

Assessing Leadership Influences Within Public Involvement Programs for Transportation Projects: A Mixed-methods Study

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*Assessing Leadership Influences Within Public Involvement Programs
for Transportation Projects: A Mixed-Methods Study*

Timothy D. Tait

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Assessing Leadership Influences Within Public Involvement Programs
For Transportation Projects: A Mixed-Methods Study

Submitted By

Timothy D. Tait

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GRAND CANYON UNIVERSITY

Assessing Leadership Influences Within Public Involvement Programs For Transportation

Projects: A Mixed-Methods Study

By

Timothy D. Tait

Has been approved

August 5, 2012

APPROVED:

Lisa Reason, Ph.D., Dissertation Chair

June Maul, Ed.D., Committee Member

Deborah Rickey, Ph.D., Committee Member

ACCEPTED AND SIGNED:



Henry F. Radda, Ph.D.
Dean, College of Doctoral Studies

Date

8/5/12

Abstract

Since implementation, the role of public involvement in projects governed by the National Environmental Policy Act (NEPA) has increased. However, the challenging dynamic between technical and contentious project proposals, and the need to engage stakeholders in a process of deliberative democracy has not been thoroughly explored from a leadership-theory framework. This research explored both the process and relationship elements of public meetings, and the role of leadership behaviors of project staff. This mixed-methods study collected data from public meeting attendees and project staff. The aim was to explore the correlation between the degree to which the public believed a meeting was successful, and the leadership behaviors that may contribute to legitimate and productive community meetings. The hypotheses examined correlations between observed and ideal leadership behaviors at public meetings among project staff and constituents. The findings of this study are significant on several fronts, including: (a) streamlining the NEPA process; (b) promoting earlier public engagement; (c) creating a stronger sense of participatory democracy with NEPA; and (d) producing better, more collaborative, and more accepted decisions. Data was collected using the adopted *Leadership Knowledge Survey* administered to project staff ($N=117$) and public meeting participants ($N=569$), and meeting observations. Ultimately, the top five behaviors for supporting productive public meetings were teamwork, ethics and character, attitude, conflict management, and vision. Future research can focus on connecting specific leadership behaviors to meetings/presenters.

Keywords: NEPA, public involvement, leadership, transportation, public meeting

Dedication

Growing up, a college education was always assumed, perhaps because no one else in my family had the means or opportunity. Once there, however, the path was one of my own making. There were struggles, successes, and hard lessons. I never imagined pursuing graduate studies, and certainly not a doctorate.

This work is dedicated to...

My wife, Dr. Dana L. Tait. Her inspiration, insight, and encouragement were paramount in helping me succeed in my graduate studies and in convincing me that a doctorate was attainable. I could not and would not have accomplished this without her.

My parents, Keith and Martha Tait. They made college available and on my own terms. Even when I struggled through some classes, they were there to backup my decisions and ensure that I could go in the direction I set upon.

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All of my former educators from Deer Valley High School, Arizona State University, and Grand Canyon University who helped me discover my writer's voice, tried to teach me Spanish and algebra, and supported my thirst for knowledge of the world.

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Chapter 1: Introduction to the Study

Introduction

Considered the foundational environmental protection law in the United States, the National Environmental Policy Act (NEPA) was approved by Congress in 1969 and enacted by President Richard M. Nixon in January 1970. It created more rigorous federal requirements to “encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment; ... and to enrich the understanding of the ecological systems and natural resources important to the Nation” (NEPA, 1969, para. 1). Nixon strategically timed signing of the new law, a compromise among Congressional Democrats, stating, “It is particularly fitting that my first official act in this new decade is to approve the National Environmental Policy Act” while initiating the “environmental decade” (as cited in Smith, 2010). Passage of the law was spurred by a series of environmentally questionable projects, including those involving highways, which suggested the need for greater balance between infrastructure development and stewardship as part of the larger environmental protection movement (Carrasco, Blank & Sills, 2006; Wagenet & Pfeffer, 2007).

Since implementation, the Council on Environmental Quality and federal courts have increased the role of public involvement in proposed projects governed by NEPA, including highways to be constructed using federal funds (Rahman, 1999; Stitch & Eagle, 2005). The need for public involvement programs for governmental and nongovernmental projects is a requirement that will continue to increase as the public demands more information, involvement, and engagement (Luther, 2005, Stitch & Eagle,

2005). However, the challenging dynamic between highly technical and oftentimes contentious project proposals and the need to engage stakeholders and members of the public in a process of deliberative democracy has not been well explored from a leadership-theory framework.

The mechanism of consultation required by NEPA is one of both process and relationship (Wagenet & Pfeffer, 2007). *Process* refers to the breadth and depth of engagement opportunities for stakeholders interested in a governmental project. *Relationship* focuses on the stakeholder-government dynamic that influences the quality of engagement (Habermas, 2005; Hibbing & Theiss-Morse, 2002, Wagenet & Pfeffer, 2007). Exploring both the process and relationship elements within the context of observed leadership behaviors was the focus of this research, with an emphasis on understanding how leadership behaviors can support more productive and sincere collaboration between citizens and their government, bounded by the theories of deliberative and participatory democracy (Habermas, 2003; Mutz, 2006; Roussopoulos & Benello, 2005).

While current research examines tactical methods for engaging the public in discussions about proposed projects, there is little research exploring the strategic foundations for these required activities in order to reveal deeper understanding and support process improvements (Huxham & Vangen, 2000). Leadership theories continue to emerge on the building of learning organizations, to promote transformation, and to support collaboration (Senge, 1990; Tichy, 2002; Yukl, 2006). As a result, an opportunity exists to explore the possible linkages between leadership behaviors and the process of deliberative/participatory democracy that may support improved public

involvement programs. These improved programs can better address the concerns and needs of community members and stakeholders, as well as provide government agencies with the feedback necessary to plan and implement projects in accordance with NEPA while meeting expectations of environmental stewardship (Andrews & Field, 1998; Bartram, 2007; Bjugstad, Thach, Thompson & Morris, 2006; Caldwell & Hayes, 2006; Senge, 1990).

Despite the requirement for public involvement activities under NEPA, government officials and project sponsors recognize increased interest from community members and stakeholders in becoming engaged through processes that are aligned with deliberative and participatory democracy principles. These constituents increasingly expect public involvement programs that are legitimate and incorporate authentic opportunities to influence the decision process (Adams, 2004; Roussopoulos & Benello, 2005). As such, this study explored the role of leadership behaviors from the perspectives of both project staff and public meeting participants, and identified core leadership behaviors that support more productive public involvement activities. Furthermore, this study assessed the correlation between leadership-behavior exhibition by government officials and perceptions of public involvement program legitimacy by participants. The results of this study may help to support better public meeting design, more productive collaboration on critical projects to meet the objectives of NEPA, enhanced professional development for technical project staff, and recognition of the role interpersonal behaviors can play within a group dynamic at a governmental level (Irvin & Stansbury, 2004; Noller, 2009). The objective of this study was to examine the current exhibition of leadership behaviors and characteristics at public meetings conducted by a

state Department of Transportation, assess correlations between exhibited and public-identified ideal behaviors, and examine the linkage between positive exhibition of leadership behaviors by project staff and higher levels of community member satisfaction on the outcome of the meeting or public involvement process.

Background of the Study

When the National Environmental Policy Act was adopted, its scope was not as broad as interpreted today. In 1969, government agencies were mandated to consider and document environmental consequences. Today, the philosophy is to use the NEPA process as an instrument for shaping and influencing proposed projects (Brady, 1990). Following implementation, Congressional leaders who pushed for adoption expressed disappointment that the new law was used to delay and derail projects viewed as important, such as the supersonic transport aircraft and nuclear power facilities; that criticism remains today, although with little substantive evidence (Luther, 2005). The Federal Highway Administration requires that environmental evaluations, conducted at one of three levels of rigor based on the scope of the project, account for potential impacts, alternatives, and measures to mitigate harm to the natural and built environments (Dayton, 2002). A collision occurs between project sponsors and the public when these environmental reports are released for review and comment. The required period for comment and formal public hearings promotes a process of communicative action whereby agencies advocate for a project as opposed to maintaining a neutral stance of evaluation that provides a sense that community opinion can be applied to the proposal (Dayton, 2002; Habermas, 2003). This functional design establishes a confrontational relationship.

Implementation of NEPA follows a two-track process: *procedural* as defined by the U.S. Supreme Court and *substantive* as defined by the President's Council of Environmental Quality. This split between legal and philosophical policy requirements creates a divide between government agencies and community members, and weakens perceived trust applied to public involvement efforts connected to the NEPA process (Brady, 1990; Carrasco et al., 2006). Likewise, implementation and integration of public involvement activities, both formal and informal, follow either a philosophical course addressing broad policy implications of a proposed project, or a highly specialized discussion of specific impacts (Stitch & Eagle, 2005). To bridge the substantive/philosophical and procedural/specialization separations, public involvement programs can seek strategies and tactics for community engagement that link perceptions of legitimacy with the theoretical frameworks of deliberative democracy and communicative action (Dayton, 2002; Habermas, 2003, 2005). As a forced action rather than regulatory law, NEPA clearly does not require that the least harmful option be selected as the preferred alternative, nor does it outright prohibit adverse environmental effects (Luther, 2005). What is required, however, is that decision-makers act based on a comprehensive review of the proposal to assure an informed decision (CEQ, 2007; Noller, 2009). For the public, this can be a difficult distinction, especially when a project proposal presents potentially significant impacts to the natural and human environments (Alexander, 2008; Brady, 1990).

Legal requirements and philosophical frameworks notwithstanding, communities routinely criticize public involvement programs by government agencies as insincere, bureaucratic, and ineffective. Yet, as Bickerstaff and Walker (2005) and Mutz (2006)

noted, the public itself has become more divided, increasingly diverse, and less apt to yield to collaboration in certain situations. Bickerstaff and Walker (2005) postulated that the majority of public involvement activities, for most projects, are conducted in a checklist format, with governmental agencies seeking only to document compliance with requirements rather than stretching to address the collaborative spirit of NEPA under the Council of Environmental Quality's definition. In many communities, stakeholders and citizens have taken note. As a result, the public has become disengaged from suggestions of public involvement, believing them to be simple exercises in process rather than genuine efforts to gain actionable recommendations on projects that could have profound local implications to the social or built environments (Bickerstaff & Walker, 2005). The research of Bickerstaff and Walker (2005), based on two diverse case studies, revealed a "deeply problematic relationship between citizen involvement and established structures of democratic decision-making" (p. 2123).

Transcending the theoretical participatory, direct, and deliberative forms of democratic governance, the role of NEPA-aligned public involvement programs emerges to create equitable opportunities for comment, engagement, and influence upon a project while minimizing the ever-present power imbalance between citizens and their government (Gooberman-Hill, Horwood & Calnan, 2008; Huxham & Vangen, 2000).

Problem Statement

It is not known how and to what extent leadership behaviors such as vision, situational leadership, ethics, attitude, or community service influence public meeting attendees' perception of effectiveness and legitimacy for government projects required to comply with the National Environmental Policy Act (Andrews & Field, 1998; Avolio,

Bass & Jung, 1999; Babcock-Robertson & Strickland, 2010; Badaracco, 2001; Bass & Riggio, 2006; Bjugstad et al., 2006; Fullerton, 2010). Research suggests that the exhibition of leadership behaviors may positively affect the perceptions of community members when reflecting on the effectiveness of the public involvement program, thus potentially reducing conflict and creating additional opportunities for collaboration (Ellis, 2008; Delli Carpini, Cook & Jacobs, 2004; Fung & Wright, 1999).

Assessments into this government-citizen relationship have not been fully explored for potential opportunities for consensus and leadership-based training, or the role of differentiated leadership behaviors with audiences within the NEPA public involvement framework (Castillo, 2008). Participants at NEPA-required public meetings for large-scale transportation projects vary in interests and expectations. The National Environmental Policy Act and its public involvement requirements were instituted, in part, to correct aggressive and unconcerned highway construction during the first decade after passage of the Eisenhower Interstate Highway Act (Brady, 1990; GAO, 1974; Luther, 2005; Noller, 2009). Public parks, recreational areas, and traditional cultural sites were harmed in the name of highway construction; NEPA provisions now protect those sites unless “reasonable and feasible” alternatives are not otherwise available (NEPA, 1994). Beyond the legal protections, however, the engagement of stakeholders – a category of interested parties beyond nearby residents or prevailing landowners – emerged through NEPA as no longer optional but a required and critical aspect of highway planning, design, and construction.

NEPA, as assessed within this research, focuses specifically on the environmental and preliminary engineering reports conducted at the initiation of a formal transportation

corridor study; it is this phase that requires the most intensive public input, and yields the greatest expression of support or contention from stakeholders (GAO, 1974; Lowry, 2010; Noller, 2009; Rahman, 1999). Within the framework of the community, highway construction proposals can incite strong emotions from the public. The corresponding response from project staff, however, may detract from the principles of quality public involvement that affect the proposal and ultimate decision, violating the promise and mandate to engage in collaborative planning for projects which fall within the purview of NEPA (Adams, 2004; Bartram, 2007; Bickerstaff & Walker, 2005; Rahman, 1999).

This study examined two groups: residents and project staff. Residents, including stakeholders and non-stakeholders, chose to become involved in transportation projects and the associated public involvement processes as a result of personal or community interests, environmental concerns, or other motivations (Carrasco et al., 2006; Luther, 2005). Conversely, project staff become engaged in projects because it is required and expected, even if they are resistant to work cooperatively with a lay public that has little knowledge of engineering, transportation planning, or environmental science (Adams, 2004; Lowry, 2010).

This struggle between the bureaucratic and societal spheres is an important dimension of deliberative democracy, the essence of the public participation process, and has the potential to yield democratic reforms through public empowerment (Habermas, 2003). Bridging these spheres is the “theory of authority” (Habermas, 2003, p. 189) that establishes situation-based norms and rules to guide the democratic relationship. Yet, public meetings intended to foster deliberative democracy often do not. The public may be given an opportunity to speak, but often with little sincere engagement in the

democratic process and questionable real or perceived influence on the proposed project (Adams, 2004; Carrasco et al., 2006; Fung & Wright, 1999; GAO, 1974).

Purpose of the Study

The primary purpose for this study was to measure how and to what degree leadership behaviors observed by public meeting attendees influence perceptions of public involvement programs conducted by project staff for government projects that are required to comply with the National Environmental Policy Act. The objective of this study was to examine current leadership behaviors and characteristics at a sample of public meetings conducted by a state Department of Transportation, assess any correlations between exhibited and public-identified ideal behaviors, and examine the linkage between the exhibition of leadership behaviors by project staff and higher levels of community member satisfaction and perceptions of legitimacy towards the meeting or public involvement process.

The leadership and community contributions of ordinary citizens are often overlooked in the decision processes broadly affecting communities (Andrews & Field, 1998; Bens, 1994; Bickerstaff & Walker, 2005; De Morris & Leistner, 2009; Delli Carpini et al., 2004; Jackson, 2001; Stewart et al., 2007). Ordinary citizens, according to Kelly (1999), are residents and community members who are outside the corridors of power and who have more diverse interests than the stereotypical institutional leader. This community leadership perspective defines the need to analyze public involvement programs as more than check-box processes but as frameworks for sincere engagement that tap into the collective knowledge and leadership of community members while enhancing or building acceptance for projects under evaluation through the NEPA

process (Evenhouse, 2009; Kelly, 1999; Rahman, 1999). The process of participatory democracy, such as public involvement programs for transportation projects, may be enhanced through an examination of the influence of specific leadership behaviors. Recognition of the leadership characteristics that members of the public identify as improving the sincerity and accessibility of public involvement programs would allow agencies to implement research-based staff training and create situation-aligned community meetings.

Previous research addresses tactical aspects of public meetings, such as facilitation methods to create more productive gatherings, but fails to examine the perceived interpersonal dynamic between the government project team and individual meeting participants (Roden, 1984). Because of conflicting guidance between court rulings and Council of Environmental Quality guidelines, however, public agencies required to implement NEPA present inconsistent philosophies on the role of public involvement, how project staff behaviors can influence that dynamic, and the ways in which public comment can be incorporated into a proposed project (Adams, 2004; Bens, 1994; CEQ, 1997; Irvin & Stansbury, 2004; Roden, 1984). Public meetings are not the most effective form of public involvement for all project proposals, but meetings are a required step in most transportation-related NEPA studies and, as such, were identified for study despite the limitations (CEQ, 1997; IAP2, 2007, 2009; Roden, 1984).

While the public meeting and participatory democracy constructs are well suited for research exploration, this study addressed the relationship between specific, research-defined leadership behaviors, and the effect of those behaviors on citizens' levels of project satisfaction and perceptions of public engagement sincerity. Thus, correlations

were explored between generalized and specific leadership behaviors, and if public meeting participants indicated that these behaviors make a difference in the quality and perceived legitimacy of legally mandated public involvement programs. While little research has been conducted on this theme, several factors converge as supporting a need for greater examination of this government-public relationship on a level deeper than representative democracy. Increased expectations by the public, pressure from special-interest organizations, a more fragmented society, and the questionable effectiveness and sincerity of current efforts to involve the public in the development of large-scale projects are documented as factors in this relationship (GAO, 1974; Habermas, 2005; Hibbing & Theiss-Morse, 2002; Irvin & Stansbury, 2004; Mutz, 2006).

Rationale for Methodology

The need for public involvement programs for governmental and nongovernmental projects is a requirement that will only continue to increase as the public demands more information, involvement, and engagement (Luther, 2005; Stitch & Eagle, 2005). Political and community dynamics have evolved such that modern society is advancing towards a more participatory form of governance. It is no longer sufficient to simply elect or appoint leaders to make decisions on behalf of the group (Habermas, 2005; Huxham & Vangen, 2000; Roussopoulos & Benello, 2005). As a result, a deeper and more sophisticated understanding of the public-government dynamic is needed to improve these public involvement processes with the objective of gaining critical insights to create project plans that are more context sensitive, acceptable, and environmentally sustainable (Rahman, 1999; Roden, 1984).

This mixed-methods study addressed one aspect of this public-government dynamic. By examining leadership behaviors of project staff members as observed by community members, and seeking correlations between project staff self-reflections and levels of public involvement program satisfaction, it was anticipated that the findings could support more authentic public engagement activities and greater comfort among staff in dealing with a sometimes contentious public (IAP2, 2009; Noller, 2009).

Ultimately, these relationship-based insights can improve the overall structural construct between project sponsors and the public and, upholding a primary NEPA objective, result in better projects from both the perspectives of the community and project team (Hibbing & Theiss-Morse, 2002; NEPA, 1994; Noller, 2009).

