we need to work a little harder to show – because what ends up happening in that case is the topic matter becomes so complex that they feel like there’s no way we’re going to be able to explain this to them without making ourselves vulnerable, so what we’re going to do to protect ourselves is just eliminate it. That’s not satisfying for me.

The difficulty of showing what is consequential while satisfying engineers' concerns about technical veracity may help to explain the failure of many of the sample materials to provide a good feel for a project's appearance and significance, as noted in Chapter 4. Besides the ability to show what is consequential, the tension between precision and significance has important implications for the ability to promote dialogue by showing citizens conceptual alternatives. Newer collaborative planning notions of sharing uncertain information informally ("Here's an idea of how this might work") often seem to come up against an older tradition of unveiling a complete, fully tested design ("Here it is."). Project engineers are seldom trained to appreciate the possibilities of an informal, collaborative style. With planners and communication specialists often in subordinate roles, their ability to promote freer interchange of ideas between professionals and citizens can be limited.

Study versus Story

Another interpretive challenge revealed in the interviews is the difficulty of navigating between the "real story" an agency or facilitators wish to tell and official stories imposed by formal study procedures or methodologies. Because public agency decision-making is often circumscribed by rules and procedures, the "real story" of a project--in terms of what officials intend to do, what they have agreed to with stakeholders, or the actual questions they want to investigate--may differ from the account of a mandated technical study. Divergence between the study and the story can reflect an agency's goal of getting environmental clearance under the NEPA process or obtaining Federal Transit Administration New Starts funding, for example. Both of these involve procedural requirements and evidentiary demands which affect the interpretive task. The complexity--and often rigidity--of the procedural requirements becomes something to explain and interpret in itself.

The interviews and field observations suggest that citizens often have understandable difficulty limiting their perspective to the set of issues formally in play in an environmental study of a transportation project. For instance, one respondent found it difficult to explain to

citizens that it was too late to consider adding public transit to a bridge project undergoing an EIS--not because adding transit was a poor idea, but because this would require going back to square one and starting a new EIS, and considerable time had already been invested to get to this point. These types of strictures affect the ability to keep findings open to inquiry, redefine a problem, and promote dialogue about options.

In this situation, planners and communication specialists are faced with the dilemma of how to provide meaningful information to participants while hewing to an official story line. For example, two respondents described similar struggles with how to convey noise impact information in open house displays. The projects involved were very different – a large transit project and a small highway reconstruction project. But in each case environmental studies showed that noise impacts in certain neighborhoods were not severe enough to justify noise mitigation, despite citizens' serious concerns about noise. The respondent on the highway project described the communicative difficulty that stemmed from the divergence between the official findings and the real story, in this case, of citizens' perceptions:

> And so we've learned that the noise wall issue…always comes back to bite you in some shape or form…And it's partly the complexity of the process–and trying to explain it in simple terms that they can understand–and then the fact that they feel that they have a noise impact, but the technical message used at the point of the environmental study didn't acknowledge that they have a noise impact. I think people feel really hurt by that. That's just my latest sense form talking to people, that they just want to be acknowledged, and have the state agree that 'Yes, you have noise impacts.' And the fact that they weren't identified from noise mitigation, they feel like the [agency] is saying, 'Oh, you don't have a noise issue' and they're like, 'No, come to my house, come listen.'

Another interpretive dilemma described by several respondents involves communicating travel demand model results in a way that will not mislead citizens. Because modeling is often the analytical centerpiece of a corridor study, and in some cases is a federal requirement, practitioners feel they have no choice but to show these results at open house meetings. However, some respondents worried that citizens might take these order-of-magnitude forecasts too literally and wished they could exclude or downplay the official forecasts. One described the dilemma of presenting boarding forecasts at the station level:

> This, people were very interested in. The problem is, for the kind of model we have, these numbers…were a little weird, station by station. There's one that I still don't trust - 1600 at [Station X] and 800 at [Station Y]…This is very high ridership in an area of mostly single family homes…It's early phase, so I don't like showing this. The model at this stage isn't intended to present this detail. It only gives you a general idea…but we had to show these numbers because they're in the DEIS and they're part of our study. So that was an important board to show and some people spent a lot of time looking at it.

This respondent was also reluctant to present estimates of average travel times between stations, "because you're talking about seconds," and again, she didn't completely trust the model results. But she found that people were very interested in seeing these numbers and trying to figure out what their own travel time would be on the new line, so she went ahead and presented the estimates.

The disconnect between study and story is also seen in some of the project visualizations performed for environmental studies. One respondent working on an EIS for a new alignment highway project thought it would be appropriate for a visualization to show not only the future appearance of the roadway itself, but the sprawl development the project was likely to engender along the roadside. The road's potential to promote sprawl was an important concern for citizens and environmental groups in the area. But the respondent was told that the visualization should only show the roadway as proposed, and avoid any speculative elements such as roadside development. Conforming to the official story as laid out in the NEPA document, there was no opportunity to depict one of the potential impacts of greatest concern to citizens. A similar example was discussed in Chapter 5, in which a respondent observed that visualization resources tended to be devoted to showing mundane, localized visual impacts, rather than illustrating the project's broader significance.

Another aspect of the disconnect between study and story is the need to satisfy technically sophisticated citizens while providing information that is meaningful to the broader public. One respondent prepared display boards aimed at these "professional citizen types" while also trying to answer basic questions.

> We have some very sophisticated people in our corridor, who understand the impacts of a lot of these things…We kind of have two audiences, the general public and then the people who know about the federal cost-effectiveness method, etc., so we spent time doing that stuff also. Most people just want to know who is going to pay for this and you say, 'Federal and state and no, your taxes are not going to go up just because of this project.'

Another respondent included complex mapping in open house displays, in case any citizens came who were familiar with NEPA requirements, so they would see that the correct methodology had been followed. The maps showed the boundaries of two concentric study areas, primary and secondary, which were used to evaluate direct and indirect impacts of the proposed alternatives.

> We explained it, but these were the kinds of things that were more just to sort of *pro forma* to show that we did it the right way, if anybody in the audience knew anything…If somebody in the audience knew anything about NEPA, these were the kind of CYA NEPA kinds of things that people did.
>
> I: So these were not so much for understanding.
>
> For methodology, to show that we did it right. And also I mean to get; it's one of those things that's really hard for people to appreciate, that the area for determining traffic is bigger than the area for determining archaeologic resources, for instance, that you do have different study areas. That's hard for people, but I'm not sure it matters. Like what do they care? Except that they say, 'Well, why aren't you fixing something in two towns away?' and you're like, 'Well, because it's not in the study area,' and then you can point to your map.

The disconnect between study and story also touches on how uncertainty is represented to citizens. One respondent recounted the difficulty of explaining to the public that while the alternatives for an environmental study need to be fixed at a certain point to allow the assessment to be performed, new alternatives might still emerge through the political process external to the study.

> …[I]n order to do a technical report, you have to have some level of definition of your alternatives. So at some point you have to stop monkeying around and revising the different alternatives, they have to get set, so that people are clear on what they need to [study]…I think that's an important milestone for the community, like in a meeting I was at last night, it was like 'Well when are these alternatives going to be fixed?' Well, at one level they'll be fixed so we can do the technical reports, at another level they're not going to be fixed until the policy making body certifies the environmental document and approves the project, which is at the end, because they could come in and say ''You know what, we don't think any of this works' or 'You should tweak this and do this like this' and that may demand additional environmental work, but…the fat lady hasn't sung.

Communicating Change

A fourth organizational challenge for interpretive work is the difficulty of explaining major changes in a project that arise externally, rather than through the orderly unfolding of a particular study or participatory process. A surprising number of the projects described in the interviews involved radical changes that were difficult to explain to the public. The meta-narratives of these changes often clashed with the stories practitioners were attempting to tell about the issues in the current study. These changes involved projects being radically reinvented, scaled back, or cancelled. In a few cases the changes were due to funding shortfalls. In others, environmental impacts were found to be too great, political support failed to materialize, or perceived needs had changed over the long period of an environmental study. In one case there was a change of political administration during the study, which meant starting over in a new direction. Some of these changes reflected a paradigm shift in which transportation departments discarded older highway development practices centered on large-scale freeway construction.

These changes affected the practitioners' work in different ways. In some cases, the project team had inherited an old project that had begun with what were now considered outmoded assumptions. Their task was defined as either reinventing the project or starting over. In other cases, the impetus for change arose unexpectedly in the middle of the respondent's involvement and required improvisation. Either way, these types of major changes require decisions about how to characterize the change in public communication materials. Some agencies explicitly acknowledge the change (sometimes describing the new approach as an improvement), while others ignore it. By ignoring it, they may create an impression that the project is starting over with a clean slate, which can be misleading for citizens who remember past controversies. The tone of these explanations and the reasons given for change are important communicative decisions. Several agencies handled this issue by using the term "rightsizing," saying that a project would now be smaller for both cost and environmental reasons.

One experienced respondent described the reinvention of transportation projects as the norm, rather than an exceptional occurrence. According to this respondent, "more often than not transportation projects are restudied and reinvented." She estimates that this would be true of about three-fourths of them. As an example she recounted the history of a transit project first studied in the 1980s, ultimately voted down for local option tax financing, and restudied several times since.

> And so somebody always championed that there should be some kind of system and probably is looking for both a political window and also looking for adjustments to what the system might be, to see if something else could be more palatable. So just because it goes down, the advocacy is strong enough that people still want it, and the opponents are still strong enough that it might get voted down again, and yet reinvented, because the opponents are not always representing a majority, or some people just don't care enough and they just let the two constantly battle…Or if money comes available and you want to say, 'Hey, we could get money. Let's run for it. Even though we voted it down, maybe now we've got money and we just can't pass it up.'

On one project that was downsized from a freeway to a boulevard, the communications specialist developed a clear, direct explanation of the change on the website and characterized the change as a "reevaluation."

> We called it a reevaluation of the project because what we were doing was met with such controversy from the public. We had gone out to a public meeting…and the folks in the community said, 'We don't want [an expressway]. We want to maintain the rural nature of the area and what can we do different?' So we kind of flopped it and turned it more into an urban boulevard design, which was great.

Another respondent described a similar situation in which there was some lingering support for an earlier freeway concept, as well as widespread interest in a new, low-impact approach. In its communications this agency attributed the change to a lack of funding.

Another planning study had been preceded many years earlier by a long-term study of a new expressway concept that was unpopular with many citizens and had been dropped. All of the project communications for this more modest study of improvements to an existing roadway in the same area (including meeting flyers, display boards, etc.) stated in bold that "This study will not consider the construction of an expressway" to make it clear at the start that the expressway idea was not being brought back. The practitioner indicated that it was the client's

idea to do this. She noted that as people arrived at meetings and the first statement made by project officials was "We want to be very clear we are not looking at an expressway," you could "see people's bodies relax."

One project was cancelled altogether due to a funding shortfall after a lengthy environmental assessment process. The respondent described the rhetorical decision-making involved in creating the final version of the project website, which was to be left up for reference purposes.

> I developed the key message points and then we framed the questions around them, because there was a desire by the agency to announce this in--I hate to say a positive way, because it's not positive when you're cancelling something--but they definitely wanted it to have the right tone.

The resulting website described some smaller improvements that would be made over time as funding allowed.

In each of these examples, there was a need to reconcile the story of the project's transformation with the interpretive information being developed to serve the current study process. Since many transportation projects are studied and restudied, sometimes over decades, planners need guidance in how to communicate not only the present study issues and options, but the history and controversy leading up to the present study. This type of communication—including clarifying what is distinctive about a new approach--can be an important element of showing citizens what is consequential about a project.

Training is also needed so that planners can be adequately prepared for these situations. It can be a startling experience for a new planner to discover the lengthy and bitter disputes behind many of these projects and to encounter the cynicism of citizens who have been through previous studies. Planning schools generally describe an idealized planning process that has a defined start, middle, and end. The lingering history of old projects and the major changes that can occur unexpectedly in the midst of a study are disorienting for planners who have been trained to expect a smooth process. If they are to develop public communications

that help citizens understand these changes and the reasoning behind them, practitioners need to be prepared for these events and to have some ready strategies for coping with them. This is one area where it would be helpful for planning students to learn from the practice stories of others, as Forester (2007) advocates.

7.5 Significance of Organizational Factors

The organizational setting for information design on corridor projects creates numerous obstacles for efforts to bridge the expert/citizen divide, and indeed often acts to reinforce that divide. Factors impeding bridging efforts include agency constraints on information disclosure, the subordinate position of facilitation specialists on many project teams, and a complex work process with multiple actors contributing to information designs, often under severe time constraints. The limitations of environmental study procedures can also restrict practitioners' ability to show what is most consequential for citizens.

Facilitators often have relatively limited discretion in their interpretive work, given their subordinate roles. With corridor studies dominated by transportation engineers, engineering diagrams and maps are often used by default to tell the story. Many engineers are uncomfortable with the use of conceptual imagery that might better convey a sense of a project, or help to clarify the distinctions among alternatives. Moreover, agency managers are often reluctant to share uncertainties with citizens, further inhibiting discussion of major issues and options. A perspective in which decision-making is "inside," under wraps, and citizens are "out there" persists in most agencies. Against this backdrop, hopeful factors include the evident variation in agency culture, with some agencies having become more open to working with citizens, as well as some evidence of a trend toward more collaborative approaches to corridor planning.

Transportation agencies seem to shy away from working with citizens during their own periods of uncertainty. Once they have pinned things down a bit they become more open. This may

account for the emphasis seen in Chapter 5 on problem-solving with affected parties (after key decisions were made), in contrast to the generally limited dialogue reported on earlier stage, big picture issues. A planning process that is relatively “shut down” at the beginning, opening out only towards the end, is counter to the standard notion of a window that starts out open and begins to close as decisions are made. Decision-makers’ fears of admitting uncertainty pose a serious problem for planners seeking to encourage shared inquiry about larger precepts and assumptions. Such inquiry requires “access to doubt” (Laws and Rein 2003). Improving the guidance available to agencies on useful, deliberate ways of conveying initial concepts and questions might help to counter these fears. Applied research that identifies effective practices for communicating uncertainty could be used as the basis for this improved guidance.

The interviews highlighted the work process within interdisciplinary teams as a key factor in interpretive decision-making. Internal (expert-to-expert) processes of interpretation and interplay are important in developing the public story. Respondents gave sharply contrasting accounts of the interactions between facilitation specialists and project engineers on these teams. In some cases, the facilitators’ expertise was disregarded and they had little or no say in how information was presented. In others, facilitators and engineers worked collaboratively to frame and create the story. This model for information design within a project team mirrors external efforts to reach across the expert/citizen divide. It suggests that improving communication across disciplines would be a useful starting point for these efforts.

Chapter 8: Research Findings and Implications

8.1 Introduction

This study has developed an account of one form of interpretive work between experts and citizens in corridor planning, drawing on normative theory to probe the choices practitioners make in preparing communications materials for the public. The study examined materials from sample projects as well as planners' accounts of their experiences to determine whether they seek to facilitate citizen inquiry and joint discovery of problems and possibilities in their work. By investigating the interpretive choices transportation planners and other facilitators make in preparing these materials, the assumptions they bring to the task, and the institutional contexts in which they operate, an account of this largely hidden practice emerged. This improved understanding can help to inform the guidance and training planners receive for this heretofore neglected role. This chapter describes the chief research findings and their implications for planning practice and professional education. Study limitations and considerations for future research are also discussed.

8.2 Research Findings

At any time, information design work is happening on hundreds of corridor studies and projects in the United States. Like other planning efforts, corridor projects are situated in communities and replete with social consequences. In comparison to many urban development projects, transportation projects tend to be technically complex and framed by engineering design considerations. This has long meant a need for some sort of effort to translate between expert and citizen understandings. The research findings suggest that many transportation planners do try to highlight what they think is politically and socially significant for citizens, out of a tacit awareness of this divide and the need to do something about it. However, the profession's lack of emphasis, training or guidance for this function means that these efforts are often improvised and incomplete.

Along with the involvement of an interdisciplinary engineering design process with its inherent complexity, other distinctive features of corridor planning that affect interpretive practice include the long duration of many corridor studies, with private phases of technical work punctuated by periodic “unveilings;” the repeated study of project proposals for a given corridor over many years, or even decades, which casts a long shadow over subsequent studies; the regional scale of many of these projects, and the spatial quality of many design decisions, prompting a heavy reliance on map-based communications.

Both the interviews and analysis of sample materials indicated that practitioners do take steps to bridge the expert/citizen divide. These efforts are relatively circumscribed and uneven in effect. While both the artifacts and practitioners’ views suggest an openness to citizen inquiry concerning findings, on the whole these communications materials exclude the general public from the active problem-setting phase of corridor projects and from the process of generating initial options. Materials are seldom designed to encourage dialogue on project rationales and other values issues. In sum, most practitioners are still developing materials in a way that asks people to react to proposals, rather than to question the assumptions underlying the proposals or to think through the available choices.

The findings from the materials analysis and practitioner interviews were quite comparable overall. Two exceptions were noted, and explanations emerged for both of them. First, the practitioners showed a greater concern with coaching citizens than would have been predicted based on the materials analysis. This discrepancy can be explained by the respondents’ strong preference for face-to-face coaching at meetings, which substitutes for incorporating coaching in information designs. Second, the respondents placed a much greater normative emphasis on showing what is consequential than would be predicted from the materials analysis. Here, the discrepancy is likely due to constraints on practice. The respondents showed an intuitive understanding of the need to show the public what is most significant about a project or problem as a basis for citizens to form appropriate judgments. Many

appeared to have a nuanced understanding of this principle consistent with the general formulation used in this study (showing environmental impacts, providing a good feel for a project, providing historical context and reflecting previously expressed community concerns). However, many respondents do not get a chance to act on their awareness of the consequentiality principle due to organizational constraints.

The respondents' strong alignment with the criterion of consequentiality is consistent with their interpretive emphasis on project characteristics as opposed to the reasons for a project. They tended to emphasize information designs involving project features and impacts and downplayed those involving problem-setting and dialogue about options. Their discussions of challenges, strategies, and personal norms of practice revolved around the depiction of the "what" rather than "why" of a project. For example, when asked what people need to know to be informed about a project, very few mentioned needing to know the reasons for the project. The sample materials also tended to focus heavily on project features, with minimal discussion of the needs for or expected benefits of projects, and consequently only minimal use of numerical data. An exception was seen in the Frequently Asked Questions sections of project websites, which put more emphasis on project rationales and values considerations.

Explanation of Findings

The study identified several factors that suggest explanations for the pattern of findings. These include organizational constraints, the persistence of the project delivery model of project planning, a narrow conception of the general public's interests and standing, and the temporal characteristics of project development. Another factor that may contribute to the focus on project features is a pervasive "solution-oriented" mentality among both professionals and citizens. A human tendency to focus attention on solutions, prior to or instead of careful deliberation about the nature of a problem, has been noted in transportation and other policy contexts (Wachs and Schofer 1969; Richmond 1995; Lindblom 1990; Kingdon 1995).

The organizational setting for information design on corridor projects creates numerous obstacles for efforts to bridge the expert/citizen divide. These include constraints on information disclosure, the subordinate position of facilitators on project teams, and procedural limitations that restrict practitioners' ability to show what is most significant to citizens. Facilitators often have relatively limited discretion in their interpretive work, given their subordinate roles. With corridor studies dominated by transportation engineers, engineering diagrams and maps are often used by default to tell the story. Moreover, many engineers are uncomfortable with the use of conceptual imagery that might better convey a sense of a project, or help to clarify the distinctions among alternatives. Their characteristic preference for comprehensive, precise diagrams, along with their dominant position on project teams, appears to have inhibited more widespread adoption of visualization practices better suited to public discussion, such as the use of customized renderings or sketches of proposed concepts and alternatives.

Agency constraints on disclosure, particularly the disclosure of uncertainties and doubts, further inhibit public discussion of project options. A perspective in which decision-making is "inside," under wraps, and citizens are "out there" persists in most agencies. Decision-makers' fears of admitting uncertainty pose a serious problem for planners seeking to encourage shared inquiry about larger precepts and choices (as opposed to design details). However, these fears often originate in valid concerns about the consequences of prematurely identifying potential property takings and other impacts. Agency reluctance also stems from a lack of knowledge of available methods for portraying open-ended concepts effectively. Improved guidance could help to address these limitations.