To reach these conclusions, a mixed-methods approach was pursued to assess several critical areas. A mixed-methods approach was identified to better define the project-community relationship, and to capture a broader range of perspectives and assumptions during data collection. This study followed two tracks: quantitative measurements for leadership behaviors, and qualitative assessments through structured interviews to understand public perceptions of ideal leadership behaviors and meeting satisfaction. First, project staff members who interact with the public during NEPA-required public meetings quantitatively self-assessed their level of personal awareness on 18 characteristics measured in the *Leadership Knowledge Survey*; this is an instrument that has been validated and approaches leadership from a behavioral rather than theoretical perspective (Fullerton, 2010). Members of the public also completed this instrument, assessing the observed behaviors of project staff from the public meeting most recently attended. In addition to the leadership behavior assessment, surveys of

public meeting attendees garnered insight into the top five ranked leadership behaviors and a general sense of the degree he or she felt satisfaction from the meeting and public participation process. The final question directed to project staff asked them to assess their perceptions of how important or unimportant the public might view the application of leadership behaviors across all phases of a public involvement program.

Observational data collected during meetings was used to support analysis of the more structured qualitative and quantitative data. The perceptions and viewpoints of community members organized and motivated this change process, but the government institutions and officials within them are the focus for change resulting from this research.

Advancing Scientific Knowledge

This research was an initiative to explore ways to shape and improve future public involvement efforts, but not to dwell on past performance or perceptions (Senge & Scharmer, 2001). This is especially important since previous research indicated that both the public and representatives of the government consider public meetings to be the best opportunity to engage in collaborative project programs. Interestingly, however, project staff also indicated that they often have negative experiences at these meetings (ADOT, 2007; CEQ, 1997). This research bridged that gap. In part, this is a significant fissure because of the continued requirement for agencies to conduct public meetings to fulfill the requirements of NEPA, despite sometimes lagging levels of community engagement and new options afforded through technological advances (Townsend, 2002; Wagenet & Pfeffer, 2007). Furthermore, this research provided a stronger strategic footing for tactical implementation guidelines for public involvement programs, such as those

developed by the International Association of Public Participation (IAP2) (2007) while supporting new forms of training for agency staff who interact with members of the public.

Research Questions and Hypotheses

This concurrent, mixed-methods study examined the extent to which observations of project staff leadership behaviors by attendees at public meetings conducted in compliance with NEPA affect public involvement program effectiveness and legitimacy. For this study, *legitimacy* is defined as public involvement programs that are perceived by participants as being fair, conducted with sincerity on the part of project staff, and influential on the ultimate decision process (Adams, 2004; Bayley & French, 2008; Bens, 1994; Delli Carpini et al., 2004; IAP2, 2009; Mohl, 2004; Stitch & Eagle, 2005). In this study, correlational analysis was used to measure the relationship between observed and ideal leadership behaviors as perceived by public meeting attendees, the relationship between perceived behaviors of attendees and self-reported knowledge of leadership behaviors by project staff members, and the relationship between observed leadership behaviors and perceptions of process legitimacy (Creswell, 2009). At the same time, implementation of deliberative/participatory democracy was explored using a case study approach (Yin, 2009) in observing leadership behaviors of project staff during public meetings conducted in compliance with NEPA. The reason for combining both qualitative and quantitative data was to better understand the research problem by converging quantitative correlations with qualitative observations to develop recommendations for the training of project staff and aid in the design of public involvement programs (Creswell, 2009; Yin, 2009). Using an adapted version of

Fullerton's (2010) *Leadership Knowledge Survey* as the primary instrumentation for assessing participant observations and knowledge of leadership behaviors and perceptions of public involvement program satisfaction, this quantitative and qualitative data was collected.

Quantitative.

The following hypotheses guided this study:

H_1 : Public meeting attendees will perceive a significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members identified on the *Leadership Knowledge Survey*.

H_0 : Public meeting attendees will perceive no significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members as identified on the *Leadership Knowledge Survey*.

H_2 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

H_3 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

H_4 : A significant relationship exists between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

Qualitative.

The following research questions guided this study:

R_1 : What leadership behaviors are most commonly exhibited by project staff during public meetings?

R_2 : What does the public believe are the staff leadership behaviors that are important to support productive and collaborative public meetings?

Significance of the Study

This study was designed to establish insight for further examination into the public-government dynamic. At a macro level, the findings from this study provided important data to support new or revised presentation training and leadership development programs for transportation project engineers, designers, or environmental scientists. By understanding how the public views the role of leadership behaviors in the public engagement process, and the observed and desired leadership behaviors for community meetings, more authentic public participation processes can be designed and

executed (Wagenet & Pfeffer, 2007). Through the findings of this study and implementation of the recommendations, community members may perceive more effective and successful public meetings. At a macro level, the findings can be integrated into the development of public involvement plans to better address the concerns of stakeholders and affected communities while reducing conflict (Stitch & Eagle, 2005). Ultimately, the objective of NEPA is the creation of more collaborative and acceptable project proposals to meet identified community needs while taking into account potential impacts to the environment (CEQ, 1997; Evenhouse, 2009).

Previous research has demonstrated a shift in public expectations within the democratic system (Adams, 2004; Ammons, 1997; Bens, 1994; Brady, 1990; Burton, 2009; Delli Carpini et al., 2004). These changes in societal expectations have moved at a more rapid rate than the evolution of public involvement programs for highway projects, resulting in public meetings that are contentious, lacking in collaboration, and poorly serving the NEPA-required objectives of connecting a project to the community (Carrasco et al., 2006). By supporting the need for project teams to change, and providing one direction in which to make that change, the core competency of collaboration can be met; this is a competency that can be measured and sustained based on a recognition of community expectations, needs, and perceptions (Ellis, 2008; Fung & Wright, 1999).

As Ellis (2008) documented in a developmental review of the controversial Arizona State Route 179 improvement project through picturesque Sedona, there is a critical need for project teams – perhaps especially for highly invasive projects like transportation corridors – to work in collaboration with the community on the planning

and design of projects. A failure to do so increasingly results in wasted effort by the project sponsors, fractured relationships among stakeholders, legal action, political pressures, and long-lasting harm to agency reputations. These failures imperil projects in short- and long-term durations, despite a demonstrated need, and run contrary to the legal and philosophical objectives of NEPA (CEQ, 1997; Delli Carpini et al., 2004; Ellis, 2008; Irvin & Stansbury, 2004; Mutz, 2006; Noller, 2009). As relationships between transportation departments and the communities in which they serve continue to degrade, confidence in the transportation department can erode making any proposal fraught with public challenges and confrontation.

While focusing on the public meeting interactions between community members and project staff, the findings and conclusions of this study can support the development of more collaborative and community-based public involvement programs that seek and sincerely apply input. At the core, this was a study that addressed the person-to-person interactions at individual public meetings; however, the findings have broader implications for transportation departments and public involvement professionals in other sectors.

Definition of Terms

This study incorporated three theoretical realms: federally required public involvement programs, leadership within a government-citizen construct, and participatory/deliberative democracy. As a result, careful definition of terms was required to recognize the distinctions presented by these spheres of research. The following terms are used operationally in this study:

As-built environment: As written and subsequently applied by federal agencies, NEPA is designed to address both the natural environment, which includes obvious aspects like biological resources and waterways, as well as the human environment. This “as-built” or “human” environment is of equal concern in conducting evaluations of environmental impacts for projects and includes such considerations as public facilities and parks, cultural sites, and to address the conservation, social, economic, health, and other requirements and goals of the nation (NEPA, 1994).

Citizen leadership: Expanding beyond Habermas’ ideas of ethical self-reflection and aligned with situational and transformational leadership theories, the concept of citizen leadership recognizes the emerging role in non-official, non-designated, non-sustained individual and collective leadership from among members of a community (Adams, 2004; Habermas, 2000; Wagenet & Pfeffer, 2007). As part of a public involvement process, government agencies are seeking ways to foster citizen leadership by building more collaborative relationships with key stakeholders and encourage varied levels of community recommending or decision making when appropriate (Biebricher, 2007; IAP2, 2007; Vroom & Jago, 2007). According to Kane and Patapan (2008), the role of citizen leadership supports present-day needs for participatory democracy and acknowledgement of community power. Without a public involvement process that acknowledges and fosters the development of citizen leadership, recognizing that it must develop organically, the emergence of a participatory democratic process will be lessened (Daft, 2005; Drucker, 1999; O’Toole, Galbraith & Lawler, 2002). At the core, citizen leadership is a willingness of community members, beyond those with a direct interest, to

participate with the government in a planning process and for the government to utilize that influential leadership as an element of the deliberative processes (Patten, 2001).

Communicative action: Debates incorporated into the deliberative democratic process that are part of the public sphere constitute communicative action for as long as the debates are conducted with no imbalances of power and with a sincerity in the application of the mutual outcomes (Habermas, 2003, 2005). Communicative action, however, can be used as a tool to restrict public engagement, perhaps unintentionally, when information or conclusions are presented in such a way as to convey to the public that there is no sense in engaging in a debate since the decision has been reached (CEQ, 1997; Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000). This negative correlation is frequently noted by members of the public as they reflect on engagement with NEPA processes (CEQ, 1997; Dayton, 2002; GAO, 1974).

Council on Environmental Quality: Established by the National Environmental Policy Act of 1969, the Council of Environmental Quality (CEQ) is a division of the Executive Office of the President and is responsible for overseeing implementation of NEPA across federal agencies. In rare instances where two federal agencies are in conflict over implementation or interpretation of NEPA, the CEQ will make a final determination (CEQ, 2007). However, CEQ is not designated as a regulatory agency, and conflicts between the public and project sponsors are generally resolved in federal courts, where a more narrow interpretation of NEPA is applied rather than broader guidance preferred by the CEQ (CEQ, 1997; Rahman, 1999).

Cumulative impact: The impact on the environment resulting from incremental effects of the proposed action, in combination with past, concurrent, or reasonably

foreseeable future projects must be considered as part of the NEPA process, regardless of which agency or individual is responsible for the secondary projects (CEQ, 1997). This guideline for agencies to approach project proposals from a more sustainable, strategic, long-range perspective emerged through greater attention from community members on parallel project processes and the collective impacts, and through a recognition that, for instance, a single new highway reasonably should be analyzed as part of the regional transportation system, in addition to other area proposals (Noller, 2009; Rahman, 1999; Roden, 1984).

Deliberative democracy: Within a democratic structure, deliberative democracy is a decision-making process that places all stakeholders on a level plane to expose broad social and political opinions. The deliberative process, different from participatory democracy, assumes that all participants in the process are of equitable stature, listen equally, and engage in dialogue that is designed to expand understanding (Habermas, 2003, 2005; Mutz, 2006). Other scholars, however, recognize the operational limitations of such an idealistic definition, leading rise to participatory democracy as a perhaps more actionable framework (Fung & Wright, 1999; Roussopoulos & Benello, 2005).

Environmental report: The National Environmental Policy Act defined three basic forms of environmental reports: categorical exclusions, environmental assessments, and environmental impact statements, the latter of which is the most rigorous (CEQ, 1997; NEPA, 1994). A categorical exclusion is defined as a project that will not have significant effect on the natural or human environments, either individually or cumulatively. An environmental assessment, often a starting point for the project-assessment process, is designed to evaluate the level of potential environmental impacts.

If the analysis remains at the level of an environmental assessment, it is designated as having no significant impact. When a proposed project is determined to pose a significant impact to the environment, an environmental impact statement is required (CEQ, 1997). Each level of analysis and reporting, from a public involvement standpoint, has defined and appropriate escalating levels of community engagement, from informal to highly structured. Each process step is designed to create a deliberative discussion, even if that objective is seldom met, and to discuss and analyze escalating harm to the natural and as-built environments (CEQ, 1997; ADOT, 2007; Carrasco et al., 2006). The term environmental report is used to describe the complete location/design concept report and environmental analysis required for each transportation study under the Federal Highway Administration's implementation of NEPA (ADOT, 2007; GAO, 1994).

Leadership: While literature can define it in terms of heroic or quiet, transformational or transactional, leadership for the purposes of this study attempts to assess the theory from middle ground. Because project staff members are generally not in designated leadership roles, and with the power imbalance between project staff and the public ever present, the role of leadership must reflect a collaborative, problem-solving modality (Badaracco, 2001). As Drucker (1999) has articulated, the differentiation between management and leadership is doing things right versus doing the right things. For structured project processes, the focus on “doing things right” can overtake any sense of what is right or wrong, to the detriment of public involvement programs (Harvey, 2009; Hibbing & Theiss-Morse, 2002). Within the timeframe defined by NEPA – 1969 to present – the characterization and application of leadership has

evolved from one focused on concern for individual and team dynamics, to a classification of characteristics balancing the need for productive task, giving rise to contingency and transformational leadership styles (Alimo-Metcalfe & Alban-Metcalfe, 2005; Babcock-Robertson & Strickland, 2010). This continued evolution of leadership extends today into navigating the magnitude, nature, and rate of organizational change. Within this study, leadership is defined through the 18 characteristics identified by the *Leadership Knowledge Survey*, which can lead to an assessment of core styles, such as transformational, contingency, transactional, or leader-member exchange. According to Avolio et al. (1999), transactional and transformational leadership styles have emerged as the most studied; these styles are characterized by charisma, inspiration, intellectual stimulation, individual consideration, contingent reward, management-by-exception, and *laissez-faire* leadership. While these seven factors can vary on a continuum between transformational and transactional leadership styles, debate revolves around the empirically distinguishable measurements of the individual factors within an applied leadership style, instead suggesting that leaders often apply characteristics from both transformational and transactional theoretical foundations (Avolio et al., 1999). More specifically, leadership can be defined under the constructs of group dynamics and process, personality, trait, behavior, power relationship, and distribution as a function of a transformational process, or as skills acquired by specific individuals (Bass & Riggio, 2006; Caldwell & Hayes, 2006). Leadership encompasses the process, influence, goal attainment, and group dynamic elements; it is a process in which, formally or informally, an individual influences others to achieve mutual objectives (Avolio et al., 1999; Bass & Riggio, 2006; Caldwell & Hayes, 2006). The classification of leadership as a process is

significant, according to Caldwell and Hayes (2006), in establishing a transactional construct between leaders and followers, providing mutual impact and equitable opportunity (Daft, 2005; Drucker, 1999). Furthermore, for leadership to be present, influence is required within the process. This facet supports theories like leader-member exchange by striving to meet shared objectives, which is a necessary element for successful public involvement programs (Andrews & Field, 1998; Bass & Riggio, 2006; Heifetz & Laurie, 1998; IAP2, 2007).

Leadership behaviors/characteristics/traits: For this study, the term leadership behaviors is used to describe collectively the 18 characteristics that are the focus of the *Leadership Knowledge Survey*. While it is recognized that there are many other behaviors that are aligned with specific leadership styles and theories, this study focused on the 18 defined behaviors to narrow the assessment of the potential influence of these behaviors without diffusing the findings across divergent theoretical foundations (Fullerton, 2010; Howell & Shamir, 2005; Kotter, 2001; Kouzes & Posner, 2002). The 18 elements of measurement, assessed on a four-point scale, are: teamwork, vision, goal-setting, leadership styles, situational leadership, risk-taking, identifying strengths in others, delegation, values, ethics and character, decision-making, conflict management, attitude, initiative, social change, community service, global perspectives, and lifelong learning (Fullerton, 2010).

Legitimacy: For this study, legitimacy is defined as public involvement programs that are perceived by participants as being fair, conducted with sincerity on the part of project staff, and that influence the ultimate decision process (Adams, 2004; Bayley & French, 2008; Bens, 1994; Delli Carpini et al., 2004; IAP2, 2009; Mohl, 2004; Stitch &

Eagle, 2005). The sense of lacking legitimacy is a common criticism of public involvement programs (Adams, 2004; Luther, 2005; McComas, Besley & Trumbo, 2006; Patten, 2001), serving to discourage participation from broad cross-sections of public stakeholders and establishing a combative relationship between the public and project staff. Furthermore, legitimacy is underscored by methods under which power is exercised rather than an attempt to rebalance power distribution (Gastil & Keith, 2005). “By stipulating fair procedures of public reasoning that are, in principle, open to everyone, outcomes of a deliberative procedure will be seen as legitimate because they are the result of a process that is inclusive, voluntarily, reasoned, and equal” (Button & Ryfe, 2005, p. 725). Button and Ryfe (2005) further posited that legitimacy is bounded by collective political authority that must be susceptible to justification to those who will be bound by its processes and outcomes.

National Environmental Policy Act (NEPA): Despite environmental conservation efforts in the United States becoming prominent more than 100 years prior to implementation, the National Environmental Policy Act was the first legislation to comprehensively address these environmental concerns and establish a framework of expectations for evaluating those impacts (CEQ, 1997; Luther, 2005; Smith, 2010). The law was adopted in 1969 and enacted in January 1970 during the Nixon Administration. According to the Council on Environmental Quality, the federal government makes hundreds of daily decisions that are, in some way, regulated by NEPA (Luther, 2005). The law is frequently heralded as “the Magna Carta of environmental laws” in the United States, although some stakeholder organizations express concern that such a label may inhibit needed reforms to remove barriers to the environmental review process (CEQ,

2007; GAO, 1974, 1994; Luther, 2005; Smith, 2010). NEPA applies only to federal actions, meaning those funded by or otherwise regulated by federal agencies; state-only efforts may adhere to NEPA standards under state environmental laws (CEQ, 1997, 2007; Noller, 2009). However, NEPA is specifically defined and implemented differently across federal agencies, including those most closely related to transportation projects: Federal Highway Administration, Federal Aviation Administration, Federal Transit Administration, Federal Rail Administration, United States Army Corps of Engineers, regional federal power authorities such as the Western Area Power Administration, Environmental Protection Agency, Bureau of Indian Affairs, United States Fish and Wildlife Service, National Park Service, Department of Agriculture, Bureau of Land Management, and the United States Department of Energy. Only the Environmental Protection Agency reviews all environmental impact statements produced by any agency and can challenge the analyses and findings if it deems necessary (CEQ, 1997).

Natural environment: Contrasted from the as-built environment, natural environment refers to the more traditional definition of the ecological setting in which societies and proposed projects are located. It is the delineation of the environment that has not been constructed, altered, or affected by human action or presence; some environmental scientists object to the use of this term, arguing that all environment has been affected by human presence (Johnson, Ambrose & Bassett, 1997). Nonetheless, within the NEPA framework the natural environment is used to distinguish analysis and impacts to aspects other than the human construct.

Participatory democracy: Diverging from deliberative democracy, Alexander (2008) identified three types of public democratic participation: structural, process, and

action. Structural is viewed as direct citizen involvement in the government decision process, through participatory democracy, referendum or similar direct-empowerment assignment to citizens by the government, such as through local planning committees (Alexander, 2008; IAP2, 2007; Mutz, 2006; Roussopoulos & Benello, 2005). Action processes include information exchanges, goal-setting exercises, and alternative planning. Participatory process, according to Alexander (2008), encompasses the philosophy of consultation. However, the range of consultation, literature acknowledges, can involve a single public meeting or a lengthy, highly strategic government-community partnership. Within the participatory framework, when government provides meaningful opportunities for public engagement, citizens will engage the process; however, such an approach leaves little opportunity to define the audience or orchestrate a balancing of viewpoints (Alexander, 2008; Hibbing & Theiss-Morse, 2002; Mutz, 2006). Stakeholders, those with strong or extreme views, or those seeking gain may be more likely to become involved within an unconstrained participatory process (Bell, 2001). Nonetheless, participatory democracy establishes a process that may reduce the fitting-in effect or psychological force to side with the majority (Alexander, 2008; Irvin & Stansbury, 2004; Kane & Patapan, 2008; Mutz, 2006).

Project sponsor: As a general term, project sponsor refers to the lead agencies directing a project. For the purposes of this study, the project sponsors are the Federal Highway Administration and the Arizona Department of Transportation, in partnership with the federally designated regional planning organization. Other organizations may also be involved, classified as participating and cooperating, and might include the Bureau of Indian Affairs, the U.S. Army Corps of Engineers, the Bureau of Land

Management, or the Environmental Protection Agency. Sponsoring, cooperating, and participating agencies vary based on each project (ADOT, 2003).

Project team / project representatives: This study assessed the leadership characteristics of members of the project team, a term used broadly to identify employees of the Arizona Department of Transportation, the Federal Highway Administration, cooperating and participating agencies, and the various engineering and environmental science consultants assigned to the project. Project teams include multidisciplinary and broadly interested public organizations that are directly involved with conducting a transportation study or are within the study area, such as a municipal government. The project team is always a larger group, expanding beyond the project sponsors (ADOT, 2003). Data collection, however, was limited to Transportation Department employees and consultants.

Public meeting: For the purposes of this study, publically advertised meetings conducted within and in compliance with NEPA regulations were considered as public meetings qualified for data collection. However, public meetings can take a variety of forms – aligned with deliberative, democratic, and participatory democracy – and might include informal open house meetings, neighborhood presentations, formal meetings for input during a project’s final design, or a long-range visioning session. In the NEPA process, there are generally three types of meetings that are conducted: (a) Public and agency scoping meetings at the initiation of a project to gain baseline input and introduce the purpose and need; (b) Public update and comment meetings during the project study process at points designated by the project sponsor based on community interests and project complexity; and (c) Public hearings as the most formal form of public meetings,

held as the final step of the NEPA process to collect final public comment on the draft environmental and engineering documents (CEQ, 1997, 2007; NEPA, 1994; Noller, 2009).

Public meeting participant: For the purposes of this study, public meeting participants were limited to include only stakeholders, residents, and citizens who physically attended a public meeting conducted by the project sponsor as part of the NEPA process. Government employees, consultants, and those affiliated with the sponsoring, participating or cooperating agencies were not considered members of the general public under the assumption that these individuals will have advanced knowledge of the project, personal connections to project staff, and may have exhibited less of a willingness to be truly forthright with the researcher (Dayton, 2002; Trochim, 2006).

Public participation / public involvement: The discipline of public participation extends beyond formal public meetings to include websites, informal speaking engagements, printed materials, elected official briefings, and other actions aligned with objectives of the project designed to involve community members and stakeholders and obtain input to positively affect the project's design (CEQ, 1997; Lowry, 2008). Public participation is more than a series of actions – it has evolved into a discipline on par with environmental sciences and engineering elements of a project study (Rahman, 1999; Roden, 1984; Stitch & Eagle, 2005). Nonetheless, public participation is only effective when the right members of the public are engaged at the right times, in a manner that presents sincere opportunities for stakeholders and the public to influence a project (Wagenet & Pfeffer, 2007).

Stakeholder: While the meaning of community member, citizen, or resident are more obvious, project stakeholders are generally recognized as those who have a more specific interest in a proposed project or who are directly affected by a proposed project's potential impacts. According to the Council on Environmental Quality (1997), the interest of stakeholders in projects is increasing, especially among special-interest organizations that monitor focused issues, such as wetland protection. Stakeholders and stakeholder groups are more likely to have expert knowledge, funding, organization, and may have development or business-expansion interests (CEQ, 1997; Darnall & Jolley, 2004). Through the engagement of stakeholders, however, agencies can extend communication reach and effectiveness and better meet the intent of NEPA (Darnall & Jolley, 2004; Wagenet & Pfeffer, 2007). However, affected communities – those stakeholders who are directly and significantly impacted by a project – are often under-represented in public involvement processes, especially for rural projects (Bickerstaff & Walker, 2005; Carrasco et al., 2006). Through NEPA, impacts to affected communities and neighborhoods are mitigated to the extent possible, a goal that is balanced against protection of the natural environment in the pursuit of project objectives (Mohl, 2004; Noller, 2009; Roden, 1984). As a result, an important distinction emerged within NEPA to differentiate the general public from stakeholders and members of an affected community in order to evaluate potential project impacts, seek mitigation strategies, and fully inform the decision process (Luther, 2005). “Although stakeholders disagree about the extent to which NEPA currently halts or delays federal actions, few disagree that agencies can improve their methods of NEPA compliance” (Luther, 2005, p. 35).

Assumptions and Limitations

As research taking a new approach to examination of the public-government relationship within the community-meeting context, this project has identified assumptions and limitations that may affect methodology, influence findings, or restrict broad application.

Assumptions.

1. Foremost, it is assumed that there is a baseline level of trust between project sponsors, community members, and stakeholders sufficient to foster the establishment or sustaining of a collaborative relationship (Evenhouse, 2009). Failing this baseline relationship, creating a sense of authentic public participation will be challenging for the project team regardless of the programmatic specifics (Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000; IAP2, 2009).

2. Aside from the noted limitations, it is assumed that the attendees at a public meeting will be relatively representative of the at-large community, both in attitude and demographics. This balanced representation is important for maintaining a participatory form of public involvement, allowing each perspective with an equitable opportunity to influence the process and decision-makers. Thus, there is an assumption that participatory democracy is a preferred approach among most stakeholders, representing the desire for deeper involvement in shaping and deciding upon proposed public projects (Irvin & Stansbury, 2004; Kelly, 1999; Mutz, 2006; Roussopoulos & Benello, 2005). This combination of demographic representation and participatory-collaborative community engagement efforts for projects is a construct that allows for the

establishment of a learning organization that recognizes leadership behaviors (Senge, 1990; Stitch & Eagle, 2005).

3. While perhaps obvious in some contexts and not in others, it is assumed that there is a general dissatisfaction with how public meetings are conducted and the ways in which governmental agencies solicit and apply input from citizens and stakeholders. While localized data supports this sense of dissatisfaction, there are also findings that identify public meetings as the preferred method for learning and commenting on projects, both from the stakeholder and project staff perspectives, despite the inefficiencies (ADOT, 2007, 2009; Bens, 2004; Burton, 2009).

4. The public meeting dynamic and the perceived power divide between citizens and government agencies presents parallels to group-leadership theory, including Leader-Member Exchange and transformational leadership (Bartram, 2007). While seeking a participatory process and sincere opportunities for input, members of the public also expect to observe appropriate leadership behaviors by project staff, especially when addressing technical elements of a proposed project. Although less frequent, a sophisticated and highly experienced project team may similarly seek leadership from the community on factors such as aesthetics, enhancements, or historical feature identification (Bickenstaff & Walker, 2005; Carrasco et al., 2006).

5. This study relied on honest reflections from project staff members and meeting participants on knowledge (staff) or observations (public) of specific leadership behaviors. Accurate and sincere responses were assumed to have been collected from both groups, with minimal bias from staff who wished to appear more attuned to leadership skills or for dissatisfied public participants to vent via the survey instrument.

Pre-testing correlated with meeting observations aid in verifying this assumption. Likewise, with a standardized set of definitions for each of the assessed leadership behaviors, it was assumed that there would be a high degree of uniform understanding, although it was recognized that survey-response error/bias would remain a factor (Fullerton, 2010).

6. It is assumed that Fullerton's (2010) assessment tool for measuring 18 characteristics of leadership among college students as part of a transformational learning study applied equally to adult participants of public meetings. Because this assessment used research-based characteristics and assumed that participants have a low theoretical understanding of leadership theory underpinnings, the instrument appeared well suited for use beyond the higher-education environment.

7. As a survey-based assessment querying the observations of public meeting participants and project staff members from meetings stretching from 2006 into 2011, it was assumed that respondents recalled their observations and experiences with an appropriate degree of accuracy. While public meetings do not occur frequently, the experiences of community members at these forums were assumed to be significant enough to implant a valid historical impression, especially when addressing how participants felt and the degree to which they observed specific leadership behaviors.

Limitations.

1. There is little research to support a connection between the role of leadership behaviors and deliberative/participatory democracy programs. While previous research and literature evaluates the collaborative democratic processes, the role of leadership in a group setting, the operational function of formal public meetings, and necessity of public

involvement for large-scale public works projects, little has been done to bridge those independent spheres to seek contributions to improved meeting outcomes through leadership behaviors (Adams, 2004; Berman, 2008; Carrasco et al., 2006; Castillo, 2008; Ellis, 2008; Harms, 2008). This limitation presented no research basis from which to build upon, but did require the assumptions as previously noted.

2. The audience who attends public meetings presented another limitation. Like other forms of civic engagement, public involvement tends to attract those who have a vested interest, are directly affected, or become engaged through a strongly held philosophical belief such as environmental protection (Carrasco et al., 2006). As such, conclusions can directly relate to only the population attending public meetings, and the views of those volunteer participants may be influenced based on their views of the project under discussion. This research was not designed to extend into increasing participation, only in improving public involvement program effectiveness through an exploration of the potential connection between leadership behaviors and meeting quality.

3. Data-collection challenges and state English-only laws limited the participant pool to English speakers. Translators are made available for meeting attendees who request them, but the barrier remains a factor in creating quality, inclusive public involvement programs. The range of opinions and perception between different ethnic, socioeconomic, and age classifications will merit further study. While demographic data was collected from participants, no local data is yet available that identifies who does not attend public meetings. Within the public involvement field, the question of which community members choose not to engage or who the process disenfranchises is under

evaluation, although no findings have yet been identified. This is an important limitation and a question demanding further evaluation both to assess current processes and recommend changes to create public involvement programs that better meet NEPA objectives for the broad community.

4. This study examined public participation programs required under NEPA and related to state-level transportation projects. The Federal Highway Administration regulates interpretation and implementation of NEPA requirements for these projects. While NEPA is a broad law covering most proposed federally funded highway projects, different sponsoring federal agencies may have divergent implementation requirements that could differ from those articulated as part of this research; there are no implied connotations beyond federal-aid highway projects.

5. Rather than attempting to identify a leadership-theory schema for all public meetings, this research effort was intentionally confined to examine 18 specified leadership behaviors. This narrow focus was designed to maintain simple, easy-to-understand instrumentation for study participants and to address the behavioral characteristics as part of the institutional relationship. Further, the instrument was designed as part of a study assessing leadership transformation among students enrolled in a leadership development program on a college campus; validity may be limited somewhat by this differential. These characteristics were catalogued based on the observations of meeting participants and the self-reflection of project staff members. As a result, bias and limitations are inherent to this form of data collection.

6. This study was also limited to public meetings within Arizona and only those conducted as an element of the required NEPA process, which is engaged only for the

preliminary design and environmental impact assessment phases of proposed projects. Other meetings are conducted following the completion of the NEPA process following a final decision being made on a project proposal (ADOT, 2007; CEQ, 1997). By conducting data collection only in conjunction with public meetings, this study was limited to focus only on what was observed and experienced as part of a public meeting, rather than querying a sample of the potential broader stakeholder population. The focus on NEPA was designed to address the required public involvement stages of a project to create reliability across project types and jurisdictions. While there are many additional meetings held as part of a project, only those within NEPA can aid in the support or rejection of a project proposal.

7. Because direct, face-to-face data collection was not undertaken with attendees immediately following public meetings, there was a limitation in the ability to correlate data on a meeting-by-meeting basis, and there may be a distortion of observational data reported via the administered electronic survey. Additional research could be conducted, which would involve participant exit interviews immediately following public meetings to further focus and delineate any findings.

Nature of the Study

The objective of this study was to examine current leadership behaviors and characteristics observed at a sample of public meetings conducted by a state Department of Transportation, assess correlations between exhibited and public-identified ideal behaviors, and examine the linkage between positive leadership behaviors by project staff and higher levels of public satisfaction on the outcome of the meeting or public involvement process. Through an exploration of participant observed, staff self-reported,

and researcher documented leadership behaviors as identified in the *Leadership Knowledge Survey*, this study built a foundation for examining the potential relationship that leadership behaviors may have on the success or level of satisfaction of a public meeting. This study collected data from diverse sources, providing the best opportunity to analyze findings and identify elements for further study:

Researcher Observations.

The observations by the principal researcher created an understanding of the baseline relationship between the project staff and the affected community. This recognition of the relationship dynamic, recorded via structured matrix and field notes based on formal and informal interactions between the public and staff, assisted with the analysis of data from meeting to meeting. Further, acknowledging that all participants in the study – staff and public – may not be able to identify specific and nuanced leadership behaviors, it was important to create a researcher-completed *Leadership Knowledge Survey* during the formal presentation of the public meeting, providing a basis to evaluate staff and public survey data (Noller, 2009). These observations further assessed the perceived level of collaboration and specific tactics used by the project team in soliciting public input (Yin, 2009).

Participant Survey and Structured Interview.

Paralleling a similar instrument used for project staff members, a combination of a quantitative survey with structured interview questions was administered to volunteer public participants by email using a researcher-created database. Using the modified *Leadership Knowledge Survey*, public meeting participants were asked to rate, on a one to four scale, the degree to which 18 leadership behaviors were observed during the

meeting they most recently attended. After completing the quantitative portion of the survey, participants were asked to rank the top five leadership behaviors they believe are important to public meetings and the NEPA process. Finally, these public participants were asked structured interview questions about the success of the meeting and legitimacy of the public involvement process, and if it met their needs and expectations as a stakeholder or citizen.

Public participants were identified through optional sign-in sheets completed for public meetings conducted by the Transportation Department, as well as interested citizens who provided the Transportation Department with an email address for regular project updates. This approach, including specifically querying meeting attendees from 2006 to 2011, provided for a statewide representation of rural, urban, and suburban participant perspectives, and balanced across various project sensitivities. The total population presented with the option to participate in the survey was 7,729; of these, 569 self-identified as having attended a public meeting since 2006 and completed the survey instrument. Based upon the research of Collins et al. (2006) in detailing the recommended samples for mixed-method approaches employing maximum variation sampling schemes, 100 participants were identified as the baseline sample size. Based on a power analysis, it was determined that a minimum sample for this study would be 82 participants with a .3 effect and .8 power. Increasing the study to 100 participants increased the power to .92 (Faul, et al., 2009).

Project Staff Survey.

Paralleling the survey administered to public participants, 204 employees/consultants who may have been assigned to project teams from 2006 to 2011 and who may have participated in public meetings were asked to complete the *Leadership Knowledge Survey* via an electronic instrument. Of these, 117 self-selected and chose to participate. These individuals were instructed to answer while reflecting on the most recently completed meeting and rate their personal knowledge of 18 characteristics of leadership (Fullerton, 2010). Project staff members also completed questions to assess perceived success and value of the public meeting as part of the project development process. While public participants provided qualitative and quantitative data, project staff provided only quantitative data.

Analysis.

Because this was a mixed source, correlational/observational study, analysis relied on an interpretative approach to analyze the perceived, desired, and self-reflection data collected from both the public and project team participants. Analysis focused on the identification of leadership characteristics, aligning those characteristics with research-based leadership theories, and correlating those findings with the structured interview reflections of the public participants.

Quantitative.

Quantitative data was analyzed for baseline correlations and the strength of those correlations, with the objective of finding areas of strongest and weakest linkage between staff and public perceptions related to observed leadership characteristics in public meetings. From there, the public's identified ideal top five behaviors were analyzed to

correlate with what the public observed, and analyzed against project staff self-reported knowledge of leadership behaviors.

Qualitative.

Qualitative data was collected from two sources: structured interviews of public meeting attendees (primary), and meeting observations recorded via a matrix (secondary). Data received from surveys and observations was organized and coded in two tracks. First, public meeting attendees perceptions of ideal leadership behaviors for project staff was correlated to traits identified in literature for core leadership styles. Second, observations collected by the principal investigator were recorded and coded based on primary leadership styles (e.g. transformational, transactional, leader-member exchange, contingency/situational, servant, etc.) via a matrix. This observational data was then sorted, analyzed for thematic trends, and assessed for correlations with other data sources.

Correlational analysis provided baseline findings, and allowed for illustration of the results to support audience expectations (Thochim, 2006). By looking at the micro- and macro-experiences, data analysis better assessed correlations, trends, and differences while maintaining the independence of variables.

Summary and Organization of the Remainder of the Study

Public meetings are a foundation of democracies. Despite this established pedigree, the value, sincerity, and collaborative role of formal meetings and the public participation processes in which they are a part has not been well studied within the context of participatory democracy and leadership behaviors (Hibbing & Theiss-Morse, 2002; Rahman, 1999; Roussopoulos & Benello, 2005). This study examined this

relationship within projects governed by the National Environmental Policy Act; NEPA requires specific tactical actions of public involvement, but previous literature and research indicate general dissatisfaction with public engagement (Evenhouse, 2009; GAO, 1974; Huxham & Vangen, 2000). Through a mixed-methods approach, data was collected from members of project teams, stakeholders, and citizens who attended public meetings, and from meeting observations. The *Leadership Knowledge Survey* was the primary quantitative instrument (Fullerton, 2010).