The study revealed a widespread conceptual distinction between stakeholders--viewed as elite citizens who can properly engage with professionals in problem-setting and options generation—and the general public, who are not expected or encouraged to do so. This view entails a qualitatively restricted view of what unaffiliated citizens can contribute to

transportation decision-making. The unaffiliated public is assumed to have only narrow, neighborhood-based interests. This conceptual division stems partly from the respondents' experience with the parochial concerns typical of many meeting participants, and as such represents an understandable response to real-world conditions. However, the rigidity of this division results in lost opportunities to engage wider audiences in dialogue about the purpose and values implications of transportation projects, including the effects different choices may have on local economies, the environment, commuting costs, or urban development patterns. The perspectives of facility users, such as commuters who would benefit from new rail services or improved roads, also tend to be neglected in this dichotomy. By conflating scale and standing, this view leads to the perception that localized issues, such as station area planning, are the only topics appropriate for the general public. In short, the "little people" get to think about "little things" and are expected to leave the big picture issues to more important people. Even if exemplary efforts are made to bridge the expert/citizen divide within each of these separate spheres—through attentive problem-solving on localized issues and collaborative committee work on high level decision-making—the rigid separation of these two spheres acts to maintain the divide.

A related factor is the strong value the respondents place on face-to-face interaction as a mode of working with citizens. This is seen in their conception of open house meetings, which was at odds with the study's assumption that these meetings would serve to orient newcomers, help them learn from the information presented and give them a foundation to participate in shaping a project. Instead, they were viewed primarily as opportunities for one-on-one interaction, often focused on the specific concerns of affected parties. The interactive approach to these meetings allows interpretive work to be calibrated to specific issues of consequence to those who attend. However, it does little to meet the broader public's need for interpretive information designs that can stand alone without intensive staff involvement. Thus there is a disconnect between the respondents' understandable preference for face-to-face interpretive work and the discursive requirements of a regional scale dialogue. Project

websites, which might support such an expanded dialogue, appear to have been largely neglected as communicative tools for transportation decision-making, in part due to agency strictures that limit their flexibility.

Another over-arching finding is the significance of the temporal dimension for efforts to bridge the expert/citizen divide in corridor planning. These include the long histories behind many projects, the communicative differences between planning and environmental study phases and the evolving character of any given study process. The materials analysis suggested the concept of an interpretive “arc” in which different forms of expert/citizen bridging make sense at each point. For those projects involving engineering design, the back-and-forth character of private design work and public discussion of its results is a determinative factor shaping the possibilities for interpretive communications. The dynamic, unpredictable character of the design process can make it difficult to characterize what has been settled and what is still open to discussion in a way that enables citizens to grapple with consequential choices.

The study also showed that it is difficult for unaffiliated citizens to arrive at the true “beginning” of a corridor planning process. This is due not only to the number of successive studies that often occur and the fingerprints of previous studies, but also to the long duration typical of the environmental phase that generally provides the chief opportunity to attend public meetings. By this point, even at the first meeting of an environmental study, much discussion has already occurred and the basic elements of a project concept are usually in place. In a typical project development process consisting of eight stages, as outlined in Chapter 3, there may be only one public meeting towards the beginning of the planning phase where needs and problems are discussed in any detail; or there may be no such meeting, with a public meeting held at the end of the planning phase for informational purposes. From the perspective of a multi-year, multi-phase project development process, most of the citizens seeking to participate in a corridor study have, in any practical sense, already “missed the first meeting.” This puts the burden on information designers to orient newcomers consistently at each point.

The study showed enough variation in current practices to suggest a real potential for improving the practice of interpretive information design. Transportation agencies and individual agency project managers differ widely in their willingness to share information and establish a collaborative tone in their communications. Some are experimenting with more collaborative decision-making processes. Some project engineers already work collegially with facilitators in developing materials for the public. The Frequently Asked Questions sections of project websites provided evidence that many information design practitioners are capable of envisioning and empathizing with the perspective of a thinking citizen; they appear to be aware of the broad range of concerns participants may bring to the process, including how a problem is understood, some of the values issues that may be involved, the historical context, and a range of consequences beyond narrow personal impacts. This suggests a tacit awareness of strategies for bridging the expert/citizen divide that could be brought to bear in practitioners' work more generally, supported by improved education and advocacy.

Corridor Project Facilitation as a Professional Niche

The study showed that there are many different avenues by which professionals arrive at a career specializing in the facilitation of public participation for transportation projects. Some, but by no means all, are trained as planners. Even within this small sample of practitioners, at least five distinct forms of training or preparation were identified: 1) planning and engineering, 2) communications, journalism and related fields, 3) mediation, conflict resolution or organizational consulting, 4) writing or graphic design, and 5) civic leadership, including volunteer or paid advocacy.

With no formal academic degree programs corresponding to this professional specialty, it appears to have emerged as an ad hoc professional niche. This is possibly due to agencies seeing a need for intermediary communication between transportation engineers—often considered weak communicators--and the public. In contrast, experts in other design

professions such as urban planning, architecture and landscape architecture often do their own public facilitation.

The ad hoc character of this professional niche has several implications for interpretive work and its future possibilities. The first is the lack of standards of practice. With ideas of practice cobbled together and often learned on the job, the work has an improvised character and is largely uninformed by theories of participation or communication. Codified norms, guidance and professional workshops are available on conducting public involvement for transportation projects, but they focus on outreach techniques and meeting facilitation methods rather than information design.

Improving practice will need to involve more than changes in planners' professional education; professional guidance and continuing education will also be important, as well as efforts to incorporate training into the civil engineering curriculum. The ad hoc nature of this specialty also contributes to the ambiguous roles and limited recognition facilitators often have on interdisciplinary project teams. Improved training and standards of practice would help facilitators gain recognition within project teams. This would enable them to work more collegially with engineers and create project stories that better support citizen understanding.

8.3 Implications for Practice

This section considers changes in practice that would address some of the deficiencies observed in this study and help practitioners to better bridge the expert/citizen divide. Also discussed are potential changes in organizational arrangements and decision-making structures that would support these efforts. Many of the recommendations in this section would not require wholesale changes; in many cases, the suggested practices could be grafted onto what is already being done.

Filling Gaps in Bridging Practices

The study suggests that many of the criteria identified for expert/citizen bridging are interdependent and synergistic. For instance, good coaching about how a process is structured and the avenues for involvement is more valuable if materials also show what is consequential about the decision. To meet the dialogical needs of thinking citizens, all of the forms of bridging are relevant and they are likely most effective in combination. Practitioners need detailed guidance to help them understand these principles and methods for carrying them out.

A first step would be to fill the most critical gaps the study identified in expert/citizen bridging practices. Meeting materials should be routinely designed to include citizens in problem-setting, show what is consequential about a project or the issues leading to it, and promote dialogue about options. The use of discussion questions throughout a process, rather than just at the outset, would be a helpful practice in this regard. Due to the multiple iterations of many projects, another good practice would be to include some information on the history and purpose of a project at each meeting, regardless of the main focus of discussion. Similarly, a routine practice of presenting earlier comments and questions from citizens on an ongoing basis, both at meetings and on project websites, should be encouraged.

Many practitioners are already attuned to the principle of showing what is consequential, but their efforts are limited by organizational constraints. Overcoming these barriers will require helping agencies and project engineers become more comfortable with the use of visualization methods that highlight significant aspects of a concept or distinctions among alternatives. Some agencies are already doing this much more effectively than others, and their approaches could be shared in best practice guidance.

Since citizen opposition has been known to stop projects all the way up to and during construction, the question of “why” should remain on the table throughout the entire project

planning and design process. A purpose and need statement can be finalized for the NEPA process, but the issue should never be completely closed to discussion. It is best to build considerations of why into the conversation deliberately. Even from the instrumental standpoint of gaining agreement, if a project is controversial, there are advantages to having people understand and deliberate it on the merits rather than limiting dialogue to impact avoidance. Questions of "why" tend to creep back in even when they have been avoided, especially if there is any significant opposition to a project—so it is better to build them in up front. Even if the intent is to inform citizens rather than engage them in decision-making, information about why a project is being pursued will make for a more complete presentation.

Attending to Dialogic Needs of Unaffiliated Citizens

In addition to filling in gaps in bridging practices, efforts are needed to enlarge practitioners' conceptions of what unaffiliated citizens can contribute to a discussion. Building materials as if the general public can only "think small" may predispose them to do so. Information designs could also be used to help expand the perspectives of those who do arrive with parochial concerns. Emerging methods for helping people view an issue from a local and regional perspective, such as 3D visualization tools, could be tested and taught to facilitators.

There is a need for interpretive information designs for corridor planning that do not rely on face-to-face interaction. This is vital to accommodate casual participants who want to learn about a project quickly and contribute their ideas without joining a committee. This latter group can potentially consist of thousands of people living along a corridor, whose concerns and insights can provide perspectives missing from a smaller stakeholder group. The promise that project websites initially appeared to offer for this purpose is simply not being realized. Much more could be done with conventional websites, as well as crowdsourcing and other forms of social media, to overcome the limitations of meetings and reach non-meeting attenders. For this to occur, it will be necessary to move beyond the vestiges of the unveiling mentality in presenting project information.

A related issue is the need for a consistent approach to orienting newcomers. Planners should expect newcomers to arrive at any point in the process and to bring new issues for consideration. An easy change in practice would be to retain orienting information at subsequent meetings for the benefit of newcomers. Likewise, newcomers easily could be given opportunities to comment on materials developed at previous stages, such as project goals, or to introduce new concerns (with appropriate caveats about practical limitations on the ability to incorporate these concerns in the work going forward). Similar steps could be taken to improve the orienting qualities of project websites for first-time users.

Improved Timing of Public Participation

More attention is needed to the timing of public participation for corridor projects. The use of a sequential, milestone-driven engineering process is a realistic expectation for many projects, but it need not imply a “project delivery” model. Practitioners should use the familiar milestone structure to frame a more interactive engagement process. At a minimum, this would mean building in authentic checkpoints at each step that are correctly timed to allow citizens’ concerns to influence the decisions made downstream. Ideally, efforts would be made to reenvision each milestone as a specific opportunity for a collaborative decision as well as for sequential confirmation of previous decisions. For example, the development of a purpose and need statement for the NEPA process could become more interactive, building on the SAFETEA-LU requirement to involve the public in the purpose and need. Similarly, if planners intend to use an evaluation matrix to compare alternatives, they should create it interactively with the public, or at least solicit comments and additions to a draft version. Practitioners should avoid using schedules or process maps that show “construction” as the last step, since this diminishes the possibility of choosing the no-build alternative. Another subtle change that could also help overcome the deficiencies of the project delivery model would be to begin calling all of these efforts studies rather than projects until an alternative is chosen for final design.

Open House and Website Practices

In addition to the range of improvements described to this point, there are some specific practices that would make open house meetings and project websites more conducive to expert/citizen bridging. For open house meetings, these include four tactics identified for making these meetings more of a bridging conversation: 1) asking for ideas and comments at each display station, including by incorporating focused discussion questions in the materials; 2) always including orienting information on project purpose, context, and "how we got here;" 3) clearly identifying the remaining decisions, and 4) providing a brief presentation and question and answer period along with displays. The use of open houses simply to confirm what smaller stakeholder groups already decided is not ideal, since it fails to capture local knowledge or concerns residing with the general public. But this validation role is workable as long as citizens can still contribute new ideas that could help to shape outcomes. It is important to avoid giving citizens the impression that their views are less important than those of advisory committee members or influential stakeholders.

As noted, the potential of conventional websites for participation in corridor projects has barely been tapped, in part due to agency strictures that limit the flexibility of project websites for two-way communication. Guidance may be needed on how to streamline agency procedures so that timely responses can be provided to email comments, even if this means using form letters and addressing the substance of comments in batches. More thoughtful structuring of website information and navigation is needed, and more interactive features such as simple polls or comment boxes should be included throughout these websites to engage users.[14] This would be an easy way to solicit comments on multiple facets of a study and accommodate newcomers throughout a process. It would also be relatively easy to provide periodic summaries of community comments and concerns, as a few of the sample project websites did. Routinely providing a navigational choice from the home page to sections on

[14] Beyond these minimal steps, there are many more interactive techniques to consider, such as participatory mapping, priority-setting games, interactive scenario planning tools, virtual meetings and other crowdsourcing methods.

study background, study purpose, and a “Contact Us” area would improve these websites. Viewable web pages should include summaries of key information such as environmental impact study findings so the user does not have to download large reports to get basic information. Websites could also be used to fill communication gaps when no meetings are occurring, as during long periods of private design or analysis such as the “black hole of an EIS.”

Organizational Arrangements for Information Design

A major barrier to effective interpretive work on corridor projects is the subordinate position of the facilitation specialist on most project teams. This authority structure isolates facilitators, whose ability to perform bridging work is then contingent on the attitudes of the technical staff. This practice leads to a view that public participation is separate from technical evaluation, directly reinforcing the expert/citizen divide (Greyling 2000). According the facilitator an equal place on these teams and providing for more systematic communications between facilitators and engineers would enhance their ability to jointly interpret technical choices for citizens.

Decision-Making Structures

While largely beyond the scope of this study, the findings suggest several structural changes in transportation decision-making that would better support interpretive work. One would be to reduce reliance on the NEPA process as the sole required form of public participation. The rigid procedural requirements of the NEPA process inhibit the ability to tell the story in a way that is meaningful to citizens. Many practitioners are well-versed in the intricacies of the NEPA process and are able to coach citizens on these fairly effectively, but that may not translate into coaching them on the social consequences of pursuing a particular transportation project, or the complex engineering design choices at stake. There is a need for better ways of involving citizens in those aspects of transportation decisions that fall outside the scope of the NEPA process.

Another structural issue that is relevant for interpretive work is the artificial division between land use and transportation planning in the United States. The fragmented responsibility for these forms of planning and the potential to better integrate them have been much discussed in recent years, along with integrating concepts such as sustainable mobility (Banister 2008). The issue is significant for interpretive work, since splitting off transportation decisions and attempting to address them without considering land use goals is a non-intuitive approach for citizens. It is not surprising that this divided practice has failed to yield much discussion of societal values during corridor studies. Many jurisdictions have been experimenting with better ways of integrating these practices, which often include community visioning activities. These provide a more natural forum for the discussion of big picture issues, as well as more holistic options that include land use as part of the solution to mobility problems. There are still many institutional impediments to integrating transportation and land use planning, but the trend is promising.

8.4 Implications for Professional Guidance and Education

Transportation planners and facilitators will need new skills and understandings to fill in the gaps in current interpretive practices. Since practitioners come from diverse backgrounds, this will require a combination of professional guidance for current practitioners and improvements in professional education.

Professional Guidance

The study findings suggest several areas in which better professional guidance would help support improved practices in interpretive information design. Much of this guidance material could be based on examples of best practice, which could be gathered in a series of applied research projects. Priority topics for research and improved professional guidance include best practices for communicating uncertainty, conveying alternatives, using early stage visualizations, using maps on project websites, and communicating about noise impacts. A model project website (or compilation of exemplary websites) could also be prepared to help

encourage better website designs. Applied research could be done to identify the best available methods for helping citizens think about regional scale issues along with neighborhood concerns. Professional guidance should also be developed on how information designs can best be tailored to meet the interpretive needs encountered in each stage of corridor planning and design.

The study showed that many project engineers as well as agency project managers are uncomfortable communicating about uncertainty, which includes presenting emerging concepts and alternatives. Some follow the rule “If you don’t know it, don’t show it.” Improving the guidance available to agencies on useful, deliberate ways of conveying initial concepts might help to counter these fears and allow agencies to try new approaches. Applied research that identifies effective practices for communicating uncertainty and generating dialogue about options could be used as the basis for this improved guidance. This could include examples of the use of a question and answer format in various types of information designs.

Practitioners also need effective methods for early stage visualizations that can overcome the inherent tension between keeping findings open to inquiry and showing what is consequential. Respondents offered several approaches that can give citizens a meaningful sense of a project’s characteristics without making it look so finished that it seems like a “done deal.” These include showing several variants of the same scene (to make the hypothetical nature of the proposal apparent) or using watercolor sketches. A compilation of examples of these and other approaches would provide helpful guidance on this point.

Another topic of concern for improved guidance is how to make maps work effectively as stand-alone communications in corridor planning, including on websites. The study found that at open house meetings, engineering diagrams and other complex mapping were often presented as is, with the expectation that staff would interpret the information and answer

participants' questions face-to-face. Comparable types of maps were seen on the sample websites, without much accompanying information that could help address their communicative limitations. Better ways of presenting spatial information, including concepts and alternatives, will be needed if websites and social media are to become a significant part of public participation for corridor projects. More generally, if maps continue to be used as the central form of information for these projects, practitioners need to exercise more care in creating them, including greater sensitivity to their interpretive qualities. They need better guidance in preparing ordinary static maps and spatial diagrams as well as interactive maps.

Another useful form of guidance would be a model project website, or compilation of websites or individual features that have exemplary interpretive qualities. A resource of this kind, updated frequently, might help to show practitioners and agencies how websites can be used more effectively to support citizen understanding and inquiry.

The interpretive challenge of communicating effectively about noise impacts and noise walls came up repeatedly during the study. Specific guidance could be developed for practitioners on this topic, drawing on prior research by Saurenman et al (2009) that provides a useful synthesis on the issue.

Practitioners could also benefit from specific guidelines for the interpretive work needed at each stage of a corridor study. Current federal guidance to go out to citizens "early" or to conduct "continuous" public involvement is too vague to be useful to practitioners. They need specific guidelines showing how information designs can best be tailored to meet the interpretive needs typically encountered in each stage of project development and throughout each type of study process. Consideration should also be given to developing an ethical code for information design in transportation planning.

Professional Education

Changes are also needed in professional education for planners and engineers, both to raise awareness of the interpretive dimension of their work and to provide them with skills that are currently lacking. Core courses should stress the importance of engaging citizens in problem-setting and fostering dialogue about options. Both the planning and civil engineering curricula should include training in participatory decision-making that encompasses principles and methods for communicating across the expert/citizen divide. This can be accomplished through a combination of new courses focused on participation, new units within existing courses (including studio courses), and new approaches to the teaching of technical skills and presentation skills. For example, the training planners receive in GIS mapping and presentation graphics should incorporate guidelines for information designs that support citizen inquiry. As in the case of professional guidance, the planning curriculum should provide models of effective approaches for conveying uncertainties and alternatives along with the finished proposals these students currently learn to create.

Civil engineering education should also incorporate training in public communication and deliberative process to help counteract the “unveiling” mindset. This might include experiential education, such as role-playing exercises in which students adopt a citizen’s point of view, as well as exposure to engineering professionals who are experienced and comfortable in discussing options with citizens. Given the finding that engineers are often uncomfortable with depictions of preliminary concepts, alternatives, and uncertainties, their training should include opportunities to practice developing these types of materials.

Planning students should be exposed to a range of typical situations they may face in practice in attempting to work across the expert/citizen divide. Case studies and practical exercises could be devised that would allow students to formulate and test alternative responses to common situations, such as institutional resistance to information disclosure. This concept is in line with Forester’s recommendation that planners be taught specific methods for coping

with common challenges to effective communicative practice (Forester 1993). Planners should also learn about the varied commonplace notions of citizens' roles and of what a participation process can and should accomplish. This would enable them to make conscious choices based on principled understanding, rather than relying on tacit assumptions.

Planners also need to be aware of the temporal dimension of project development and the ebbs and flows that occur in a design process. They should be aware of the complex history behind many public decisions, such as those involving transportation projects. Planning education tends to assume an idealized planning process that has a defined start, middle, and end. The lingering history of old projects, as well as the changes that can occur unexpectedly in the midst of a study, are disorienting for planners who have been trained to expect a smooth process. If they are to develop public communications that help citizens understand these changes and the reasoning behind them, practitioners need to be prepared for these events and to have some ready strategies for coping with them. This is one area where it would be helpful for planning students to learn from the practice stories of others, as Forester (2007) advocates.

8.5 Study Limitations and Future Research

This section identifies several limitations of the study and suggests future research to address them. Additional research is also proposed to address several points of interest that emerged in the study.

The study examined interpretive practices exclusively from the practitioner side, looking at artifacts of practice and talking with professionals who prepare them. A complete assessment of current practices would also need to consider the citizen perspective. Research with citizens could include an examination of citizens' perceptions of and reactions to the interpretive content and dialogical tone of public communications materials, using naturalistic experiments, observations and interviews. Paired comparisons could be made to determine

whether or not citizens understood communications materials in the same light intended by information designers. For example, this could include asking citizens to help evaluate whether or not particular information designs seem to invite reflection or questioning on their part. For project websites, usability testing procedures could be adapted to include questions for citizen users that capture their reactions to specific types of content.

Another dimension missing from this study due to the focus on practitioners is the bridging process from citizen to expert. The ability of planners or facilitators to translate and highlight community concerns meaningfully for technical staff is critical to bridging the expert/citizen divide. Investigating this in corridor planning would likely require case studies of active projects, with a combination of citizen and practitioner interviews to determine the extent to which technical professionals were able to grasp the import of citizens' perspectives and act on that knowledge.