The remainder of this study is divided as follows: Chapter Two will present a review of literature covering leadership, deliberative and participatory democracy theories, historical foundation of NEPA, the role of collaboration in governance, and current research focusing on leadership behaviors and follower perceptions. Chapter Three establishes the methodological approach for this study, including a detailed description of the research method and theoretical support, validity and application of the survey instrument, population identification, administration protocols, and data analysis concepts. Chapter Four reports the data collected, a description of the qualitative and quantitative data, and a comprehensive analysis. Finally, Chapter Five presents findings based on the foundation established in Chapter Two and the data analysis from Chapter Four. These findings will include conclusions, implications, and recommendations for further study.

Chapter 2: Literature Review

Introduction and Background

Public involvement is a diverse discipline, stretching from public health programs to land-use planning to environmental protection and public works projects (CEQ, 2007; Chrislip, 1995; DiMento & Oshio, 2010; IAP2, 2007). According to the Council of Environmental Quality (1997) assessment of the effectiveness of the National Environmental Policy Act over its first 25 years, hundreds of federal-level decisions are made daily that incorporate public involvement principles of NEPA spanning various levels depending on the type of project (GAO, 1974, 1994). Involving diverse stakeholder groups and public constituencies in government decision-making is often challenging, especially with large projects that are more apt to ignite the sensitivities of those who may be impacted by the project (Mohl, 2004; Mutz, 2006; Rahman, 1999; Stitch & Eagle, 2005). With an increase in the number of interested parties, there are increased opportunities for disagreement between the public, and amongst the internal and external technical experts over potential environmental issues and mitigations related to a project (Darnall & Jolley, 2004; Mohl, 2004). Despite the end-result diversity, the process for gaining public interest, engagement, and creating an environment for meaningful community input remains a constant challenge shared across the field, in part because of the structural power differential between people and government (Hibbing & Theiss-Morse, 2002; IAP2, 2009; Jackson, 2001; Mohl, 2004).

The function of public involvement activities, as required under NEPA, is one of both process and relationship (Wagenet & Pfeffer, 2007). *Process* refers to the breadth and depth of engagement opportunities for stakeholders interested in a governmental

project. *Relationship* focuses on the stakeholder-government dynamic that influences the quality of engagement (Habermas, 2005; Hibbing & Theiss-Morse, 2002; Wagenet & Pfeffer, 2007). Debate, however, remains on the appropriate degree of public participation that is reasonable in governmental decision-making processes (Mohl, 2004; Townsend, 2002). While the public can be involved and engaged in processes, seldom are groups of citizens granted the authority to formally participate in the actual decision process, fostering a definitional divide between the public and project sponsors (DiMento & Oshio, 2010; Townsend, 2002). The focus of this literature review is to explore both the process and relationship elements of public involvement programs and democratic practices in general within the context of leadership behaviors.

This literature review was conducted by searching and assessing empirical research into NEPA, the requirements of public involvement programs, theories underlying modern public relations practices, leadership, and the role of participatory and deliberative democracy in the NEPA process. Empirical literature from each of these themes was identified and assessed, in addition to the philosophical theories of Habermas and Popper, to create categories for exploration as outlined in this chapter. Literature was searched for themes of power imbalance, government-public relationships, democratic theory, and public interaction with public works projects.

The following search terms were used within the Business Source Complete, Academic Search Complete, ProQuest, and Emerald databases: leadership, public involvement, public participation, National Environmental Policy Act, NEPA, deliberative democracy, participatory democracy, representative democracy, Council on Environmental Quality, followership, social exclusion, public relations, Federal Highway

Administration, local planning, transformational leadership, transactional leadership, Leader-Member Exchange, expectancy theory, citizen engagement, community action research, governmental public information, community engagement, freeway public comment, public meetings, public legitimacy, path-goal leadership, strategic communications, transportation planning, and civic participation.

Theories of Community and the Influence on Public Involvement

Individually, our sense of history is generally defined by personal experiences and those of our close relatives and associates. Institutions, however, tend to view history in a more linear and task-directed manner (Brady, 1990; Popper, 1985). This separation in historical definition and perspective creates an unclear chronological character for a community, a project, an idea, or a political movement. Thus, standards and expectations can be shaped differently based on historicism perspectives, leading to the notion that public involvement activities would benefit from a sociological approach to history, both as a past and future construct (Popper, 1985).

Popper identified the “law of evolution of society” (1985, p. 298) as a factor that illustrates the dramatic differences over time between the quickly moving societal changes and the slower progression of natural changes. Those in a community may recognize, view, or appreciate these factors differently and, as a result, approach a public involvement process for a project from personal theoretical perspectives that may not align with one another or with the sponsoring agency (Brady, 1990; Wagenet & Pfeffer, 2007). This leads to the disaggregation of a community into two groups: “activists” who stress a need to intervene in plans, and a “passivist” group that believes intervention is likely only to make the situation worse or yield no difference (Mohl, 2004). As a result,

most social institutions in communities have emerged and grown naturally as a result of human actions, while a small minority is deliberately designed (Popper, 1985). Beyond these social institutions, projects regulated by NEPA must interact with the public oftentimes without accounting for the community or societal norms that have been established and how those expectations should affect public involvement activities (Head, 2007; Jackson, 2001; Jerit, 2008; Popper, 1985).

Combining these constructs, Popper (1985) identified the phenomena of unplanned planning, whereby cumulative and intended changes can create conflict and divergent public involvement objectives necessitating a holistic approach to the design of project proposals, and the strategic and tactical methods for involving citizens and stakeholders (Barlett & Baber, 1999; McComas, Besley & Trumbo, 2006). The efforts of project planners to consolidate power can be easy to execute, often accomplished through strategic and deliberate design of public engagement programs. The consolidation of knowledge to support societal acceptance, however, is a more difficult exercise that requires a collective approach to collaboration (Meng, Berger & Gower, 2009; Popper, 1985).

With NEPA-level projects, the question of sovereignty becomes an issue with state and federal authorities attempting to impose a project and its impacts upon an otherwise autonomous community (Barlett & Barber, 1999). With the expansion of the bureaucracy, conflicts emerge between local residents, their leaders, and the project sponsors who are often not part of the community in which the project is located (Mohl, 2004). This divide in perspective further requires sensitivity regarding the complexities of rationality, with language distinguishing different kinds and forms of reason, behavior,

and principles that vary between communities, project staff, and the bureaucracy (Barlett & Barber, 1999; Tuler, Webler & Finson, 2005; Wang, Law, Hackett, Wang & Chen, 2005). These context-sensitive approaches are emerging as critical elements for both public involvement activities and highway/infrastructure design projects to best accommodate the needs of the community with the societal need for the project. From a behavioral perspective, the exhibition of leadership behaviors by project staff within civic engagement efforts can quickly mend cynical resistance (Ellis, 2008).

Following the social theories of Marx and Rousseau, the sense of sovereignty – the notion of home rule – can be impacted by exchanges and compromises in the distribution of power and collection of knowledge across a group. As a result, there are no pure forms of sovereignty with diverse and sometimes hidden forms of power and influence at work within a societal construct (Popper, 1985; Stitch & Eagle, 2005). Ultimately, the paradox of democracy and sovereignty is that they can be defined differently within each community and by each individual, complicating efforts to engage these publics in decision-making. This process becomes a philosophical construct that cannot be forgotten when developing public involvement programs (Dayton, 2002; Popper, 1985). Despite being founded in Marxist theory, the notion of politicized power being an accord of one group exhibiting power over another is a common theme in public participation research, wherein community members express a perception as if decisions have already been made, input generally disregarded, and involvement steps completed with low sincerity (Harvey, 2009; Head, 2007; Irvin & Stansbury, 2004; Jackson, 2001; Kelly, 1999; Mohl, 2004; Popper, 1985). Thus, “the people” feel little sense of direct power, but resort to full disengagement or full combat against “the government”; the

direction in which this relationship breaks is often a factor of community makeup, socioeconomic factors, sponsoring agency reputation, and invasiveness of the proposed project (Carrasco et al., 2006; Mohl, 2004).

Indeed, there are important parallels between Marx's theories on the worker-government association and the dynamic present between the public and project sponsors within NEPA processes. As Popper (1985) noted in evaluating Marxian theories within a modern construct, today's systems often prevent workers from directly changing the system, but their efforts can lead a societal awakening that can guide change. Such is the case with projects proposed under NEPA, with decision-makers required to consider public input but not to act on the most popular or least harmful option (Irvin & Stansbury, 2004; Kane & Patapan, 2008; Koontz & Johnson, 2004; NEPA, 1994; Popper, 1985). Likewise, a division often emerges in public involvement programs for significant projects between the general public and stakeholders who have a more direct interest (Dayton, 2002; Delli Carpini, Cook & Jacobs, 2004). This individualism versus collectivism conflict can remain below open awareness in most instances, but forges a contrast in how project sponsors respond to public input and color the evaluation on whose input is more important. The concepts of individualism and collectivism are closely related to perceptions and opinions for proposed projects, providing foundational understanding for the divergent viewpoints expressed by the public, and the frustration created for project sponsors and the public (Noller, 2009; Patten, 2001; Popper, 1985; Stewart et al., 2007; Stitch & Eagle, 2005).

Strategic Communication as Collaboration Foundation

Despite incorporation as an element of NEPA from the beginning, the process of public participation and collaboration did not emerge until the late 1970s and 1980s as people potentially affected by projects demanded greater information and involvement. This citizen uprising for involvement was led by discussions on nuclear power generation facilities and the long-proposed supersonic transport aircraft (Rahman, 1999; Stitch & Eagle, 2005; Townsend, 2002). At the theoretical foundation, public involvement programs are a form of strategic communication (Biebricher, 2007; De Morris & Leistner, 2009; IAP2, 2007). Beyond the philosophy of long-term goal attainment, strategic communication is a focused effort to understand and engage key audiences to create, strengthen or preserve conditions to advance an organization's interests. Policies and objectives are aligned and synchronized across the organization through the use of coordinated programs, plans, themes, messages, and products (Hibbing & Theiss-Morse, 2002; Jackson, 2001; Townsend, 2002). Because stakeholders today seek complete involvement in project development rather than just as a symbolic political exercise, strategic communication is necessary to incorporate systematic planning and conceptualization of information flow, communication tactics, and development of public engagement programs appropriate for community interests and project needs (Hastings, 2008; Jackson, 2001).

Through strategic communication, a project proponent can convey a deliberate message through the most suitable modes to specific and inclusive audiences at the appropriate time to contribute to and achieve the desired short- and long-term effects (Hastings, 2008; Townsend, 2002; Tuler et al., 2005). As a result, communication

management incorporating variable public involvement programs is a process, bringing three factors into balance: the messages, the media channels/modes, and the audiences (Hastings, 2008; Jerit, 2008). Approaching public involvement as a function of two-way communication is suggested as a method of including the public earlier in project planning and development, countering a consistent criticism of those affected by a project beyond stakeholders (Noller, 2009). This early engagement can integrate community input as part of the project development process rather than as a mandated procedural appendix (Tuler et al., 2005; Wagenet & Pfeffer, 2007).

This communication-based foundation for public participation programs, however, contributes to a confrontational dynamic in public meetings whereby community members are often placed at a communicative disadvantage against the sponsoring agency, and perceive an established decision regardless of input (Diduck & Sinclair, 2002). This communicative power imbalance further illustrates the inherent elitism of formal bureaucracies – a sense that can be expanded through managerial-based outreach programs rather than more strategic, situation-aligned practices that balance the three communication elements (Habermas, 2005; Head, 2007). While there is little direct literature on the role of strategic communication within the public involvement framework, there is clear evidence presented by Meng et al. (2009) of the positive correlation between managerial leadership traits, public relations excellence, and positive outcomes for organizational decisions. Assessing public involvement for NEPA-regulated projects, greater influence from the field of public relations may provide additional benefits beyond the project-aligned processes generally employed (Choi & Choi, 2008; Koontz & Johnson, 2004). Apart from the tactical implementation of

communication programs, more strategic engagement, managerial voice, and a more focused position of advocacy on behalf of the public provide corporate-based insights for governmental projects (Liu, Horsley & Levenshus, 2009; McComas et al., 2006; Meng et al., 2009).

Research conducted by Choi and Choi (2008) demonstrated the internal role of public relations professionals within an organization for creating and supporting a culture of leadership for both internal and external audiences, a function supported by broader organizational-leadership research (Evenhouse, 2009; Hastings, 2008; Harvey, 2009; Huxham & Vangen, 2000; Jackson, 2001; Lui et al., 2009). Within the corporate framework, Choi and Choi (2008) suggested further integration at top organizational levels of those from public relations backgrounds to infuse stronger cultural elements that support change and better relationship-building with constituents, a finding that is complemented by Noller's (2009) research into ways to more efficiently and effectively complete NEPA studies.

Evolving Democracy

Participation in a democracy, formal or informal, has long been a tradition of civil societies, whose members expected and celebrated in public deliberation (Delli Carpini et al., 2004). As research illustrates (De Morris & Leistner, 2009; Wagenet & Pfeffer, 2007), there is a growing expectation of democratic governance, including direct decision-making by members of the public in some situations. Based on research in connection with the reformation of public engagement programs in a major U.S. city, De Morris and Leistner (2009) documented the increased need for diversified and more participatory democracy in civic programs. This research further identified democratic

engagement themes, including a need to look at *community* more broadly than geographic boundaries to identify interested stakeholders, directly confront past inclusion or exclusion practices, a need to build internal leadership capacity, and a need to construct multilayer trust (De Morris & Leistner, 2009).

In many project processes, an imbalance of power continues to exist between citizens and stakeholders who have a more direct interest. That imbalance can alter the tone of accessibility for public engagement opportunities or altogether distance a project from those most affected (Stewart et al., 2007; Wagenet & Pfeffer, 2007).

Framing the agenda for a project's public involvement activities in advance of any consultation with the community is both a common practice in various governmental sectors and is contrary to the evolutionary ideas of democratic participation by the public (Wagenet & Pfeffer, 2007). As part of the project planning process, diverse dyads are identified: rational administration and democratic pragmatism. Rational administration addresses the expert position, logical need for the project, possible environmental consequences, and bureaucratic rationale for the project. The pragmatic democracy aspect refers to the elements of local control and decision-making, public involvement, conflict resolution, and policy dialogue (Wagenet & Pfeffer, 2007). While both the administrative and democratic aspects are required and needed for projects covered under NEPA and successful public involvement efforts, "the administrative rationalism of the past continues to pervade the democratic pragmatism that is currently taking shape" (Wagenet & Pfeffer, 2007, p. 804).

Through case-study analysis of two environmentally sensitive projects, Wagenet and Pfeffer demonstrated support for theories suggesting a need for "top-down support

for bottom-up initiatives” (2007, p. 810) as a framework for public engagement in ever-increasing democratized climates, and better aligned with the interests and expectations of communities.

Republican and democratic philosophies require equal rights of social communication and participation to establish and meet the cultural expectation of self-governance and solidarity; equality of rights protects and guarantees equality of freedom (Habermas, 2005). And yet, as societies have become more diverse and fragmented, governmental efforts to create singular approaches for engaging members of the public have, in cases, created greater divides because of unintentional myopic strategies and techniques, sometimes as basic as the use of language (Bickerstaff & Walker, 2005; De Morris & Leistner, 2009; Habermas, 2005). Governments, to address this emerging challenge identified in research, can formulate public engagement programs that are founded on constitutional principles rather than single-group expectations to transcend traditional practices, satisfying those who are part of the majority and providing the appropriate resources for the minority to equally engage (Diduck et al., 2007; Habermas, 2005):

All the stakeholders must be fully, and equally, informed and able to represent their interests. The discussion must be carried out in terms of good reasons, so that the power of a good argument is the important dynamic. The discussion must be carried out in terms of good reasons, so that the power of a good argument is the important dynamic. It must allow all claims and assumptions to be questioned – and all constraints to be tested. Crucially, all must be equally empowered. (Bickerstaff & Walker, 2005, p. 2125)

Integrating a leadership and worldview of justice, ethics, and power as being greater than simple political appropriations can support but not guarantee enhanced self-determination by a community and its individuals, thus becoming a co-legislator with government (Habermas, 2005; Wagnet & Pfeffer, 2007).

Delli Carpini et al. (2004) in reviewing research and philosophy of public deliberation, noted criticism of the modern implementation and the artificial discourse that has emerged, in part because of segmented media and diversified outlets for opinion expression by community members which avoids public forums. The concept of “gated democracy” continues to prevail, whereby affluent or empowered citizens have access to decision-makers, oftentimes through political contributions, and exert greater-than-equal influence on public processes (Delli Carpini et al., 2004, p. 321; Mutz, 2006).

A prevailing sense of skepticism, especially for government outreach and engagement efforts, is another restriction on modern public deliberation (Chrislip, 1995; Dayton, 2002; Delli Carpini et al., 2004; Diduck & Sinclair, 2002; Harvey, 2009; Head, 2007; Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000). This skepticism is compounded by an expressed perception that such programs are “talkfests” with little sincerity leading to a public that lacks the skill or opportunity to effectively participate in deliberation programs (Roden, 1984; Roussopoulos & Benello, 2005). This restriction can derail sincere efforts and produce unintended results through opinion polarization, social-normative pressures, and hostile resistance from members of the public to engagement programs. Despite the expressed desire of many public agencies, there remains strong suspicion about deliberative democracy, and engagement programs are infrequent, unresponsive, subject to conscious manipulation and unconscious bias, and

disconnected from actual decision-making (Mohl, 2004; Mutz, 2006; Stich & Eagle, 2005). Thus, deliberative democracy efforts, like public participation, may best be an “impractical mechanism for determining the public will, and at worst misleading or dangerous” (Delli Carpini et al., 2004, p. 321).

Representative, Deliberative, and Participatory Democracy

Theories of community engagement incorporate three philosophical realms: representative, deliberative and participatory. At the core, public involvement processes are based in deliberative democracy, a process of decision making whereby all participants are able to equally express insights on broad social and political viewpoints (Habermas, 2003, 2005; Lowry, 2010; Mutz, 2006; O’Toole et al., 2002; Roussopoulos & Benello, 2005). Similarly, participatory democracy approaches involvement from, as some literature describes, a more modern interpretation that incorporates better implementation of current societal expectations (Mutz, 2006; Roussopoulos & Benello, 2005). As a result, there remains an active debate within the political and social sciences on the actionable application today of pure deliberative democracy, and the need to better incorporate participatory theories into citizen engagement programs (Alexander, 2008; Bayley & French, 2008; Mutz, 2006). Often overlooked but remaining an important construct in the triangulation of citizen-involvement theory is that of representative democracy, with citizens appointing or otherwise designating those to make decisions on behalf of the society. While generally used in political structures, this is a method that runs somewhat contrary to the notion of project-level community involvement (Bens, 1994; Mutz, 2006). For public projects studied under NEPA, representative democracy falls away as a realistic option for the public, with appointed and non-elected government

officials ultimately making decisions with little accountability directly to voters. While not viewed as entirely negative, this somewhat unique decision-making arrangement differs from most major local issues and forces disagreements over projects into federal court – which is further distanced from local control (Harvey, 2009; Kane & Patapan, 2008; Lowry, 2010).