This study focused on a specific area of practice: the design of public communications materials for open house meetings and websites. The study approach, including its critical content analysis methodology, could be applied to other forms of information and interaction used in transportation planning, including information design for social media communications. Other planning sectors and the experience in non-U.S. settings could also be researched for comparison.

A methodological limitation of the study was the relatively superficial look at the specific information content of each sample project. This required subjective judgments, for example, about whether or not materials successfully characterized the remaining decisions to be made. In the development of a corridor project, there is always a certain balance between the fixed and fluid aspects of a current design proposal. One of the interpretive challenges for planners is how to characterize each of these aspects meaningfully for the public. There are many opportunities for professionals to obscure the boundary between these fixed and fluid

elements or finesse the distinction when presenting information, as when a trial balloon concept is sent up to test public reactions. Moreover, the most important choices may be different from those formally presented to the public as part of an EIS, as study procedures and informal stories diverge. These factors make it difficult to gauge whether the remaining decisions of greatest social significance have in fact been described for the public. A related limitation was the inability to determine when information designs may have reflected strategic use of participation “tropes” instead of authentic efforts to engage citizens. In-depth case studies including materials analysis, observation and practitioner interviews in the context of a specific project would provide more insight on these types of issues and help validate the study findings.

A possible bias in the study stems from the interview sample, which was composed mainly of public participation specialists. While this was deliberate, as the study progressed it became evident that many such specialists do most of their work in the environmental or design phases of corridor projects rather than the earlier planning phase. This is probably because these later phases tend to be more controversial, and agencies are more willing to devote resources to hiring experienced facilitators when projects are controversial. While the remainder of the sample was chosen to correct for this imbalance, overall the respondents’ pool of experience is skewed toward the later phases in contrast to the materials analysis, which was more evenly balanced. Similarly, the facilitators’ experiences may have been shaped by projects that are more controversial overall than those included in the materials sample. The result is that the norms of practice reported by the respondents are not as well matched with the sample artifacts as they could be. Correcting for this might involve interviewing non-facilitation specialists such as planners and engineers who perform information design work on less controversial projects.

The study considered the respective roles of words, images, and numbers in interpretive information design, but this aspect was not fully developed. The indicator created for this

purpose--the proportion of meeting display content devoted to each information modality--yielded several interesting findings, such as the limited use made of numerical data. Further research could consider how the specific properties of images contribute to or inhibit expert/citizen bridging. This could involve working with citizens to investigate their reactions to different types of corridor planning images. The same type of investigation could be performed for maps. This type of research would provide a more complete foundation for improvements to practice, guidance and planning education.

References

Aakhus, Mark, 2007. “Communication as Design,” *Communication Monographs* 74:1, pp. 112-117

AASHTO, 2003. “Visualization in Transportation: a Guide for Transportation Agencies,” prepared by the AASHTO Task Force on Environmental Design

Al-Kodmany, Kheir, 2002. “GIS and the Artist: Shaping the Image of a Neighborhood in Participatory Environmental Design,” in William Craig, Trevor Harris and Daniel Weiner, eds., *Community Participation and Geographic Information Systems*, London: Taylor and Francis, 320-329

American Institute of Certified Planners, 1992. “Ethical Principles in Planning,” adopted May 1992

Arnstein, Sherry R., 1969. “A Ladder of Citizen Participation,” *Journal of the American Institute of Planners*, Vol. 35, No. 4, 216-224.

Avin, Uri, 2007. “Using Scenarios to Make Urban Plans,” in Lewis D. Hopkins and Marisa A. Zapata, eds., *Engaging the Future: Forecasts, Scenarios, Plans, and Projects.* Cambridge: Lincoln Institute of Land Policy

Bakhtin, M. M., 1986. *Speech Genres and Other Late Essays* C. Emerson and M. Holquist, eds.; V. McGee, trans. Austin: University of Texas Press

Banister, David, 2008. “The Sustainability Mobility Paradigm,” *Transport Policy* 15, 73-80

Baum, Howell, 1996. “Practicing Planning Theory in a Political World,” in Seymour J. Mandelbaum, Luigi Mazza, and Robert W. Burchell, eds., *Explorations in Planning Theory*, New Brunswick: Center for Urban Policy Research, 1996

Baxter, Leslie A., 2010. “A Dialogic Approach to Interpersonal/Family Communication,” in Donal Carbaugh and Patrice M. Buzzanell, eds., *Distinctive Qualities in Communication Research*. New York: Routledge, pp. 13-31.

Beauregard, Robert, 2003. “Democracy, Storytelling, and the Sustainable City,” in Barbara Eckstein and James A. Throgmorton, eds., *Story and Sustainability: Planning, Practice, and Possibility for American Cities*, Cambridge: MIT Press, 65-77

Bertolini, Luca, Frank le Clercq and Thomas Straatemeier, 2008. “Urban Transportation Planning in Transition,” *Transport Policy* 15, 69-72

Brail, Richard, ed., 2008. *Planning Support Systems for Cities and Regions*, Cambridge: Lincoln Institute of Land Policy, pp. 3-30.

Brail, Richard and Richard Klosterman, eds., 2001. *Planning Support Systems: Integrating Geographic Information Systems, Models, and Visualization Tools*, Redlands: ESRI Press

California High-Speed Rail Authority, 2009. “California High-Speed Train Project EIR/EIS: San Jose to Merced Section Final Public Participation Plan,” October 2009

Carver, Steve, 2001. “Public Participation Using Web-based GIS,” *Environment and Planning B: Planning and Design* 28(6): 803-804

Center for Transportation and the Environment, North Carolina State University, 2007. "Results of Joint AASHTO/FHWA Context Sensitive Solutions Strategic Planning Process Summary"

Council on Environmental Quality, 2005. "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act," Reprint, 40 CFR 1501.7

Craig, Robert, 2010, Foreword to Donal Carbaugh and Patrice M. Buzzanell, eds., *Distinctive Qualities in Communication Research*. New York: Routledge

Craig, William, Trevor Harris and Daniel Weiner, eds., 2002. *Community Participation and Geographic Information Systems*, London: Taylor and Francis

Dakota County, Minnesota, 2010. "CSAH 28 Planning Study," www.co.dakota.mn.us/EnvironmentRoads, accessed 5/23/2010

Dervin, Brenda, 2003. "Audience as Listener and Learner, Teacher and Confidante: The Sense-Making Approach," in *Sense-Making Methodology Reader: Selected Writings of Brenda Dervin*, Cresskill: Hampton Press, 215-232

Dryzek, John S., 1990. *Discursive Democracy: Politics, Policy, and Political Science*. Cambridge: Cambridge University Press

Eckstein, Barbara and James Throgmorton, 2003. *Story and Sustainability: Planning, Practice and Possibility for American Cities*, MIT Press

English, Mary R., 2007. "The Resource Team in a Context Sensitive Solutions Process," University of Tennessee Institute for a Secure and Sustainable Environment, Report Number ISSE 2007-01, prepared for Tennessee Department of Transportation Research Office

Federal Highway Administration, 2002. Office of NEPA Facilitation, "Public Involvement," www.fhwa.dot.gov/environment/nepa/pubinv2.htm, accessed 10/16/2002

Federal Railroad Administration, 2011. "High-Speed Intercity Passenger Rail Program," http://www.fra.dot.gov/rpd/passenger/2243.shtml, May 9, 2011, accessed 8/2/2011

Federal Transit Administration, 2009. "Choosing Visualization for Transportation: Matching Your Public Participation Need with the Right Technology," www.ChoosingViz.org, accessed 10/21/2010

Federal Transit Administration, 2009. "New Starts Project Planning and Development," http://www.fta.dot.gov/planning/planning_environment_5222.html, accessed 8/2/2011

Federal Transit Administration, 2006. "Planning and Project Development Process," www.fta.gov/publications/reports/other_reports/publications_135.html, accessed 7/29/2011

Fischer, Frank, 2000. *Citizens, Experts, and the Environment: the Politics of Local Knowledge.* Durham: Duke University Press

Fischer, Frank, 2003. *Reframing Public Policy.* Oxford: Oxford University Press

Fischer, Frank, 2009. *Democracy and Expertise: Reorienting Policy Inquiry*. Oxford: Oxford University Press

Fischer, Frank and John Forester, eds., 1993. *The Argumentative Turn in Policy Analysis and Planning.* Durham: Duke University Press

Flyvbjerg, B., 1998. *Rationality and Power.* Chicago: University of Chicago Press

Forester, John, 1989. *Planning in the Face of Power.* Berkeley: University of California Press

Forester, John, 1993. *Critical Theory, Public Policy, and Planning Practice: Toward a Critical Pragmatism*. Albany: SUNY Press, 1993

Forester, John, 1999. *The Deliberative Practitioner: Encouraging Participatory Planning Processes*, Cambridge: MIT Press

Forester, John, 2007. "A Grounded Method to Explore Dispute Resolution Strategies in Asia: Studying Practice Stories," International Workshop on Comparative Conflict Resolution: Development of Public Policy Consensus Building Theory and Practice in Asia, Seoul, November 2007

Gakenheimer, Ralph, 1976. *Transportation Planning as Response to Controversy: the Boston Case*. Cambridge: MIT Press.

Goldman, T. and Wachs, M., 2003. "A Quiet Revolution in Transportation Finance: the Rise of Local Option Transportation Taxes," *Transportation Quarterly*, 57 (1), 19-32

Greyling, Tisha, 2000. "Integration of Public Issues and Technical Assessment in EIAs: Ne'er the Twain Shall Meet?" in *Proceedings of International Association for Impact Assessment (South Africa) October 2000 International Conference*

Grossardt, Ted and Keiron Bailey, 2004. "Community Visualization of a Light Rail Transit Oriented Development," final report for Transit IDEA Project 33, prepared for Transportation Research Board of the National Academies

Hajer, Maarten A. and Hendrik Wagenaar, eds., 2003. *Deliberative Policy Analysis: Understanding Governance in the Network Society.* Cambridge: Cambridge University Press

Hannay, R. and Wachs, M., 2007. "Factors Influencing Support for Local Transportation Sales Tax Measures," *Transportation* 34:1, 17-35

Harris, Britton, 1996. "Planning Technologies and Planning Theories," in Mandelbaum, Seymour, Luigi Mazza and Robert Burchell, eds., *Explorations in Planning Theory*. New Brunswick: Center for Urban Policy Research

Healey, Patsy, 1992. "A Planner's Day: Knowledge and Action in Communicative Practice," *Journal of the American Planning Association* 9: 9-20

Healey, Patsy, 1996. "The Communicative Turn in Planning Theory," *Environment and Planning B: Planning and Design*, 23: 217-234

Hoch, Charles, 1994. *What Planners Do: Power, Politics and Persuasion.* Chicago: APA Planners Press

Hoover, Julie, 1994. "Post-ISTEA Public Involvement," *Transportation Research Record No. 1463*, Transportation Research Board

Howe, Linda and Richard Brail, 1994. "ISTEA and Interactive Transportation Planning and Decision Support: a New Conceptual Model," *Transportation Research Record* No. 1466, Transportation Research Board

Hughes, Ronald G., 2004. "Visualization in Transportation: Current Practice and Future Directions," presented at Transportation Research Board Annual Meeting, Washington, D.C., January 2004

Innes, Judith, 1989. *Knowledge and Action in Public Policy: The Search for Meaningful Indicators*, 2d ed. New Brunswick, NJ: Transaction Publishers

Innes, Judith, 1995. "Planning Theory's Emerging Paradigm: Communicative Action and Interactive Practice," *Journal of Planning Education and Research* 14, 3: 128-35

Innes, Judith and D. Booher, 1999. "Consensus Building as Role Playing and Bricolage: Toward a Theory of Collaborative Planning," *Journal of the American Planning Association* 65,1: 9-26

International Association for Public Participation (IAP2), "Core Values for the Practice of Public Participation," revised June 2005

Kellogg Foundation, 2010. "Creating Spaces for Change: Working Toward a 'Story of Now' in Civic Engagement"

Kingdon, John, 1995. *Agendas, Alternatives, and Public Policies*. New York: HarperCollins

Kisner, B.L. and K.M. Farrow, 2001. "Pennsylvania's Corridor O: a Model for Interactive Design," *Proceedings of the 2001 International Conference on Ecology and Transportation*, Center for Transportation and the Environment, North Carolina State University, Raleigh, NC, 231-243

Klosterman, Richard, 2008. "A New Tool for a New Planning: the What If™ Planning Support System," in Richard K. Brail, ed., *Planning Support Systems for Cities and Regions*, Cambridge: Lincoln Institute of Land Policy, pp. 85-100.

Krygier, John B., 2002. "A *praxis* of public participation GIS and visualization," in William Craig, Trevor Harris and Daniel Weiner, eds., *Community Participation and Geographic Information Systems*, London: Taylor and Francis, 330-345

Kwartler, Michael and Gianni Longo, 2008. *Visioning and Visualization: People, Pixels, and Plans*. Cambridge: Lincoln Institute of Land Policy

Lane, Leigh, 2006. "Community Impact Assessment Practice: Where We've Been, Where We Are, and Where We're Going," presented at Transportation Research Board Annual Conference, Washington, D.C., January 2006

Lane, Leigh, 2007. "Integrating Context Sensitive Solutions in Day to Day Activities: Information from a Post Training Survey," presented at Transportation Research Board Annual Conference, Washington, D.C., January 2007

Langendorf, Richard, 2001. "Computer-aided Visualization: Possibilities for Urban Design, Planning, and Management," in Richard K. Brail and Richard E. Klosterman, eds., *Planning Support Systems: Integrating Geographic Information Systems, Models, and Visualization Tools*, Redlands: ESRI Press

Laws, David and Martin Rein, 2003. "Reframing Practice," in Maarten A. Hajer and Hendrik Wagenaar, eds., *Deliberative Policy Analysis: Understanding Governance in the Network Society*, Cambridge: Cambridge University Press, 172-206

Lindblom, C., 1990. *Inquiry and Change: The Troubled Attempt to Understand and Shape Society*, New Haven: Yale University Press

Lofland, Jon and Lyn Lofland, 1995. Analyzing Social Settings: a Guide to Qualitative Observation and Analysis. Belmont: Wadsworth

Lowry, Michael, 2010. "Online Public Deliberation for a Regional Transportation Improvement Decision," *Transportation* 37: 39-58

MacDonald, Douglas, 2004. "A Problem Statement about Decision-Making," unpublished remarks by the Secretary of Transportation, Washington State

Meyer, Michael and Eric Miller, 2001. *Urban Transportation Planning: a Decision-Oriented Approach*. New York: McGraw-Hill

Mintzberg, Henry, Durum Raisinghani and Andre Theoret, 1976. "The Structure of 'Unstructured' Decision Processes." *Administrative Science Quarterly*, 21 (2), 246-275.

National Transit Institute, 2007. "Public Involvement in Transportation Decision-Making," Course Notebook

Newman, Peter and Jeffrey Kenworthy, 1999. *Sustainability and Cities: Overcoming Automobile Dependence*. Washington: Island Press

O'Looney, John, 2000. *Beyond Maps: GIS and Decision-Making in Local Government*, Redlands, California: ESRI Press

Patch, Teresa, 2004. "Content Analysis of Selected Health Information Websites," Action for Health, Simon Fraser University and the Vancouver Coastal Health Research Institute, Report No. 2004-01-RP-1.

Pietsch, Susan M., 2000. "Computer Visualization in the Design Control of Urban Environments: a Literature Review," *Environment and Planning B: Planning and Design*, Vol. 27, 521-536

Ramasubramanian, Laxmi and S. McNeil, 2004. "Visualizing Urban Futures: A Review and Critical Assessment of Visualization Applications for Transportation Planning and Research," in *Proceedings of the City Futures Conference.* Chicago, IL, July 9-10, 2004

Ramasubramanian, Laxmi, Jennifer Weeks and Tim Case, 2009. "Evaluating the Effectiveness of Widely Available 3-D Visualization Tools in Support of Public Participation," prepared for Federal Transit Administration by Hunter College and Parsons Brinckerhoff, Report Number FTA-NY-26-1001-2009.1

Ramsey, Kevin S. and Matthew W. Wilson, 2008. "Rethinking the 'Informed' Participant: Precautions and Recommendations for the Design of Online Deliberation," in Todd Davies and Seeta Pena Gangadharan (eds.), *Online Deliberation: Design, Research, and Practice.* Chicago: University of Chicago Press

Richmond, Jonathan, 1995. "Introducing Philosophical Theories to Transportation Planning," in S. Hendler, ed., *A Reader in Planning Ethics: Planning Theory, Practice and Education*. New Brunswick: Rutgers Center for Urban Policy Research

Sadik-Khan, Janette and Doug Eberhard, 2003. "The Changing Face of Public Participation: Innovations in Visual and Web Communications," presented at Regional Plan Association Regional Assembly, New York, April 25, 2003

Saurenman, Hugh, Adam Alexander, and Nicholas Miller, 2009. "Public Outreach on Noise Impacts from Transportation Projects: Communicating and Improving Measures for Transit, Highways, and Airports," TR News, May-June 2009, Number 262, Transportation Research Board, 20-24.

Schon, Donald, 1983. *The Reflective Practitioner: How Professionals Think in Action.* New York: Basic Books

Schon, Donald and Martin Rein, 1994. *Frame Reflection: Toward the Resolution of Intractable Policy Controversies.* New York: Basic Books

Schroeer, William, 2006. Primer on Information Design for Transportation Agencies, prepared for American Association of State Highway and Transportation Officials (AASHTO) under NCHRP Project 08-36, National Cooperative Highway Research Program by ICF International, Fairfax, VA

Schlossberg, Marc and Elliot Schuford, 2005. "Delineating 'Public' and 'Participation' in PPGIS," *URISA Journal*, Volume 16 (2)

Sheppard, Stephen R.J., 1989. *Visual Simulation: A User's Guide for Architects, Engineers, and Planners.* New York: Van Nostrand Reinhold

Sheppard, Stephen R.J., 2001. "Guidance for Crystal Ball Gazers: Developing a Code of Ethics for Landscape Visualization," *Landscape and Urban Planning* 54, 183-199

Shiffer, Michael J., "Spatial Multimedia Representations to Support Community Participation," in William Craig, Trevor Harris and Daniel Weiner, eds., *Community Participation and Geographic Information Systems*, London: Taylor and Francis, 2002, pp 309-319

Skolnick, Marilyn, 1985. "Citizen Advisory Committees: Bonus or Boondoggle?," presented at Transportation Research Board Annual Meeting, January 1985

Stone, Deborah, 1997. *Policy Paradox and the Art of Political Decision Making*, New York: Norton

Strauss, Anselm and Juliet Corbin, 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Thousand Oaks: Sage

Throgmorton, J.A., 1993. "Survey Research as Rhetorical Trope: Electric Power Planning Arguments in Chicago," in Fischer, Frank and John Forester, eds., *The Argumentative Turn in Policy Analysis and Planning*, Durham: Duke University Press, 117-144.

Throgmorton, J.A., 2000. "On the Virtues of Skillful Meandering: Acting as a Skilled Voice-in-the-Flow of Persuasive Argumentation," *Journal of the American Planning Association* 66,4: 367-383

Tufte, Edward, 1990. *Envisioning Information*, Cheshire, Conn.: Graphics Press

Tufte, Edward, 1997. *Visual Explanations: Images and Quantities, Evidence and Narrative*, Cheshire, Conn.: Graphics Press

USDOT, 2002. "Public Involvement Techniques for Transportation Decision-Making," http://www.planning.dot.gov/PublicInvolvement/pi_documents/1-intro.asp, accessed 8/2/2011

USEPA, 2002. "Community Culture and the Environment: a Guide to Understanding a Sense of Place." USEPA 842-B-01-003, Office of Water, Washington, D.C.