Within the emerging concept of democratic participation, three elements are identified: structural, process, and action (Alexander, 2008). Structural is viewed as direct citizen involvement in the government decision process, through participatory democracy, referendum or similar direct-empowerment assignment to citizens by the government, such as with local planning commissions (Alexander, 2008; IAP2, 2007; Mutz, 2006; Roussopoulos & Benello, 2005). Participatory process encompasses the philosophy of consultation. However, the range of consultation, the literature acknowledges, can involve a single public meeting or a lengthy, strategic government-community partnership (DiMento & Oshio, 2010; Fung & Wright, 1999; IAP2, 2007). Within the participatory framework, when government provides meaningful opportunities for public action, citizens will engage the process; such an approach, however, leaves little opportunity to define the audience or orchestrate a balancing of viewpoints (Alexander, 2008; Hibbing & Theiss-Morse, 2002; Mutz, 2006). Stakeholders, those with strong or extreme views or those seeking gain, may be more likely to become involved within an unconstrained participatory process. This presents opportunities and risks for involvement processes to become hijacked or derailed by special-interest groups, fringe organizations, or those battling against the sponsoring agencies rather than evaluating the project on its merits (Bickerstaff & Walker, 2005). The final element –

action – addresses the exchange of information among project sponsors, stakeholders and citizens, and the development of alternatives that incorporate input from the broad community, balancing the interests of all parties and viewing all input equally; however, within NEPA these alternatives may be developed and presented to decision-makers but may have little actual influence on the decision process (Alexander, 2008).

The danger of creating ineffective processes or public involvement programs that establish outcomes misaligned with community expectations has become more profound as societal interests have become more divergent through access to information and greater attention on environmentally harmful projects (Biebricher, 2007; Brady, 1990). Nonetheless, participatory democracy establishes a process that may reduce the fitting-in or psychological force to side with the majority (Alexander, 2008; Irvin & Stansbury, 2004; Kane & Patapan, 2008; Mutz, 2006). For community involvement activities, this danger of individual ideas and movement towards consensus becoming dampened by strong and organized opinions from a singular group can detract from broad-based community input, and may disenfranchise some members of the public (McComas et al., 2006; Mutz, 2006; Roden, 1984).

Bayley and French (2008) posited that participatory citizen involvement processes are emerging in democratic societies because of political pressures, a desire to draw greater acceptance of the ultimate decision and, perhaps secondarily, gain input to make a better decision. Depending on the context and strategically established mission, there are five identified objectives to guide participatory processes (Bayley & French, 2008). Information sharing provides the lowest level of participation, providing a structure for information distribution between the project sponsor and community members. Context

of the project, community values, and forecasts to evaluate future conditions are part of this first objective level. Through this process, the governmental organization should aim to understand stakeholders' values and objectives in a context beyond the immediate issue (Bayley & French, 2008; Dayton, 2002; IAP2, 2007). Increasing to a stronger level of participation, democratic ideals are identified as the second objective where expectations are established and agreed upon between the agency and public to create understanding of the decision process and extent of direct public authority (Bayley & French, 2008; Chrislip, 1995). Establishing community cohesion for the immediate and at-large community is the third participation objective identified in literature; smoothing tensions between combative societal sectors and stakeholder groups should establish a more uniform sense of community involvement and foster an achievement of NEPA objectives (Bayley & French, 2008; Burton, 2009; Castillo, 2008). Participation processes, as recommended in both NEPA and public involvement literature, should be predictable for those who are participating and for the government agencies sponsoring the project. The objective of predictability should incorporate agency philosophy beyond project-level planning to establish community involvement credibility and reliability (Bayley & French, 2008; Bickerstaff & Walker, 2005; CEQ, 1997). Finally, the fifth objective of a participation process is focused on the quality of the final decision, and establishing frameworks for sharing information and perspectives that have a demonstrated influence on the ultimate decisions or projects. Within a politically controlled structure this can be a challenging aspect, with agency decisions subject to review by elected officials who hold assigned and often transactional leadership positions within these processes (Bayley & French, 2008; Bens, 1994; Berman, 2008).

Collaboration and the National Environmental Policy Act

Despite existing research exploring collaboration and procedural requirements of NEPA, little research has examined the strategic structure or to what extent diverse leadership behaviors influence public perception of government projects required to comply with federal public-involvement regulations (Diduck & Sinclair, 2002). As articulated with research examining the corporate role of public relations, the application of leadership techniques may affect the perceptions of community members, potentially reducing conflict and creating additional opportunities for collaboration earlier in the project development process (Andrews & Field, 1998; Choi & Choi, 2008; Habermas, 2005; Huxham & Vangen, 2000; Liu et al., 2009). Yet, previous assessments of this government-citizen relationship have demonstrated low public satisfaction, an environment of conflict, and shared cynicism over the process. These perceptions have only increased in recent years as stakeholders have attained greater access to information and are more sophisticated in rallying like-minded supporters (ADOT, 2007; Jackson, 2001). A leadership-inspired, facilitation-based philosophy of public engagement across the spectrum from the participation to involvement levels may yield potential opportunities for consensus and leadership training (IAP2, 2009; Irvin & Stansbury, 2004; Jackson, 2001). Such a perspective may further define the role and expectations of public involvement programming among diverse audiences on preferences for differentiated leadership behaviors (Jackson, 2001; Stewart et al., 2007).

In some jurisdictions or with certain project types, public involvement programs have been calculated to substitute for sincere efforts towards engagement with simple educational strategies. In these instances, the power holders often will not yield to citizen

engagement unless compelled to share authority (Jackson, 2001). This forced collaboration has emerged through the public involvement mandates required under NEPA – requirements that continue to challenge transportation, transit, environmental, public works and other local, state, tribal, and federal agency projects across the United States – despite conflicting guidance and ever-changing expectations from various publics (Caldwell & Hayes, 2006; Carrasco et al., 2006; CEQ, 1997; Tuler et al., 2005; Wagenet & Pfeffer, 2007). While research-based strategies have provided insights into management of the tactical aspects of community involvement programs, there is little to support presentation styles by project staff or relationship dimensions from a foundation of leadership-identified skills at a strategic level (Delli Carpini et al., 2004; Jackson, 2001; Kane & Patapan 2008).

Exploring the role of leadership behaviors in influencing the government-public relationship during required public involvement processes may yield positive benefits for participant perceptions on public meeting effectiveness and agency reputation, correlating to an improved sense of transparency and willingness to apply input (Jackson, 2001; Jerit, 2004; Meng et al., 2009). As presented by Liu et al. (2009), the role of transformational and servant-leadership behaviors by those in the public-relations sector can spur organization-wide shifts towards increased consensus, satisfaction, and reduced contention. Literature in the public involvement sector parallels these behaviors, with a less empirical foundation, to better meet federal government mandates and best-practice expectations for sincere and productive collaboration (Luther, 2005; Meng et al., 2009; O’Toole et al., 2002).

Sincerity of Collaboration

Public involvement programs, notwithstanding legislative and case law requirements, are often viewed by the public as insincere and as burdensome by government staff. Bickerstaff and Walker (2005) postulated that much of the effort applied to governmental public involvement programs is done in a check-list format, rather than making a sincere effort to engage and solicit input from affected communities and stakeholders. As a result, this research suggested the public has become disengaged from suggestions of public involvement, believing them to be simple exercises in process rather than genuine efforts to gain actionable recommendations on projects that could have profound local implications (Bickerstaff & Walker, 2005). The research of Bickerstaff and Walker (2005) documented a “deeply problematic relationship between citizen involvement and established structures of democratic decision-making” (p. 2123). Further, the research indicates a distinction between participation and consensus processes, with some special interest groups subverting open processes to advance focused agendas and leaving common citizens feeling shut out of the true decision-making cycle (Bickerstaff & Walker, 2005; Patten, 2001; Roussopoulos & Benello, 2005). As a result, civic participation initiatives fail to enact meaningful change in local government or governing, in part because such programs have lost ethical legitimacy among the public who is not strongly aligned with an organized position (De Morris & Leistner, 2009; Diduck, Sinclair, Pratap & Hostetler, 2007).

Recommendations based on qualitative research support more deliberative and participatory processes that are strategically aligned to the interests of stakeholders and the necessary inputs from the governmental division. This alignment creates a reversal in

the power structure that exists today. Such a recommendation supports the relationship dimension of public involvement programs and a need for engagement beyond the process level (Gooberman-Hill et al., 2008; Huxham & Vangen, 2000).

Government agency insistence in top-down decision processes is viewed as a key impediment to change. This change is seen as a necessary first step to alter the effectiveness of public involvement activities, or at least amend the public's perception of effectiveness. This more balanced process as a decision structure, however, is included within NEPA (CEQ, 1997; Stewart et al., 2007). "[A]ll must be equally empowered" including the government, stakeholders, and the public to create an environment where sincere, authentic community engagement can be initiated" (Bickerstaff & Walker, 2005, p. 2125). Such a collaborative relationship is supported by deliberative democracy theories, yet critics suggest that a balanced relationship among government and community participants in a public involvement process is idealistic and impractical, leading to a more recent preference towards participatory democracy processes (Mutz, 2006; Roussopoulos & Benello, 2005).

When studying specific public involvement efforts conducted with high legitimacy, rural communities and other disenfranchised groups may have fewer engagement opportunities and less influence on projects than urban residents (Carrasco et al., 2006; Habermas, 2005; Huxham & Vangen, 2000; Stewart et al., 2007). Applying a multivariate statistical analysis to evaluate a 20-year trend of environmental impact statements in one state, Carrasco et al. (2006) found that public involvement programs are generally more intensive for projects involving significant residential relocations rather than those with the most harmful potential. This bias further appears to result in

more rural, less populated project locations to be under-represented in public engagement opportunities, potentially affecting the quality of the project and failing to appropriately mitigate environmental impacts, a core responsibility under NEPA (Bens, 1994; Carrasco et al., 2006; CEQ, 1997). From the perspective of the leadership-public involvement nexus, this research draws attention to the necessity of engaging and promoting involvement for projects of less obvious interest and following a context-sensitive approach (CEQ, 1997; Ellis, 2008; Rahman, 1999; Roden, 1984). Thus, small-area focuses, stronger transparency of identified issues, and an acknowledgement of the natural philosophical divergence that causes a division of attention between urban and rural projects create a foundation demanding greater attention from public involvement professionals to better reach all affected public members, rather than just special interest groups or stakeholders (CEQ, 1997; Roden, 1984; Stewart et al., 2007; Stitch & Eagle, 2005).

The research of Carrasco et al. (2006), validated by reports from CEQ (1997, 2007) and aligned with the findings of Bickerstaff and Walker (2005), provided a statistically valid assessment demonstrating how public engagement processes can be less about the public and more about simply quelling controversy. Beyond the socioeconomic divide that emerges in public involvement efforts, there is an imbalance of power within the established structure of most engagement programs. Citizens are generally less informed, less organized, and may have divergent ideas of the public trust doctrine than a project sponsor (Brady, 1990).

Engagement Tactics, Strategies, and Foundational Theories

Recognizing the need to develop alternative methods for identifying stakeholder needs, interests, and concerns, Darnall and Jolley (2004) suggested that quality community engagement is largely a function of the level of information available to the public upon which quality input can be delivered. This conclusion refutes other theories suggesting that personal interviews and surveys may provide a stronger level of input from the public and streamline engagement processes (Edwards, Rode & Ayman, 1989; Lowry, 2008, 2010). Instead, Darnall and Jolley (2004) promoted more deliberative forms of involvement that may generate convergence of opinions. Such an approach requires strong and flexible leadership and an availability of data upon which community members can base opinions. The ultimate key to better public engagement appears to be reliable data and a process to help the community understand this underlying data, similar to the theories presented by Bayley and French (2008; Darnall & Jolley, 2004). While less resource intensive, the survey-and-interview method is flawed because it largely ignores the interests and sensitivities of the public in creating the public involvement foundation. Theories that use surveys and interviews may address only reactive issues rather than promote genuine involvement of the public in influencing government projects (Bens, 1994; Berman, 2008; Darnall & Jolley, 2004). The use of surveys or other aggregate-style assessment tools reduces community democratic influence and sense of self-governance, diluting any data through averaging of inputs and creating a more profound schism between community sensitivities and the objectives of the government (Habermas, 2005). Nonetheless, there is a role in conducting surveys and interviews to establish a baseline and understanding concerns and knowledge foundation

before the initiation of public involvement, and for recognizing the divergence of community awareness. “While surveys may provide a statistically representative snapshot of public opinion, alternative forms of public involvement that encourage dialogue may be preferable if the ultimate goal is to achieve a shared vision or policy” (Darnall & Jolley, 2004, p. 590). Ultimately, despite the trend otherwise, public involvement cannot be based upon nor replaced by surveying or focus-group activities because of the complete lack in any deliberative features that are necessary to fulfill requirements set by the CEQ under NEPA (CEQ, 1997; Darnall & Jolley, 2004).

Continuing from Darnall and Jolley’s (2004) research, the process of facilitating engagement is a role demanding stronger government focus and effective leadership in an effort to create public involvement processes that aim to construct a shared vision, advocate a consensus position, or provide input aligned with a proposed project (Goberman-Hill et al., 2008). Examining public involvement from the perspective of community health and medical research, Goberman-Hill et al. (2008) studied the use of a deliberative democracy process utilizing citizen juries. This consensus-based, decision-making process is designed to better involve stakeholders and create recommendations that are more reflective of diverse interests. The concept, as outlined based on case-study research conducted by Goberman-Hill et al. (2008), gathered diverse members of a community to discuss a general topic, outlined in a broad framework to allow the group to explore and navigate a discovery process with some independence from the government organizers. During this process, the government-public relationship is distinct from traditional public involvement efforts and creates an environment where the jury can fully engage an issue and become ambassadors for it or advocates for change.

Participants feel strongly connected and responsible for the initiative, supporting Habermas' notions of constitutional democratic self-governance (Berman, 2008; Gooberman-Hill et al., 2008; Habermas, 2005).

However, while this research supports the use of the jury concept, such an approach is not always appropriate because of the high community expectations created through the process, a concern expressed around NEPA public involvement projects (Brady, 1990; Burton, 2009; Gooberman-Hill et al., 2008). This is a key theme: over-engagement of the public is as problematic as under-involvement based on governmental intentions and the nature of the project, especially as communities have come to expect more democratic processes (Burton, 2009; CEQ, 1997; Gooberman-Hill et al., 2008; Huxam & Vangen, 2000). The citizen jury concept, however, addresses an articulated concern from community members by providing a stronger sense of ownership of the proposed project decision, contrasted with the perception of pre-decisional actions in routine public involvement programs (McComas et al., 2006; Mulligan & Nadarajah, 2008).

Process considerations remain important especially when creating public involvement activities that are accessible and engaging for all members of a community. Social exclusion, a deeply embedded artifact whereby certain societal groups are excluded from services and benefits of the society, remains a well-studied, but poorly corrected aspect of public involvement, despite NEPA requiring considerations for social/environmental justice. Segregation in engagement opportunities is largely but not exclusively based on income (McComas et al., 2006; Stewart et al., 2007). This segregation is often unintentional but can be seen as disenfranchising some from

participation based on childcare needs, non-traditional work schedules, or meetings located in areas not accessible via public transit. These process errors can be integrated into projects when sponsoring agencies look at population aggregates rather than at the range of needs (Hibbing & Theiss-Morse, 2002; Noller, 2009).

In a qualitative and quantitative study of both high- and low-income citizens from a community healthcare framework, Stewart et al. (2007) identified key considerations for social inclusion or exclusion which should influence the design and implementation of public involvement efforts to appropriately reflect the views of and impacts to the representative public. The research identified barriers including social (discrimination and prejudices), health, language, access, childcare and other factors; social distancing, in this research, was identified as the primary self-imposed inclusionary barrier (Stewart et al., 2007). Exclusion “created a sense of apathy, hopelessness, and resignation among low-income participants” (Stewart et al., 2007, p. 87) that violates the stated intent of NEPA. Such a perception may affect the results of public involvement efforts and, as a result, disproportionately affect disenfranchised groups (Carrasco et al., 2006; Stewart et al., 2007; Wagenet & Pfeffer, 2007).

Those in excluded groups focus on the structural elements of public involvement opportunities that help to facilitate participation, rather than simply interpersonal connections or feelings of being welcomed that may be superficially implemented. For government public involvement programs, these structural elements may require serving meals or providing childcare at community meetings to reduce barriers to participation (Stewart et al., 2007).

Leadership Behaviors and Follower Perceptions

Encouraged by leadership failures in government and business, stakeholders and the public are becoming less confident and truthful in engagement efforts. In some communities, a cynical public may view even sincere engagement opportunities as simply public-relations ploys (Caldwell & Hayes, 2006). Using a qualitative research approach, Tuler et al. (2005) advanced the claim that most current-day public involvement efforts are conducted at an extremely low level, rated only as *inform*, that does little to solicit and apply input from stakeholders.

A process of designing public involvement programs based on the community, context, and nature of the project is supported through recommendations to pursue context-sensitive solutions (Tuler et al., 2005). Furthermore, five distinct perspectives of participants were identified in the research assessing the effectiveness of a hazardous waste site program. First, the research demonstrated that participants desired an evidence-driven process with good communication to community members without technical knowledge or backgrounds. This perspective advocates for the addressing of real issues and use of an unbiased facilitator to maintain a focus on relevant issues rather than personal agendas. A second perspective revealed a desire by participants for efficacy and focus, especially in science-driven programs. Effective leadership was ranked most strongly in this perspective, as was support for the common good. Third, the research subjects indicated a need for public involvement programs to meet the needs of communities through accessibility and information sharing, generating and conveying information to the greater public. Established communication mechanisms, equal access to information, citizen leadership, and a willingness to tap knowledge of local residents

were identified as elements of this perspective. Fourth, ensuring accountability with broad involvement was identified as a framework perspective for engagement programs, underscoring a need for full disclosure of information and participation that is “meaningful and ‘not empty shells’” (Tuler et al., 2005, p. 260). Finally, searching for the truth by thoroughly examining the evidence was suggested as the fifth public-involvement framework, detailing a desire to explore the unknown and expressing a degree of skepticism about information provided by the government in some situations. For most public-involvement programs, Tuler et al. (2005) argued that one of these five perspectives should provide government organizers with a stronger foundation from which to initiate dialogue with a greater emphasis on credibility, competence, and legitimacy of planning processes.

The need for meaningful public participation programs transcend other theories suggesting simply *consultation*, which implies a single activity to gain community insights on a proposed project (Bickerstaff & Walker, 2005; Carrasco et al., 2006; Diduck et al., 2007; Tuler et al., 2005). In conducting qualitative research on a pair of hydro projects in India, Diduck et al. (2007) demonstrated strong feelings of disengagement, and grave concerns related to project integrity, government responsibility or process accountability by members of the public engaged in weak participatory programs. While other projects in the series reflected improved community involvement, researchers documented a “decide-announce-defend mentality” of the government and leaders, a highly management-aligned transactional leadership approach (Diduck et al., 2007, p. 229; Emans, Manduaate, Klaver & Van de Vliert, 2003; Senge, 1990). From this research, themes emerged of public expectations that translate into leadership

expectations to support and improve engagement programs, providing community and agency benefits.

Fair and Reasonable Access to Information

Current research reflects a desire by the public to have greater access to information than may have been granted in the past, and that such access is provided equally without regard for affiliation, perspective or opinion (Carrasco et al., 2006; Darnall & Jolley, 2004; Diduck et al., 2007). This interest for information extends beyond project data to include regulatory, scientific, and supporting information to help the public better understand a project and the potential impacts, a key philosophy of NEPA. This desire may come into conflict with government objectives to keep citizens focused and processes moving swiftly, and avoiding becoming entrenched in ancillary issues (Diduck et al., 2007; Tuler et al., 2005).

Reasonable Opportunity to Comment on the Project and Influence Decisions

Moving beyond simple access to information, stakeholders near proposed projects express a desire to have legitimate opportunities to interact with and influence government decision-makers, engaging in mutual transformational relationships (Caldwell & Hayes, 2006; Ellis, 2008). In the study by Diduck et al. (2007), residents indicated that for one project, influence was only levied through extreme measures, like protests and strikes, and only in response to decisions by leaders. Thus, there was no identification of a leadership basis for the government-public relationship (Bickerstaff & Walker, 2005; Caldwell & Hayes, 2006). According to public-participation research participants, the primary conflict with the governmental process is “centered not on process but on policy outcomes and the lack of direct, observable, and substantial policy

impacts resulting from their involvement in deliberative exercises” (Bickerstaff & Walker, 2005, p. 2139).

Mohl (2004) documented five stages of citizen revolt against projects, a grassroots process that emerges when the public feels shutout of planning deliberations or when vocal input is disregarded. This revolt begins with Persistent Neighborhood Activism, with committed local leaders and diverse, representative coalitions of community groups raising concern over highway plans over time. The revolt then progresses to a Strong Movement, described by Mohl (2004) as the engagement of appointed and elected leaders, joining with the neighborhood activists to raise the profile of the emerging conflict. Communities with stalwart planning and public engagement practices may then respond using the precedent of Strong and Historic Planning Traditions. If the revolt remains unresolved, opponents may turn to Litigation for relief, seeking judicial intervention to stop land acquisition, construction, or in protest of routing decisions. Finally, Mohl (2004) documented the Final Shutdown Decision as the fifth freeway revolt step that, when opponents are successful, yields either a collaborative or unilateral decision by project sponsors to amend project plans or altogether abandon highway plans. One example was the voter-approved referendum in Phoenix to cancel plans in 1974 to route Interstate 10 through downtown (Mohl, 2004). While the timing, implementation, progress, and outcomes of each freeway revolt vary from city to city, each is linked by poor public involvement processes, low leadership-trait engagement, disenfranchised publics, and decision processes that appear to be little concerned with community sentiment (Mohl, 2004). In a series of revolts studied by Mohl (2004), each was linked by grassroots collaboration and community consensus that countered the plans

of project sponsors, solidifying opposition and deepening the chasm between government and the citizenry.

Integrity, Accountability and Transparency, and Follow-up on Input

Research reflects a lingering suspicion from the public that input is not being recorded, evaluated or applied fairly throughout the public involvement and project development processes (Bickerstaff & Walker, 2005; Carrasco et al., 2006; Diduck et al., 2007; Stewart et al., 2007). Such a failure in confidence, warranted or not, further reflects the lack of a leadership basis for the government-public construct, suggesting a breakdown of ethical and leadership relationship dynamics in public involvement processes and in general governance (Caldwell & Hayes, 2006; Habermas, 2005; Stewart et al., 2007).

In conducting research on the leader-follower dynamic and perceptions of trustworthiness, Caldwell and Hayes (2006) provided important insights into the relationship development, resource utilization, and image management aspects of this diverse framework. When applied to the public involvement construct, the need to develop long-term partnerships that are based in leader-member exchange theory are more likely to yield trust and the accumulation, on both sides of the partnership, of internal and external social capital that can further support processes and relationships (Alimo-Metcalfe & Alban-Metcalfe, 2005; Caldwell & Hayes, 2006). For citizen engagement, resource utilization incorporates a more strategic view by government organizers to support long-term achievement and the establishment of credibility. Consistency with actions, message, approach, and adherence to mutual principles is identified in research as the foundation of the image management aspect to trusting

leadership. The establishment of image transcends individual performance: it requires the creation of organizational systems surrounding the public involvement effort that reinforces shared principles. Institutional leadership and the expression of situation-appropriate leadership behaviors by participants are required to sustain relationships (Blanchard, 2008; Drucker, 1999). Charismatic leadership styles may be appropriate as a situational-based approach; however, transformational or servant leadership styles are identified as more closely aligned with the long-term requirements of image management (Babcock-Robertson & Strickland, 2010; Caldwell & Hayes, 2006; Huxham & Vangen, 2000).

Public Participation, Public Relations, and Communication

The professional field of public participation, distinct from more traditional public relations or communications professions, addresses the emerging requirement for democratic decision-making processes by the public, especially within the government-community relationship (Alexander, 2008; Andrews & Field, 1998; Barlett & Baber, 1999; IAP2, 2007). The *International Association for Public Participation* (IAP2, 2009), identifies seven core competencies for the specialized practice of public involvement:

1. Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
2. Public participation includes the promise that the public's contribution will influence the decision.
3. Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.

4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
5. Public participation seeks input from participants in designing how they participate.
6. Public participation provides participants with the information they need to participate in a meaningful way.
7. Public participation communicates to participants how their input affected the decision.

These philosophies align with the research of Alexander (2008), Habermas (2005) and others in establishing a moral and operational imperative to integrate citizens into the structures and paradoxes of governmental decision processes. To that end, Alexander (2008) identified three types of public participation involving structural, process, and action elements. As previously documented, structural is viewed as direct citizen involvement in the government decision process, through participatory democracy, referendum or similar direct-empowerment assignment to citizens by the government, such as local planning committees (Alexander, 2008; IAP2, 2007; Mutz, 2006; Roussopoulos & Benello, 2005). Participatory process, according to Alexander (2008), encompasses the philosophy of consultation; however, the range of consultation, the literature acknowledges, can involve a single public meeting or a lengthy, highly strategic government-community partnership. At the action level, government and community members would work in collaboration to develop goals, exchange information and data, and develop alternatives to the proposed project, as it would relate to a process covered by NEPA (Alexander, 2008). Nonetheless, it is at the process level

where most government public involvement efforts occur for projects required to follow federal regulations. Because bureaucrats at local, state, and federal levels ultimately make decisions relative to these proposed projects, the public can only provide input, make recommendations or pose suggestions that may or may not influence a project (Carrasco et al., 2006; Diduck et al., 2007; Stewart et al., 2007). This divergence of expectations and imbalance of power, while perhaps appropriate, can create distance between interested parties, government leaders and civil institutions. “At least within the institutional frame of democracy, no one may claim privileged access to the truth of constitutional or legislative matters. From within the system, the impartial standpoint of an ideal observer is out of reach for everybody” (Habermas, 2005, p. 189). As further described by Habermas:

It is this venerable, fallibilist, and egalitarian intuition that leads radical pluralists to accept both assumptions at once: that participants in deliberation – be it in the public sphere or in parliaments, courts, and administrative bodies – may well pursue a cognitive purpose, while they are at the same time barred from any public access to the truth of the matter or, more precisely, from ever achieving a result in public that everybody can rationally be expected to accept. (2005, p. 190)

Looking more broadly at the structure of government-public relations, research has demonstrated that elected officials leading government organizations, as well as top administrators, have generally devalued public relations efforts, which generally drive public involvement programs, and have not demonstrated a sophisticated understanding of the public relations/communication role as a necessary management function (Liu et al., 2009). Furthermore, within the context of government public relations, Liu et al. find

that decisions are generally made reactively, oftentimes in contradiction to other governmental branches, and tend to follow a safe path to avoid negative media exposure. In a survey of 2,252 public-relations professionals in government or corporate environments within the United States, Liu et al. (2009) found strong alignment in general functions: responding to the media, tracking media coverage, writing/maintaining websites, preparing news releases, and event planning. Rejecting previous research, Liu et al. (2009) found little difference between government and corporate perspectives on audience diversity or the public's thrust for information; this finding may require additional study, or may suggest a philosophical divide between an emerging public and the professionals who oversee engagement programs. "Given that one of the largest self-reported challenges government communicators face is public cynicism, meeting the public's information needs can be a significant challenge in the government sector" (Liu et al., 2009, p. 23).

Citizen involvement processes, furthermore, are often used as a framework to *educate* or *cure* dissenters within the public, converting a system of engagement into a process of managing opinion and silencing criticism through groupthink and political positioning (Jackson, 2001). Research supports the finding that over-engagement can yield results contrary to objectives, requiring a situational approach for design and implementation of public outreach programs (Koontz & Johnson, 2004).

The dynamic of communication in diverse public spheres, however, presents a challenge in conducting quality engagement programs that are inclusive, productive, and facilitate the expression of broad ideas from the public. This social engagement dilemma illustrates that individual participation in government outreach programs can emanate

from altruism or self-interest, creating conflict, similar to the dichotomy of personalized to socialized leadership styles (Bass & Riggio, 2006; Delli Carpini et al., 2004).

Preexisting views of a group majority are unlikely to change, and groups with unequal distribution of viewpoints are inclined to decrease collaboration. Delli Carpini et al., (2004), and Darnall and Jolley (2004) showed that citizens with minority viewpoints may either change their position through deliberation to join the majority, acquiesce to avoid conflict, or disengage from public deliberation out of defeat. Those participants will blame the process rather than the social dynamic at play (Delli Carpini et al., 2004). Research does support the adjusting influence of minority viewpoints as a regulating measure, a source of alternate perspectives, and as a voice for less-considered project impacts (Alexander, 2008; Bickerstaff & Walker, 2005; Carrasco et al., 2006; Delli Carpini et al., 2004). The situational and audience considerations for public engagement are underscored by Delli Carpini et al. (2004) in assessing the modern influence of public deliberation:

The impact of deliberation and other forms of discursive politics is highly context dependent. It varies with the purpose of the deliberation, the subject under discussion, who participates, the connection to authoritative decision makers, the rules governing interactions, the information provided, prior beliefs, substantive outcomes, and real-world conditions. As a result, despite positive benefits of deliberation, deliberation, under less optimal circumstances, can be ineffective at best and counterproductive at worst. (p. 336)

Offering the public a voice in government processes may not *de facto* result in increased satisfaction towards engagement programs (Hibbing & Theiss-Morse, 2002).

Thus, strong public participation programs can be successful to a fault: citizens become informed and engaged with the subject matter, expectations are increased, and divisions in opinions exacerbated (Delli Carpini et al. 2004; Hibbing & Theiss-Morse, 2002).

Hibbing and Theiss-Morse (2002) countered previous research in the field, finding that participation programs can damage outreach efforts or the government-citizen relationship if not appropriately managed and implemented based on citizen expectations and the true influence public input will exhibit on the government action.

Based on findings from an experimental assessment of fairness in political involvement programs, Hibbing and Theiss-Morse (2002) concluded that citizen voice has a sensitizing effect on judgment regarding factors like fairness of the decision-maker and confidence in the outreach process. Citizen voice can have positive benefits if community members believe their input is received and considered by decision-makers in whom they have confidence. Conversely, when the public has a lack of confidence in the process, government or leaders, implementation that acts on anything short of the citizen's voice may yield significant feelings of unfairness (Hibbing & Theiss-Morse, 2002). Involvement programs do make a difference, but only if the public is "convinced that their input made a difference in the process" (Hibbing & Theiss-Morse, 2002, p. 19). As a result, research suggests a need to enhance system and process legitimacy, leader independence and multidimensional fairness to establish a foundation from which sincere engagement work can be established (Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000; Tuler, 2005). According to Hibbing and Theiss-Morse (2002), a prevailing concern:

[I]s that people's involvement in typical processes will make them more upset with those procedures than if they had not been involved in the first place. People want to have influence and if participation in the political arena merely adds to their conviction that they lack influence, attitudes toward the political arena will be harmed. (p. 24)

Bureaucracies, Lobbying, and Public Involvement

Analysis of the evolving relationship between the public and government reveals a shift in beliefs, with citizens losing faith in civic institutions that in past eras were assumed to be reputable (Emans et al., 2003; Spangenberg & Theron, 2005). This dissolving institutional stature has required a greater emphasis on organizational ethics, generally defined as the principles, norms, and standards that are promoted for the guidance and conduct of organizational activities in adherence with established values (Diduck et al., 2007; Felli & Merlo, 2007; Spangenberg & Theron, 2005). The modern political dynamic, wherein private discourse and quiet negotiations can define deliberative democracy, the role of compensated professional lobbying efforts and organizational political advocacy have emerged as critical requirements supporting the attainment of strategic objectives in many government-driven sectors, including public works projects governed by NEPA (Bykerk, 2008; Felli & Merlo, 2007; Habermas, 2005; Kim, 2008). Since political shifts in the 1980s, the role of formal and informal lobbying has evolved from a function of decision-maker education and research into one of institutional protection designed to advance, defend, and deflect organizational interests among local, national, and international governmental bureaucrats and legislators, often

at a high cost to the organization and with implied ethical consequences for parties on each side of the equation (Kim, 2008; McNeil & Smythe, 2009).

With an articulated standard establishing a greater-good foundation for lobbying efforts, both in the corporate and governmental sectors, the need for public-facing activities that are designed to engage and activate the interests of community members creates a delicate balance for organizations (Hamilton & Hoch, 1997; Karolyi, 2009). When an organization or industry feels threatened by proposed projects, legislation or regulatory changes, such as during debates over the Sarbanes-Oxley Act or land-use planning decisions, lobbying efforts will be engaged. Whether these efforts remain clouded within the political process or exposed to gain public leverage is a decision that must be made situationally (Hamilton & Hoch, 1997; Hersch, Nutter & Pope, 2008; Karolyi, 2009). During Sarbanes-Oxley deliberations, however, both tactics were used by organizations that were, or could have been, affected by the proposed legal change, including for-profit corporations and nonprofits. In this process, lawmakers were privately lobbied, quiet negotiations took place between legislators and industry representatives, and each side engaged in a public-awareness campaign from different perspectives in an attempt to move public opinion towards accepting a compromise (Karolyi, 2009). Ultimately, the law was influenced through pressures from lawmakers and industry, but Karolyi (2009) identified the public aspects of this effort as most significant in providing political cover for legislators, helping corporations to appear highly cooperative and sensible, making each side look tough, while also giving each side sufficient room to navigate through the process. This is the modern political engagement process, one in which interests and deliberations have largely moved into quiet rooms

away from the transparent public meetings and where community engagements have become largely orchestrated (Aitken-Turff & Jackson, 2006; Bykerk, 2008; Felli & Merlo, 2007; Habermas, 2005; Hamilton & Hoch, 1997; Karolyi, 2009).

Leadership Theory and Follower Engagement

A chasm exists, though, between management and leadership in a governmental setting. By nature, bureaucracies are founded on management principles while public participation efforts require a leadership approach (Drucker, 1999; Harms, 2008; Liu et al., 2009; Senge, 1990;). “Management is about seeking order and stability; leadership is about adaptive and constructive change” (Northouse, 2007, p. 10). This need for change can create further conflict when the change is necessary for the greater good, despite the potential for localized objections subjected to organized lobbying or political consternation (Higgins & Gillberd, 2000). The government-public dynamic, whereby the government is seen as fulfilling a leadership role under the expectations of a distributive-representational democracy and the public is assigned into more of a follower role in civic engagement programs, demands the careful and calculated use of power (Habermas, 2005; Harvey, 2009; Parry & Proctor-Thomson, 2003; Tichy, 2002). Failures in change or transformation are aligned with the poor use of power and appropriate degrees of engagement, not with intellect of leaders or followers or interest in the initiative (Tichy, 2002). This has an important connection to public involvement activities. Directing the tactical efforts for leaders to make and affirm decisions, individually or on behalf of a group and with some decisiveness and fortitude, is an element demonstrated as currently lacking in some governmental public involvement processes. This missing element degrades public confidence and trust in the institutions and project process (Andrews &

Field, 1998; Carrasco et al., 2006; Diduck et al., 2007; Stinch & Eagle, 2005; Townsend, 2002).

Be it a trait, behavior, or a process of information exchange or relationships, the foundation of leadership from the government, members of the general public, social-movement chiefs, and others engaged in the government-public dynamic establishes a basis for outreach efforts and the effectiveness, and feelings of effectiveness, of those programs towards specific objectives (Andrews & Field, 1998; Habermas, 2005; Yukl, 2006). More specifically, leadership can be defined under the constructs of group dynamics and process, personality, trait, behavior, power relationship and distribution, as a function of a transformational process, or as skills acquired by specific individuals (Bass & Riggio, 2006; Deluga, 1990). Current literature presents a general definition of leadership that encompasses the process, influence, goal attainment, and group dynamic element: in short, a process in which an individual influences others to achieve mutual objectives (Deluga, 1990; Deluga & Souza, 1991). The classification of leadership as a process is significant in establishing it as a transactional construct between leaders and followers, providing mutual impact and equal opportunity (Babcock-Roberson & Strickland, 2010; Yukl, 2006). Furthermore, for leadership to be present influence is required within the process, supporting theories like leader-member exchange and transformational leadership, which work toward shared objectives (Andrews & Field, 1998; Bass & Riggio, 2006; Kellerman, 2004). The perceptions of followers weigh heavily in these relationships, supporting the dynamic theory that separates leadership from management. This theory expands upon the dualistic relationship to extend into three areas of consideration: leaders, followers, and their interactions (Andrews & Field,

1998; Emans et al., 2003; Kotter, 2001). “Leaders are effective only as far as followers are willing to be led” (Andrews & Field, 1998, p. 2). This principle holds true in public involvement programs, balancing the dualistic relationship required for effective engagement programs that meet the objectives of NEPA and mitigate the less-than-transparent efforts at political manipulation (Jackson, 2001). As previously discussed, however, the relationship between people and their government will always have a degree of imbalance. While democratic elections provide opportunity to change elected leadership, interaction with officials and the bureaucracy remain far from equal for most citizens (Habermas, 2005; Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000). Despite the inequalities, the government-public relationship is akin to the leader-follower dynamic in that, as a democracy, there is a degree of shared power and multidirectional influence (Hibbing & Theiss-Morse, 2002; Kellerman, 2004).