Valdez, Myrna, 1995. "Transit at the Table on Major Investment Studies," presented at Transportation Research Board Annual Meeting, January 1995

Van Herzele, Ann, 2004, "Local Knowledge in Action: Valuing Nonprofessional Reasoning in the Planning Process." *Journal of Planning Education and Research* 24: 197-212

Wachs, Martin and J. Schofer, 1969. "Abstract Values and Concrete Highways," *Traffic Quarterly* 91, 135-55

Weiner, Edward, 1987. *Urban Transportation Planning in the United States: An Historical Overview*. New York: Praeger

Weiss, Robert, 1994. *Learning from Strangers: the Art and Method of Qualitative Interview Studies*. New York: Free Press

Willson, Richard, 2001. "Assessing Communicative Rationality as a Transportation Planning Paradigm," *Transportation* 28 (1), 1-31

Winograd, Terry, 1996. *Bringing Design to Software*. Addison-Wesley, 1996, Chapter 9. Accessed 3/5/2011 from: http://hci.stanford.edu/publications/bds/9-schon.html

Wood, Denis, 1992. *The Power of Maps.* New York: Guilford Press

Woolgar, S. 1991. "Configuring the User: the Case of Usability Trials," in J. Law, ed., *A Sociology of Monsters: Essays on Power, Technology and Domination*. London: Routledge, 58-99

Sources for Materials Corpus

Corpus materials were retrieved from the following websites, accessed on May 23, 2010:

Case	Source Website URL
1	www.sw2nerail.com
2	www.us301waldorf.org
3	www.morpc.org
4	US69CorridorStudy.com
5	provotonebo.com/open_houses.html
6	www.arapahoecorridor.com
7	www.co.dakota.mn.us/EnvironmentRoads
8	www.us56corridorplan.org
9	www.achdidaho.org/projects
10	www.highway2highway.com
11	www.route460ppta.org
12	www.tavares.org/alfredstudy3.html
13	www.milwaukeeconnector.com
14	www.metro.net/projects
15	www.i65-us31mobilitymatters.com
16	RTD-FASTRACKS.com
17	www.portmanateeconnector.com
18	metraconnects.metrarail.com/star.php
19	www.ccrpc.org/transportation/university
20	jocogateway.com
21	www.southwesttransitway.org
22	www.ewgateway.org/GreatStreets/greatstreets.htm
23	rtcsouthernnevada.com/mpo/projects/laughlin/index.cfm
24	www.thei81challenge.org
25	www.ncturnpike.org
26	www.metro-region.org
27	www.greenvillecounty.org/gcpc
28	ColumbiaRiverCrossing.org
29	www.dot.state.wi.us/projects/d1/verona/public.htm
30	www.plancheyenne.org/MissileDr.html
31	www.GlassboroCamdenLine.com
32	www.elginohare-westbypass.org

APPENDIX A: INTERVIEW GUIDES

Transportation Planning Communications Study
Practitioner Interview Guide

Practitioners with Sample Project(s)

Introduction

[Introduce study purpose, review consent form, and confirm permission to tape-record.]

Background

Can you tell me how you got started in your field [transportation planning/ engineering/ public involvement]?

About how long have you been in the profession?

What type of professional training have you had?

Did your training include any courses on communications or working with the public?

How would you describe the job you have now?

About how much of your time is spent on public involvement work?

What has it been like for you, working with the public?

Would you say you have a personal philosophy or approach to public involvement? If so, can you describe it for me?

Is there any particular handbook or guide to public involvement that you like to use, recommend to your staff, or have referred to recently?

Project

Now I'd like to ask about your project _____.

Can you tell me a little more about the project?

Stage of project
Length of corridor
Public issues/degree of controversy

Why would you say this transportation study/project is being done at this time?

What do you think a citizen should know about this project in order to be informed?

What other types of public involvement activities are being done for this project? (Is there a Public Involvement Plan?)

Would you say you have found this project more challenging or less challenging than others you've worked on? Why?

Can you tell me about an incident on this or another project that was especially gratifying to you?

Meeting Displays (if applicable)

Can you tell me what an ideal open house meeting would be like, if everything went just as you wanted it to?

What would citizens take away from this ideal meeting – what would they learn?

Turning to the meeting displays for the project, can you tell me about your role in developing these displays?

Which materials were prepared specifically for public meetings?

[Additional questions were added here, tailored to each respondent's sample materials.]

Was there a particular kind of story you were trying to tell here?

Did you feel you had the freedom to design these displays as you saw fit?

Did anyone need to review and approve the displays? If so, do you remember if any changes were made?

Out of all the displays used at this meeting, do you recall which ones citizens tended to spend the most time with? Do you recall any particular reactions they expressed?

Now can you tell me about the citizens who came to this meeting – on the whole, how knowledgeable would you say they were about transportation issues?

What were their main concerns about the project?

What did you hope visitors would get out of attending this meeting?

What about the client or project manager? Were they hoping for the same result?
How well would you say this meeting or round of meetings went?

Is there anything you would do differently on your next project when it comes to planning an open house meeting or preparing displays?

What advice would you give a new planner preparing for an open house meeting – what are the most important "dos" and "don'ts"?

Project Website (if applicable)

Can you tell me what an ideal project website would be like, if you could design it just as you wished?

Turning to the website for this project, can you tell me about your role in developing the website?

Which materials were prepared specifically for the website?

[Additional questions were added here, tailored to each respondent's sample materials.]

Was there a particular kind of story you were trying to tell here?

Did you feel you had the freedom to design the website as you saw fit?

Did anyone need to review and approve the web content? If so, do you remember if any changes were made?

How knowledgeable do you think the website users are about transportation issues?

What are their main concerns about the project?

How did you determine what topics to include in the FAQ section of the website?

What did you hope users would get out of the website?

Is there anything you would do differently on your next project website?

What advice would you give a new planner about to develop content for a project website – what are the most important “dos” and “don’ts”?

Transportation Planning Communications Study
Practitioner Interview Guide

Practitioners without sample project

Introduction

[Introduce study purpose, review consent form, and confirm permission to tape-record.]

Background

Can you tell me how you got started in your field [transportation planning / engineering / public involvement]?

About how long have you been in the profession?

What type of professional training have you had?

Did your training include any courses on communications or working with the public?

How would you describe the job you have now?

About how much of your time is spent on public involvement work?

Do you do projects in all phases of the pipeline? Do you tend to do more projects in the planning phase?

Mostly highway, transit, or a mix?

What has it been like for you, working with the public?

What are some of the biggest challenges you have had in doing public involvement work?

What has been most rewarding about your public involvement work?

Would you say you have a personal philosophy or approach to public involvement? If so, can you describe it for me?

Do you find that your coworkers tend to see public involvement the same way you do?

How about your clients? (if applicable)

Is there any particular handbook or guide to public involvement that you like to use or recommend to others?

What about training programs related to public involvement – is there anything you would send your staff to?

If you were going to hire a public involvement specialist, what qualities would you look for in that person?

Open House Meetings/Websites - General

Moving on to [open house meetings/websites], what kind of experiences have you had with [open house meetings/websites] for transportation projects?

Can you tell me what an ideal open house meeting would be like, if everything went just as you wanted it to?

What would citizens take away from this ideal meeting – what would they learn?

Have you had some meetings that met this ideal?

What about when meetings fall short of this ideal? What accounts for that, do you think?

On average, how knowledgeable do you find the citizens who come to your meetings?

What does a citizen need to know to be informed about a transportation project?

Open House Displays

I understand that you have been involved in putting together display materials for open house meetings, correct? On about how many projects?

How many different people are usually involved in preparing these materials?

What kind of lead time is usually involved in putting together a set of displays for an open house meeting? How much ahead of the first meeting do you need to start making them?

Do you usually have the freedom to design these displays as you see fit?

What kind of review process is usually involved?

Do you prefer to use maps, text, or other types of information in meeting displays?

How do you handle technical information like travel forecasts or environmental impacts?

What advice would you give a new planner preparing for an open house meeting – what are the most important “dos” and “don’ts”?

Project Websites

Have you been involved in putting together project websites? [On about how many projects?]

How many different people are usually involved in preparing these?

What kind of review process is usually involved - do you usually have the freedom to design these displays as you see fit?

Do you use FAQs in your sites? If so, how do you come up with the FAQs?

What advice would you give a new planner about project websites – what are the most important “dos” and “don’ts”?

APPENDIX B: MATERIALS CODING CHECKLISTS

Coding Checklist for Open House Meetings

Case number:
Project type:
Meeting date:

(1)
Looking first at the displays as a visitor might, do they give the impression of welcoming citizens' comments or ideas?

__5 - yes, they strongly seek or welcome my input
__4 – yes, they seek or welcome my input
__3 - neutral, not sure
__2 – no, they don't particularly seek or welcome my input
__1 – no, they seem to have no interest in my input

(2)
Does this meeting seem to be the first one in this project phase, an interim meeting, or the final meeting? __First __Interim __Final

(3)
Code each individual board using the board coding sheet.

(4)
Overall, looking back on all the boards for this meeting, would you say:

Participants were encouraged to help identify issues, define problems, or set goals?
__yes __no

Participants were invited to comment on data, forecasts, or descriptions of existing conditions?
__yes __no

Participants were invited to contribute to or comment on a list of potential environmental issues to be studied? __yes __no

Participants were invited to help generate options or alternatives? __yes __no

Participants were invited to help choose among options or alternatives? __yes __no

Overall, how much space was devoted to substantive or technical information vs. "process" information? ___% substantive ___% process

Overall, the level of unexplained jargon in these boards was __high __medium __low

Circle those words that describe the emotional tone of these meeting displays overall:

optimistic	pessimistic	limiting of options	expanding of options
cautionary	urgent	reassuring	friendly
empathetic	inspirational	respectful	other: _____

Other comments on this meeting:

Coding Sheet – Individual Boards Case No./Meeting Date:
Title of board (brief abbreviation just to identify) _____

Topic (if not obvious from title) _____

This board is made up of:
__Words __Numbers __Images
__If a combination, approx: __% words, __% numbers, __% images

This board seems: __Very technical __Somewhat technical __Not at all technical

This board includes:
__A welcoming message
__A description of the study or project
__The purpose or benefits of the project
__Goals of the study
__Historical background on project issues or previous studies
__References to prior community/citizen concerns, questions or comments received
__Background on sponsoring agency
__Background on advisory committees
__Overview of public outreach process for project
__Information on existing conditions or problems
__Information on forecasts or future conditions
__Conceptual recommendations or strategies
__Information on options, choices, alternatives
__Information on potential environmental impacts
__Information on costs or funding
__A description of decisions still to be made
__Questions to encourage discussion
__Next steps in the study/project
__An outline of steps or timeline of where we are in the study/project
__Information on how to comment on the project or contact the project team
__Other, describe:

Images on this board (if any) include:
__Photos, describe:
__Photosimulations, describe:
__Drawings, describe:
__Charts or graphs
__Diagrams (except CAD maps and plans), describe:
__Other, describe:
__Maps and plans (incl CAD maps and plans):
    Map topic:
    __Study area map or locator map
    __Map of issues, existing conditions, or problem spots
    __Map of alternatives (or one of several alternatives)
    __Map with a single project concept or design, no others shown
    __Map of environmental impacts
    __Map of proposed property takings
    __Map showing construction phasing
    __Map showing detour plans
    __Other topic:
This map is: __Local __Regional __3D __Aerial photo base
Map boundaries are: __Defined __Open/fluid
__Map has words other than place names, describe:
__Map has call-outs, describe:
__Map has an interesting use of color, describe:

Coding Checklist for Websites

Case number:
Project type:

(1) Describe the home page of the website:

List the words that come to mind as you look at the home page:

What impression does it give you about the project, if any?