Within the context of public involvement programs, the notion of leadership appears to align with core competencies and philosophies of the International Association for Public Participation if public involvement programs are implemented with process sincerity, meaning that decision makers have left open the opportunity to be influenced or diverted by public comment, creating a shared-power construct of leadership founded under empowerment (Bass & Riggio, 2006; IAP2, 2009). This empowerment recognizes the imbalance of direct power, seeks to share authority in the decision process, and extends collaboration to a level of empowerment, as Bass and Riggio (2006) recommended.

Looking at the government-public relationship within an organizational-theory construct, public involvement efforts may be successful at increasing access to important

information and instilling a sense of greater power within the relationship than among those who are not engaged in the participation process (Bass & Riggio, 2006; Bickerstaff & Walker, 2005; Caldwell & Hayes, 2006; Tuler et al., 2005). Empowerment, however, can create perceptions of control among followers or exacerbate tensions when public-government ideals come into conflict or goals fail to align (Andrews & Field, 1998; Bartram, 2007). Furthermore, research notes that, when empowered, followers can harden their positions because of the now-shared responsibility for success or failure (Bass & Riggio, 2006; Delli Carpini et al., 2004; Huxham & Vangen, 2000). This danger is recognized by the International Association for Public Participation and its research-based spectrum of public participation, ranging from “inform” at the bottom of the engagement continuum and continuing to “consult,” “involve,” “collaborate,” and “empower,” where the final authority for a decision rests with the public as might be found in an election question for a city’s land-use plan or a school budget initiative (IAP2, 2007).

Generalized, a leader’s decision process resolves to five steps: (a) gather the facts; (b) analyze the facts; (c) weigh the opinions of others; (d) weigh the merits and likely outcomes of alternatives; and (e) make a decision that is likely to produce the best or most desirable result. A final, less scientific aspect is classified as the “does it feel right” rule (Higgins & Gilberd, 2000).

Leadership Behaviors and Civic Engagement

In the past half-century, more than 65 classifications of leadership have emerged, generally categorized based on the power foundation as referent, expert, legitimate, reward, and coercive (Kotter, 2001). Even if the public has doubts on the sincerity of

specific governmental actions or programs, a common belief in the institution of a representative democracy may continue to exist, although that is no longer recognized as a societal norm (Felli & Merlo, 2007). Such a belief requires a sense of shared power to deemphasize the power role of those in assigned-authority or perceived-authority positions (Bass & Riggio, 2006; Berman, 2008; Bickerstaff & Walker, 2005; Habermas, 2005). While research does not strongly identify an *ideal* leadership style for the government-public dynamic, a situational approach is advanced as a flexible alternative that addresses bureaucratic needs, manages stakeholder interests, provides appropriate engagement, and presents sincere opportunities for influence by the public (Friedman, 2004; Fung & Wright, 1999; Jackson, 2001; Koontz & Johnson, 2004). This situational view holds true for the tactical implementation of public involvement programs (Jackson, 2001; Koontz & Johnson, 2004).

Situational approaches, however, pose challenges for leaders and institutions. Adaptive change, according to Heifetz and Laurie (1998), forces leaders to solve problems more collaboratively and places followers into positions requiring sometimes uncomfortable change. They identify leadership responsibilities for adaptive change, which correlates strongly to the purpose and scope of National Environmental Policy Act-aligned engagement programs: (a) direction; (b) shaping norms; (c) protection; (d) orientation; and (e) managing conflict (Heifetz & Laurie, 1998). “The prevailing notion that leadership consists of having a vision and aligning people with that vision is bankrupt because it continues to treat adaptive situations as technical” rather than as a leader-follower exchange and collaboration with shared responsibility (Heifetz & Laurie, 1998, p. 196).

In exploring prevailing leadership behaviors expressed by government officials and institutions as part of public engagement opportunities, it is important to establish a theoretical foundation. While an organization cannot lead, the actions of those within it do set the tone through decisions, kept or broken past promises, and current commitments that can create impressions on the public. Those impressions may influence levels of participation in the government outreach effort (Hibbing & Theiss-Morse, 2002). O'Toole et al. (2002) concluded through research that leadership is as much an institutional trait as it is individual. While most scholars focus on the lone status of the leader, research suggests a necessary convergence to confront the leadership and management challenges of modern times and when "the clamoring for increased public involvement in the political process is amazingly loud" (Hibbing & Theiss-Morse, 2002, p. 24). It is also important to define the distinction between management and leadership, both necessary functions for any organization. "One does not 'manage' people. The task is to lead people" (Drucker, 1999, p. 22). Based on the Drucker paradigm, management efforts address operational and functional issues while leadership encompasses broader, people-centered relationships that create the foundation for all other organizational efforts (Drucker, 1999; Kotter, 2001).

Most organizations, Kotter contended, are over-managed and under-led. "Management is about coping with complexity. Leadership, by contrast, is about coping with change" (2001, p. 86). It is this notion of change that most strongly aligns with the needs of public involvement efforts, since without a willingness to change, public involvement is insincere (Kane & Patapan, 2008). This conflict again illustrates the tension with citizen involvement in the details of governance: officials are legitimately

granted authority to act on behalf of society, yet that special authority can lead to disengagement, disenfranchisement, and outrage (Huxham & Vangen, 2000; Kane & Patapan, 2008; Jackson, 2001). Nonetheless, institutional leadership is a reality with clear expectation within government-public framework. Yet, the role of capable managers and leaders is to provide directional change, focused upon a mutually shared objective and aligned to the larger organization. This is where transformational, transactional, trait, contingency, and skills approaches converge, offering leaders with a variety of options to employ to guide a team through the change process (Drucker, 1999). A review of prevailing leadership styles that apply to the public-involvement framework follows.

Trait approach.

The so-called great man or heroic-leadership theory was among the earliest of leadership postulations, assuming that leaders were born and had innate qualities and characteristics that led them to power (Bass & Riggio, 2006; Deluga, 1990). Assessing forty years of research into the trait theory of leadership, literature identifies intelligence, self-confidence, determination, integrity and sociability as the emergent personal characteristics; these characteristics are assessed in the *Leadership Knowledge Survey*, albeit on a broader scale (Fullerton, 2010; Kane & Tremble, 2000). Trait theory stands apart as a hypothesis that focuses singularly on the leader and not on the relationship between leaders, followers, organizations or systems (Bass & Riggio, 2006; Kellerman, 2004). As a result, trait theory is among the least situationally flexible leadership modalities (Kouzes & Posner, 2002). Vroom and Jago (2007) contended that the research supporting trait/heroic leadership theory is largely flawed, in part because traits

should be measurable; social psychologists have been unable to do so, suggesting that there is a broader influence on leadership style and behaviors, including those exerted by followers and situations. Within public involvement programming, an organization that has adopted a trait-leadership philosophy, or which is oriented to operate as if the trait approach is appropriate, will struggle to build the consensus and sense of legitimacy from the public necessary to meet NEPA objectives (Koontz & Johnson, 2004; Mohl, 2004; Mutz, 2006).

Skills approach.

As a manager develops, he or she may acquire the skills and abilities necessary to fulfill the principles of leadership (Deluga & Souza, 1991; Kouzes & Posner, 2002). Like the trait approach, the skills theory of leadership focuses on only the leader and assumes an acquisition of knowledge required to gain leader status. Diverging from the trait approach, however, skills theory makes leadership abilities more accessible through personal growth and knowledge, rather than confinement to born traits (Kouzes & Posner, 2002; Vecchio et al., 2008). Of note, human, technical and conceptual skills are identified in research as being founded in the skills approach; those abilities extend into other forms of leadership theory (Aldoory & Toth, 2004). Within the transportation sector, project managers will often assume a leadership role among the community in advocating for a project or in organizing public involvement activities based on positional/trait power. While regarded as a technical expert, these engineers may lack the consensus-building skills or community oriented perspective to effectively engage members of the public in soliciting viewpoints on projects or in developing divergent options (ADOT, 2007; Noller, 2009; Patten, 2001; Rahman, 1999).

Style approach.

A manager's behavior is considered under the style approach to leadership, assessing what leaders do and how they act. Task and relationship behaviors are identified within this theory, as leaders work with followers to gain confidence to meet objectives (Bjugstad et al., 2006; Friedman, 2004). The mix of task and relationship efforts are linked to leader effectiveness, which in turn are correlated to follower engagement (Blake & Mouton, 1967, 1975). With Blake and Mouton's Managerial Grid, the style approach is further disaggregated into five dimensions: (a) country club management; (b) impoverished management; (c) authority-compliance management; (d) middle-of-the-road management; and (e) team management (Bass & Riggio, 2006; Blake & Mouton, 1967, 1975; Kouzes & Posner, 2002). "In the past, bosses could exercise work-or-starve authority over their subordinates. They expected and got obedience from them" (Blake & Mouton, 1975, p. 29). For staff from sponsoring agencies, transitioning from a professional bias towards a leadership style into a public involvement-appropriate leadership model may pose challenges in establishing a perception of sincerity and legitimacy among members of the public (Koonz & Johnson, 2004). In essence, the Managerial Grid and its style approach elements are a way to illustrate two aspects, concern for productivity and concern for people, as part of a system-view approach (Blake & Mouton, 1975). Described by Blake and Mouton (1975) and Drucker (1999) as a breakdown of authority and obedience among the workforce, this revolution is seen today as the empowerment and engagement of followership as equitable with leadership (Bjugstad et al., 2006). Research into this leadership style, however, remains unclear on

approach effectiveness and the linkage between specific styles of behavior and outcomes (Northouse, 2007).

Situational approach.

Departing from skill or trait theories, the situational leadership approach theorizes that when the application of specific leadership attributes are aligned with diverse situations, a nexus is created between the actions of the leader and the demands of the environment or competencies of followers (Blanchard, 2008; Vroom & Jago, 2007). Directive and supportive elements are incorporated into the situational approach, creating a leadership awareness of relationships both between leader and follower and between followers to the task (Vroom & Jago, 2007). Blanchard (2008) identified four styles within the situational approach that represent combinations of the directive and supportive elements: (a) directive; (b) coaching; (c) supporting; and (d) delegating. Each style applies a unique mix of directive and supportive leadership behaviors that are designed to address the task to most directly bring forth personal development of followers, meeting the necessary goals and the socioemotional needs of followers, or providing reduced direction to permit follower confidence (Blanchard, 2008). Because of the ever-changing nature of the situational leadership approach, Vroom and Jago used it as evidence that, in general, “leadership is a process, not a property of a person” (2007, p. 18). Leadership incorporates structural elements, including situational analysis, which directs the most appropriate leadership style; skills and traits are variables between an organization’s structural foundation and the outcomes of the organization (Vroom & Jago, 2007). Research suggests a strong alignment between situational leadership and public involvement, applying this style to best accommodate participatory forms of

deliberation that are open to input while minimizing the power imbalance between citizens and government (Adams, 2004; Aldoory & Toth, 2004; Harvey, 2009; Jackson, 2001).

Contingency theory.

Divergent but still aligned with the situational leadership approach, contingency theory addresses the need to match a leader, with a defined set of skills and traits, to the most appropriate situation – a theme that emerges in research into public relations effectiveness from an organizational perspective (Choi & Choi, 2008; Vroom & Jago, 2007). This theory, a modern extension combining skill/trait and situational theories, assumes that leaders are not able to *best* handle every challenge they may face in managing an organization. Because a leader's motivation is a characteristic not likely to become a situation-affected variable, it remains necessary to examine both trait and situational factors equally to suit the leader and the organization (Vroom & Jago, 2007). Within contingency theory, two styles have been identified through laboratory-based research: task motivated and relationship motivated (Murphy, 2005; Vroom & Jago, 2007). Looking deeper, research has identified three prevailing leadership structures: (a) leader-follower relations; (b) follower-task structure; and (c) leader-position power (Heifetz & Laurie, 1998; Vroom & Jago, 2007). While contingency theory makes clear that no leader can perform expertly in every situation, empirical evidence demonstrates that situations do influence how leaders respond, as do the leader's characteristic behaviors and traits (House, 1996; Murphy, 2005; Vroom & Jago, 2007). According to Jackson (2001), the devolution of power required for authentic public participation programs requires a contingency approach by government representatives who express a

willingness to share power and build consensus based on the situation and needs of stakeholders.

Path-Goal/Expectancy theory.

Framed within a more transactional philosophy, path-goal theory addresses the relationship between the leader's style, characteristics of followers, and the dynamic of the organizational environment to forge a climate that motivates followers to accomplish defined objectives (House, 1996; Vroom & Jago, 2007). Under the path-goal theory, and the closely related expectancy theory, a leader's primary objective is to create and manage the path of followers towards individual and group goals. Subordinate and environmental characteristics guide the path-goal approach within a framework of consideration and initiating structures, theories supported by recent meta-analyses (House, 1996; Vroom & Jago, 2007). Expectancy theory diverges in that it suggests followers will be motivated if they believe they are capable of performing the assigned task, if they can predict the outcome, and if they believe the reward for performing the work is valuable when compared to the effort required (House, 1971, 1996). House, who first proposed the path-goal theory, classifies the approach as more of a management strategy with some independence from true leadership influences and is aligned with other research addressing the leader-follower dynamic:

Path-goal theory is a dyadic theory of supervision. It concerns relationships between formally appointed superiors and subordinates in their day-to-day functioning. It is concerned with how formally appointed superiors affect the motivation and satisfaction of subordinates. It is a dyadic theory of supervision in that it does not address the effect of leaders on groups or work units, but rather the

effects of superiors on subordinates. Consistent with the dominant leadership paradigm of the time, path-goal theory is primarily a theory of task and person oriented supervisory behavior. (1996, p. 3)

The role for leaders, thus, is to provide motivation, support, and resource allocation to followers to enable the group to perform as desired, assuming that the leader is appropriately placed to serve the organization. The leader, when necessary, is required to make clear the linkage between effort and rewards of goal attainment (Bartram, 2007; House, 1971, 1996). Extending further, House (1996) suggested a value-based leadership approach that gives meaning more strongly to the efforts and objectives of followers through connections to deeply held values, building intrinsic motivation.

Path-goal theory incorporates four modalities: (a) supportive leadership; (b) directive leadership; (c) achievement-oriented leadership; and (d) participative leadership (Daft, 2005; House, 1971, 1996; Tichy, 2002). These four dynamic leadership styles are viewed as options to be used by any leader, depending on the situation, and disconnected from engrained traits (Daft, 2005; House, 1971). When public involvement programs provide opportunities for empowerment and shared decision-making, path-goal leadership modalities will be critical for demonstrating legitimacy and participatory collaboration (Hibbing & Theiss-Morse, 2002; Huxham & Vangen, 2000).

Leader-Member Exchange theory.

Abandoning previous theories focused solely on the direction or motivation provided by a leader upon a group, the leader-member exchange theory examines the reciprocal relationship between a leader and his or her followers, creating a more relationship-based organizational dynamic centered upon one-on-one social engagements

(Daft, 2005; Wang et al., 2005). With the leader-member exchange theory, there is a premise of role establishment addressing social exchange, reciprocity and equity (Wang et al., 2005). Leaders convey expectations and provide tangible and intangible rewards to followers aligned with their articulated desires; followers establish role expectations for leaders, addressing relationship dynamics and expected rewards for meeting expectations, creating obvious parallels for public involvement program participation (Daft, 2005; Howell & Shamir, 2005; Wang et al., 2005).

There is a reciprocal process in the dyadic exchanges between leader and follower, wherein each party brings to the relationship different kinds of resources for exchange. Role negotiation occurs over time, defining the quality and maturity of a leader-member exchange” (Wang et al., 2005, p. 421).

The approach remains situation focused, with leaders being responsible for understanding and responding to the characteristics of individual group members, and the dynamic of the organizational environment (Blanchard, 2008; Daft, 2005). Empirical research, including that performed by Wang et al. (2005), demonstrated a correlation between leader-member exchange and transformational leadership theories among high-performance organizations as leaders transcend traditional social exchanges to stimulate followers’ ideas of performance and self-interests.

Transformational leadership.

Inspiring and motivating followers to achieve shared objectives and develop personal leadership skills is the foundation for the transformational leadership theory. Sharing elements with leader-member exchange theory, transformational leaders respond to individual follower needs to promote growth and fulfillment (Bass & Riggio, 2006;

Deluga, 1990). Through empirical research, Bass and Riggio (2006) have found that transformational leadership promotes higher-than-expected performance, stronger follower commitment to the leader and organization, and greater feelings of satisfaction. Nonetheless, transformational leadership is considered an extension of transactional leadership but ascending the dynamic relationship between leaders and followers (Bass & Riggio, 2006; Deluga & Souza, 1991; Wang et al., 2005). Common leader behaviors associated with transformational leadership theory include articulation of a compelling vision for the future of the organization, fostering the acceptance of group goals, and providing individual support (Bass & Riggio, 2006; Wang et al., 2005). Bass and Riggio (2006), in an effort to differentiate *good* and *evil* charismatic leaders, established two categories of transformational leader behaviors: personalized and socialized. While personalized leaders focus on managing self-interests and benefits, often at the expense of followers or the social good, socialized leaders work from a more altruistic foundation that empowers and supports others; this distinction is important for evaluating the degree of authenticity of leadership behaviors (Bass & Riggio, 2005; Howell & Shamir, 2005). Thus, a personalized transformational leader is “pseudotransformational, or an inauthentic transformational leader” (Bass & Riggio, 2006, p. 13). Within the organizational context, transformational leaders are able to support task performance of followers by making necessary amendments to the social and psychological work environment. This largely is accomplished through the leader’s ability to help followers internalize the transcended needs and objectives (Howell & Shamir, 2005; Wang et al., 2005). Research into the conceptual and empirical relationship between transformational and leader-member exchange theories of leadership suggests that the leader-member

exchange approach mediates between transformational leadership and performance (Wang et al., 2005). In the study, managers and followers completed survey instruments to measure independently transformational and leader-member exchange aspects of their immediate supervisor. The responses were then correlated with validated scales to make four primary determinations. First, transformational leadership behaviors are akin to social currency; second, transformational leadership is associated positively with task performance; third, transformational leaders enhance follower reception to role expansion; and finally, leader-member exchange makes transformational leadership more personally meaningful (Wang et al., 2005).