What key messages does it provide to the user?

What images are included, if any?

What navigation buttons are provided from the home page?

(2) Does this website provide a feedback option? ___yes ____no
If yes, describe (comment form/surveys/other): _____
If yes, are comments: ____ public (posted to site for other visitors to view) __private?

(3) Does this website include a FAQ section? ___yes ___no
If yes, list questions below or include a printout

(4) Circle those words that describe the emotional tone of the FAQs overall:

optimistic	pessimistic	limiting of options	expanding of options
cautionary	urgent	reassuring	friendly
empathetic	inspirational	respectful	other: _____

(5) Images on this website (if any) include:
__Photos, describe:
__Photosimulations, describe:
__Charts or graphs
__Diagrams (except CAD maps and plans), describe:
__Maps and plans (incl CAD maps and plans)
__Other, describe:

(6) This website includes:
__A welcoming message
__A description of the study or project
__The purpose, benefits, or goals of the project
__Historical background on project issues or previous studies
__References to prior community/citizen concerns, questions or comments received
__Background on sponsoring agency
__Background on advisory committees
__Overview of public outreach process for project
__Information on existing conditions or problems
__Information on forecasts or future conditions
__Conceptual recommendations or strategies
__Information on options, choices, alternatives

__Information on potential environmental impacts
__Information on costs or funding
__A description of decisions to be made
__Questions for the reader's consideration (apart from FAQs)
__An outline of steps or timeline of where we are in the study/project
__Links to other or related projects

(7) Describe any unusual features or other features of interest:

(8) Are visitors able to download project reports, data, or other documents? ____yes____no

(9) Overall, would you say this website encourages users to think actively about the project or project issues (as opposed to simply presenting information)?

__yes, very much so
__somewhat
__no, not at all

(10)
Other comments on this website:

APPENDIX C:

CONTENT ANALYSIS RESULTS BY PROJECT PHASE AND TRANSPORTATION MODE

Table C.1: Results for Planning Study Meeting Materials

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	56.7	10.0	20.0	13.3
Tentative manner of presentation	76.7	6.7	0.0	16.7
Invites comment on data	6.7	-	-	93.3
Includes discussion questions	43.3	-	-	56.7
2-Inclusion of citizens in problem-setting	30.0	13.3	20.0	36.7
Needs, problems or issues discussed	76.7	3.3	6.7	13.3
Asks for help defining problems/issues/goals	36.7	0.0	6.7	56.7
Invites comment on enviro issues to study	6.7	-	-	93.3
3-Avoiding closure in problem definition	47.4	-	-	52.6
4-Encouraging value inquiry	3.3	3.3	6.7	86.7
5-Showing what is consequential	36.7	20.0	10.0	33.3
Providing historical background on issues	40.0	3.3	10.0	46.7
Referencing prior community concerns	43.3	-	-	56.7
Providing info on potential enviro impacts	36.7	3.3	10.0	50.0
Providing a good “feel” for project or conditions	36.7	6.7	13.3	43.3
6- Nurturing dialogue about options	10.0	46.7	13.3	30.0
Inviting participants to help generate options	33.3	3.3	3.3	60.0
Describing the decisions still to be made	50.0	6.7	10.0	33.3
7-Coaching citizens in “rules of the game”	26.7	13.3	6.7	53.3

Content Statistics:

% of Items Containing:	Avg	Median	Low	High
Process-related information	17.5	17.5	0	51
Expressions of uncertainty	41.3	36.5	0	100
Spatial information (maps or diagrams)	52.4	49	15	100
Modality - % of Overall Content:				
Words	41.5	41.5	5	75
Numbers/quantitative displays	5.3	4.5	0	19
Images	52.1	51.5	14	90

Table C.2: Results for Environmental Study Meeting Materials

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	70.4	0.0	11.1	18.5
Tentative manner of presentation	70.4	11.1	0.0	18.5
Invites comment on data	18.5	-	-	81.5
Includes discussion questions	37.0	-	-	63.0
2-Inclusion of citizens in problem-setting	29.6	11.1	0.0	59.3
Needs, problems or issues discussed	77.8	3.7	3.7	14.8
Asks for help defining problems/issues/goals	25.9	3.7	3.7	66.7
Invites comment on enviro issues to study	33.3	-	-	66.7
3-Avoiding closure in problem definition	31.6	-	-	68.4
4-Encouraging value inquiry	14.8	7.4	7.4	70.4
5-Showing what is consequential	29.6	37.0	7.4	25.9
Providing historical background on issues	48.1	3.7	3.7	44.4
Referencing prior community concerns	29.6	-	-	70.4
Providing info on potential enviro impacts	66.7	7.4	7.4	18.5
Providing a good “feel” for project or conditions	18.5	18.5	7.4	55.6
6- Nurturing dialogue about options	22.2	33.3	14.8	29.6
Inviting participants to help generate options	25.9	7.4	7.4	59.3
Describing the decisions still to be made	81.5	0.0	3.7	14.8
7-Coaching citizens in “rules of the game”	44.4	0.0	11.4	44.4

Content Statistics:

% of Items Containing:	Avg	Median	Low	High
Process-related information	25.5	21.5	0	100
Expressions of uncertainty	44.1	44	13	100
Spatial information (maps or diagrams)	42.4	43	0	91
Modality - % of Overall Content:				
Words	48.5	47.5	10	87
Numbers/quantitative displays	4.4	3	0	17
Images	43.4	47	13	90

Table C.3: Results for Highway Meeting Materials

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	65.9	4.5	18.2	11.4
Tentative manner of presentation	77.3	9.1	0.0	13.6
Invites comment on data	9.1	-	-	90.0
Includes discussion questions	43.2	-	-	56.8
2-Inclusion of citizens in problem-setting	34.1	9.1	13.6	43.2
Needs, problems or issues discussed	77.3	2.3	6.8	13.6
Asks for help defining problems/issues/goals	36.4	2.3	4.5	56.8
Invites comment on enviro issues to study	18.2	-	-	81.8
3-Avoiding closure in problem definition	48.3	-	-	51.7
4-Encouraging value inquiry	4.5	6.8	6.8	81.8
5-Showing what is consequential	29.5	29.5	11.4	29.5
Providing historical background on issues	43.2	2.3	4.5	50.0
Referencing prior community concerns	34.1	-	-	65.9
Providing info on potential enviro impacts	54.5	4.5	9.1	31.8
Providing a good “feel” for project or conditions	22.7	13.6	11.4	52.3
6- Nurturing dialogue about options	9.1	45.5	15.9	29.5
Inviting participants to help generate options	27.3	4.5	4.5	63.6
Describing the decisions still to be made	59.1	4.5	6.8	29.5
7-Coaching citizens in “rules of the game”	34.1	2.3	11.4	52.3

Content Statistics:

% of Items Containing:	Avg	Median	Low	High
Process-related information	19.6	18	0	100
Expressions of uncertainty	42.7	44	0	100
Spatial information (maps or diagrams)	49.3	56	0	100
Modality - % of Overall Content:				
Words	42.3	42	5	87
Numbers/quantitative displays	5.0	4	0	19
Images	49.8	52	13	90

Table C.4: Results for Transit Meeting Materials

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	53.8	7.7	7.7	30.8
Tentative manner of presentation	61.5	7.7	0.0	30.8
Invites comment on data	23.1	-	-	76.9
Includes discussion questions	30.8	-	-	69.2
2-Inclusion of citizens in problem-setting	15.4	23.1	0.0	61.5
Needs, problems or issues discussed	76.9	7.7	0.0	15.4
Asks for help defining problems/issues/goals	15.4	0.0	7.7	76.9
Invites comment on enviro issues to study	23.1	-	-	76.9
3-Avoiding closure in problem definition	11.1	-	-	88.9
4-Encouraging value inquiry	23.1	0.0	7.7	69.2
5-Showing what is consequential	46.2	23.1	0.0	30.8
Providing historical background on issues	46.2	7.7	15.4	30.8
Referencing prior community concerns	46.2	-	-	53.8
Providing info on potential enviro impacts	38.5	7.7	7.7	46.2
Providing a good “feel” for project or conditions	46.2	7.7	7.7	38.5
6- Nurturing dialogue about options	38.5	23.1	7.7	30.8
Inviting participants to help generate options	38.5	7.7	7.7	46.2
Describing the decisions still to be made	84.6	0.0	7.7	7.7
7-Coaching citizens in “rules of the game”	38.5	23.1	0.0	38.5

Content Statistics:

% of Items Containing:	Avg	Median	Low	High
Process-related information	26.9	28	7	52
Expressions of uncertainty	42.2	44	12	100
Spatial information (maps or diagrams)	42.2	38	11	83
Modality - % of Overall Content:				
Words	53.5	53	25	75
Numbers/quantitative displays	4.6	4	0	18
Images	41.9	38	18	75

Table C.5: Results for Frequently Asked Questions

Test/Indicator:	**Frequency (%):**			
	Yes	Some	Slight	No
1-Keeping findings open to inquiry	83.3	0.0	0.0	16.7
Tentative manner of presentation	83.3	0.0	0.0	16.7
Invites comment on data	33.4	-	-	66.7
Includes discussion questions	N/A	-	-	N/A
2-Inclusion of citizens in problem-setting	41.7	0.0	0.0	58.3
Needs, problems or issues discussed	91.7	0.0	0.0	8.3
Asks for help defining problems/issues/goals	41.7	0.0	0.0	58.3
Invites comment on enviro issues to study	0.0	-	-	100.0
3-Avoiding closure in problem definition	N/A			
4-Encouraging value inquiry	25.0	0.0	0.0	75.0
5-Showing what is consequential	33.3	16.7	0.0	50.0
Providing historical background on issues	50.0	8.3	0.0	41.7
Referencing prior community concerns	8.3	-	-	91.7
Providing info on potential enviro impacts	41.7	8.3	16.7	33.3
Providing a good “feel” for project or conditions	33.3	8.3	0.0	58.3
6- Nurturing dialogue about options	41.7	0.0	8.3	50.0
Inviting participants to help generate options	33.3	0.0	8.3	58.3
Describing the decisions still to be made	66.7	0.0	16.7	16.7
7-Coaching citizens in “rules of the game”	50.0	0.0	16.7	33.3