Wang et al. (2005) further noted that the transformational leadership effect on follower performance is correlated to the degree to which the follower personally experiences and interprets those leader behaviors, suggesting a need to strongly integrate situational responsiveness within transformational leadership approach. Where the leader-member exchange fulfills an explicit contract between leaders and followers, transformational leadership creates an implicit contract that fulfills a psychological and social exchange to build follower self-worth and self-concept (Wang et al., 2005).

Howell and Shamir (2005) asserted that the charismatic/transformational relationship requires effort and submission from both the leaders and followers to be successful, and to ensure an appropriate distribution of power to mitigate abuses. Huxham and Vangen (2000) identified three leadership aspects to collaboration, including structures, processes and participants; neither the public nor the government can independently control these factors. In public involvement programs, leaders can assume a transformational, “manager of meaning” role to promote collaboration and diversified relationships with

stakeholders, and fuse aspirations of followers and the institution (Huxham & Vangen, 2000, p. 1160).

Leadership Knowledge Survey

Designed as a pre-test/post-test instrument to measure the effectiveness of a college leadership development program, Fullerton's (2010) *Leadership Knowledge Survey* is based on the *Developmental Advising Inventory*, a commercially available educational assessment tool that measures nine internal and external personal dimensions. These nine dimensions include Intellectual, Life Planning, Social, Physical, Emotional, Sexual, Cultural, Spiritual, and Political (Dickson, Sorochty & Thayer, 1998). The 18 elements of the *Leadership Knowledge Survey* include Teamwork, Vision, Goal-Setting, Leadership Styles, Situational Leadership, Risk-Taking, Identifying Strengths in Others, Delegation, Values, Ethics and Character, Decision-Making, Conflict Management, Attitude, Initiative, Social Change, Community Service, Global Perspectives, and Lifelong Learning. In Fullerton's (2010) correlational study, the *Leadership Knowledge Survey* was used to measure the effectiveness of a leadership academy, the curriculum of which was aligned with the nine dimensions of the *Developmental Advising Inventory*. With the survey, Fullerton demonstrated that student leadership knowledge and competency increased over the duration of the study period among those students enrolled in the leadership academy, as compared to students who were not.

The *Developmental Advising Inventory* was founded on the theory that student affairs leaders needed to move extra-curricular activities implemented outside of the classroom into the more curricular aspects of campus life (Dickson et al., 1998). From there, data was used to support and verify the effectiveness of leadership development

programs on campus and the influence of student leaders, based on individual strengths compared to the instrument dimensions. In their research, Dickson et al. (1998) stressed the importance of linking the findings from the *Development Advising Inventory* to campus academic or non-curricular programming to better integrate leadership across the campus, thereby driving a change in climate and culture. They further made the connection between “student development and learning in order to achieve the mission of higher education” (Dickson et al., 1998, p. 134). This research into peer leadership within a community drew parallels to public involvement programs for transportation projects, underscoring the potential for leadership to influence the broader culture of an environment based on targeted development efforts.

Summary

In exploring foundational research and theories related to the core research question, there are strong implied connections between participatory democracy, deliberative engagement and diverse leadership styles. These styles are assessed in Fullerton’s (2010) *Leadership Knowledge Survey*, which pulls elements from prevailing leadership theories to identify knowledge of and preference for specified leadership behaviors.

Examining the government-public dynamic equally to the leader-follower dynamic yields potential correlations to guide governmental activities like public involvement programs, such as those required under NEPA. Following what Habermas (2005) described as a constitutional principle rather than a single-group expectation can support the movement of a group beyond personalized interests to address an issue from a social perspective; such a viewpoint appears to align theoretically with transformational

and leader-member exchange theories of leadership (Bass & Riggio, 2006; Deluga, 1990). Because many public involvement programs have become checklist exercises, the need to explore new, more effective ways to connect and involve members of the public for important projects has become more critical (Bickerstaff & Walker, 2005; Darnall & Jolley, 2004; Habermas, 2005).

The literature also reflects a clear need to redefine *community* for public engagement efforts to seek greater diversity and reduce barriers to participation from citizens and stakeholders who may be most impacted by proposed projects (Carrasco et al., 2006; De Morris & Leistner, 2009; Stewart et al., 2007; Wagenet & Pfeffer, 2007). Habermas (2005) posited that government officials have a leadership mandate to provide such expanded opportunities for those upon whom the government will be acting, underscoring the relationship and process elements of the government-community dynamic and the potential role for audience-defined leadership preferences (Delli Carpini et al., 2004). A power imbalance exists, based on research on deliberative democracy and public involvement, demonstrating a less-than-democratic underpinning for many engagement efforts, eroding trust and degrading the relationship between community and government (De Morris & Leistner, 2009; Wagenet & Pfeffer, 2007). The integration of worldviews converging leadership, ethics, justice, and power within government structures can provide greater balance in the process and relationship aspects of the government-public dichotomy (Habermas, 2005; Wagenet & Pfeffer, 2007). Examining the behaviors connected to these philosophical frameworks, and the potential alignment with established leadership theories, will be the focus for further exploration in seeking actionable methodologies that serve to provide more sincere public engagement, reduced

contention between government and the public over proposed projects, and stronger processes of deliberative democracy that incorporate leadership-based philosophies.

Chapter 3: Methodology

Introduction

The exhibition of leadership behaviors and characteristics by government staff engaged in public involvement programming may affect perceptions of public participants, potentially influencing levels of meeting satisfaction and the sense of authentic participation. Despite implementation as a formalized aspect of federal law in 1970, there is little research into public involvement and public participation programs conducted in fulfilling the requirements of the National Environmental Policy Act (Adams, 2004; Fung & Wright, 1999; Lowry, 2010; Patten, 2001). The construct of leadership, however, continues to emerge as an often-researched field across disciplines for building learning organizations, promoting transformation, and supporting collaboration (Andrews & Field, 1998; Bartram, 2007; Bjugstad et al., 2006; Caldwell & Hayes, 2006; Senge, 1990). The influence of observed leadership characteristics and perceptions on the civic public involvement processes present no clear examples of previous research, providing an opportunity to examine this situational dynamic from a research methodology favoring a mixed-methods approach (Alexander, 2008; Mulligan & Nadarajah, 2008).

The process of deliberative democracy, the core of the philosophy underscoring the need for public-participation programs, is one based on dynamic relationships between the public (collectively residents, stakeholders, and others) and the government (officials, staff, and consultants) (Habermas, 2003, 2005). Because of the inherent dynamic of the relationship, at times unbalanced and contentious, a natural question is to explore how that construct can be used to foster more successful and authentic public

participation activities through methods that respect the situation, expectations of parties, and outcome necessity; these improvements can be potentially implemented via training for staff and situational analyses prior to public involvement program initiation (Berman, 2008; Bickerstaff & Walker, 2005; Delli Carpini et al., 2004; Habermas, 2003, 2005).

As a research project designed to examine the confluence between public and governmental interaction, this study followed a mixed-methods methodology to examine correlations within the governmental and community structures (Lindsey & McGuinness, 1998). While not a pure community action research project, this study focused on the social actions of power and the potential of that power to influence change in existing processes; the community aspect of the study emerged from the participation in public meetings, from which the study sample was selected (Lindsey & McGuinness, 1998). The quantitative aspect of the study followed a correlational approach, while observations and structured interviews guided the qualitative research (Creswell, 2009; Yin, 2009).

A mixed-methods approach was selected to maximize the range of information and perspective gleaned, promote the complete range of data analysis, and establish more accurate conclusions (Creswell, 2009; Reams & Twale, 2008). A mixed-methods approach was also selected to provide greater flexibility in working collaboratively with community participants to uncover the best available perspectives and approach the research questions holistically. The ability to view the research questions from different lenses, perspectives, and stances was especially well suited to the examination of public involvement programs (Creswell, 2009; Reams & Twale, 2008).

Statement of the Problem

It is not known how and to what extent leadership behaviors such as vision, situational leadership, ethics, attitude, or community service influence public meeting attendees' perceptions of effectiveness and legitimacy for government projects required to comply with the National Environmental Policy Act (Andrews & Field, 1998; Avolio et al., 1999; Babcock-Robertson & Strickland, 2010; Badaracco, 2001; Bass & Riggio, 2006; Bjugstad et al., 2006; Fullerton, 2010). Research suggests that the exhibition of leadership behaviors may positively affect the perceptions of community members when reflecting on the effectiveness of the public involvement program, thus potentially reducing conflict and creating additional opportunities for collaboration (Delli Carpini et al., 2004; Ellis, 2008; Fung & Wright, 1999).

Assessments into this government-citizen relationship have not been fully explored for potential opportunities for consensus and leadership-based training, or the role of differentiated leadership behaviors with audiences within the NEPA public involvement framework (Castillo, 2008). Participants at NEPA-required public meetings for large-scale transportation projects are varied in interests and expectations. The National Environmental Policy Act and its public involvement requirements were instituted, in part, to correct aggressive and unconcerned highway construction during the first decade after passage of the Eisenhower Interstate Highway Act (Brady, 1990; GAO, 1974; Luther, 2005; Noller, 2009). Public parks, recreational areas, and traditional cultural sites were harmed in the name of highway construction; NEPA provisions now protect those sites unless "reasonable and feasible" alternatives are not otherwise available (NEPA, 1994). Beyond the legal protections, the engagement of stakeholders –

a category of interested parties beyond nearby residents or prevailing landowners – emerged through NEPA as no longer optional but a required and critical aspect of highway planning, design, and construction.

NEPA, as assessed within this research, focuses specifically on the environmental and preliminary engineering reports conducted at the initiation of a formal transportation corridor study; it is this phase that requires the most intensive public input, and yields the greatest expression of support or contention from stakeholders (GAO, 1974; Lowry, 2010; Noller, 2009; Rahman, 1999). Within the framework of the community, highway construction proposals and projects can incite strong emotions from the public, but the corresponding response from those representing the government or project team may detract from the principles of quality public involvement that affect the proposal, and in violation of the promise and mandate to engage in collaborative planning for actions which fall within the purview of NEPA (Adams, 2004; Bartram, 2007; Bickerstaff & Walker, 2005; Rahman, 1999).

This study examined two groups: residents and project staff. Residents, including stakeholders and non-stakeholders, choose engagement in transportation projects and the associated public involvement processes as a result of personal or community interests, environmental concerns, or other motivations (Carrasco et al., 2006; Luther, 2005). Project staff and officials, conversely, become engaged in these projects because it is required and expected, even if members of this group are resistant because of the mandate to work cooperatively with the general public, most of whom are not professional civil engineers, transportation planners or environmental scientists (Adams, 2004; Lowry, 2010).

This struggle between the bureaucratic and societal spheres is an important dimension of deliberative democracy, the essence of the public participation process, and has the potential to yield democratic reforms through public empowerment (Habermas, 2003). Bridging these spheres is the “theory of authority” (Habermas, 2003, p. 189) that establishes situationally based norms and rules to guide the democratic relationship. Yet, public meetings intended to foster deliberative democracy often do not; the public may be given an opportunity to speak, but often with little sincere engagement in the democratic process and questionable real or perceived influence on the proposed project (Adams, 2004; Carrasco et al., 2006; Fung & Wright, 1999; GAO, 1974).

Research Questions / Hypotheses

The intent of this concurrent, mixed-methods study was to examine the extent to which perceptions of project staff leadership behaviors by attendees at public meetings conducted in compliance with NEPA affect public involvement program effectiveness and legitimacy. For this study, legitimacy is defined as public involvement programs that are perceived by participants as being fair, conducted with sincerity on the part of project staff, and influence the ultimate decision process (Adams, 2004; Bayley & French, 2008; Bens, 1994; Delli Carpini et al., 2004; IAP2, 2009; Mohl, 2004; Stitch & Eagle, 2005). In this study, correlational analysis was used to measure the relationship between observed and ideal leadership behaviors as perceived by public meeting attendees, and the relationship between perceived behaviors of attendees and project staff self-reported knowledge of leadership behaviors (Creswell, 2009). At the same time, implementation of deliberative/participatory democracy was explored using an observational approach (Yin, 2009) with the researcher documenting leadership behaviors of project staff during

four geographically diverse public meetings. The reason for combining both qualitative and quantitative data was to better understand the research problem by converging quantitative correlations with qualitative observations to develop recommendations for the training of project staff and aid in the design of public involvement programs (Creswell, 2009; Yin, 2009). This quantitative and qualitative data was collected using an adapted version of Fullerton's (2010) *Leadership Knowledge Survey* as the primary instrumentation for assessing participants who either attended recent public meetings or conducted meetings as part of a project team.

Quantitative.

H_1 : Public meeting attendees will perceive a significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members identified on the *Leadership Knowledge Survey*.

H_0 : Public meeting attendees will perceive no significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members as identified on the *Leadership Knowledge Survey*.

H_2 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

H_3 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

H_4 : A significant relationship exists between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

Qualitative.

R_1 : What leadership behaviors are most commonly exhibited by project staff during public meetings?

R_2 : What does the public believe are the staff leadership behaviors that are important to support productive and collaborative public meetings?

Research Methodology

As a project focused on interactions between people and their government, a research methodology was necessary to address both the quantifiable and qualitative aspects of this relationship, focusing on leadership behaviors. By extending organizational dynamic theory into the construct of public participation programs for government projects, correlations were explored based on data collected from an

electronic survey instrument, from structured interviews, and from public meeting observations to assess both quantitative and qualitative lines of inquiry.

Quality within social science research is clearly a matter of concern among scholars (Bryman, Becker & Sempik, 2008). “[T]he positivist resistance to qualitative research goes beyond the ever-present desire to maintain a distinction between hard science and soft scholarship” (Denzin, Lincoln & Giardina, 2006, p. 771). These concerns related to “soft scholarship” include (a) growth of qualitative research and the absence of agreed upon criteria for the assessment of quality; (b) increased attention from researchers and research institutions on quality, especially for those projects which have the potential to influence policy; (c) fueled by distrust stemming from corporate and academic malfeasance, a climate of questioning and audit has emerged; and (d) the rise of mixed methodology research and how quality should be defined (Bryman et al., 2008). Because of the hard-science underpinning of quantitative research approaches, the quality criterion and acceptability is more widely known. However, debate remains over the accuracy of the quality differential between methods, and if the extent of agreement claimed within the quantitative sector is as unanimous as is often presented (Bryman et al., 2008).

In assessing the perceived differences between the three primary approaches – qualitative, quantitative, and mixed – Bryman et al. (2008) documented that considerable support remains for quantitative research, but there appears to be growing support for the importance and role of mixed methodologies when integrated into the research questions and findings. For some issues, a solitary focus on quantitative methodologies ignores the “contexts of experiences,” and “turns subjects into numbers that ignores the fabric of

American social life” (Denzin et al., 2008, p. 772). This research further demonstrates the need to establish the rationale for employing a mixed methodology to avoid the perception of a scatter-grab for data (Bryman et al., 2008). Specifically, mixed methodologies are ideal for considering the subtle social differences that exist between gender, ethnicity, race, socioeconomic status, disability, and other factors that can aid in the creation of new phases of knowledge. Further, it balances the moral and political aspects of the study subject (Denzin et al., 2006). As such, this mixed-method study addressed both descriptive and explanatory elements.

There are, however, limitations to this research methodology. Correlational analysis fails to address factors of causation, while observational data is susceptible to researcher bias. With correlational analysis, critics suggest that it fails to connect the independent and dependent variables in a casual relationship (Creswell, 2009; Mahoney, 2001). Observational studies, likewise, provide researchers with little control over variables and can conceal causation relationships, such as why community members choose to attend public meetings (Creswell, 2009).

Quantitative.

In the descriptive realm, this research defined the existing dynamic occurring in NEPA-required public involvement programs. That dynamic involves a relationship construct that is not well explored in existing research, and would have immediate application within the public involvement field (Mohl, 2004). To gain this descriptive data and create the framework of what is occurring, a quantitative survey instrument was administered to public meeting attendees and project staff.

An electronic survey correlated personal perspectives with observed public meeting leadership behaviors, satisfaction/process legitimacy, and provided individual rankings of key leadership behaviors to support positive public involvement programs. Quantitative data from members of the public are paramount in providing contextual support for why public meetings conducted as stipulated by NEPA do or do not contribute to positive deliberative democracy processes (Denzin et al., 2006).

Qualitative.

Data was collected through the qualitative observational phase at four diverse public meetings, exploring the exhibition of leadership behaviors by project staff, the degree to which collaboration is promoted, and how conflict is avoided or resolved with public meeting attendees. Such an approach aligns with the purpose of mixed-methods research, allowing for less stringent data collection and separate criteria for qualitative and quantitative methodologies (Bryman et al., 2008). Leadership behaviors exhibited by the project staff were recorded using the *Leadership Knowledge Survey* along with examples of how the behavior was integrated into the interactions with the public, and how the public responded.

Research Design

This study followed two concurrent tracks. Quantitative measurements assessed leadership behaviors and correlations to public meeting attendee satisfaction. Qualitative assessments based on observations and structured interviews were employed to understand the implementation of leadership behaviors in public meetings and the effect on public meeting attendee perceptions of public involvement programs.

The process of assessing perceptions, observations, and present and ideal conditions required a diverse approach (Reams & Twale, 2008). This study recognized the theoretical framework of community participatory action research approach, designed to build knowledge for organizational transformation through collaboration (Lindsey & McGuinness, 1998; Senge & Scharmer, 2001). The perceptions and viewpoints of community members organized and motivated this change process, but the government institutions and officials within them were the focus for change. This was an initiative to explore ways to shape and improve future public involvement efforts, but not to dwell on past performance or perceptions (Senge & Scharmer, 2001). This is especially important since previous research indicated that both the public and project staff consider public meetings to be the best opportunity to engage in collaborative project programs; interestingly, however, project staff also indicate that they often have negative experiences at these meetings (ADOT, 2007). The connections to community action research are strong, but, because of the nature of the NEPA process, it is not feasible to directly engage the community in the change process without potentially exceeding public authority in project decision-making or violating the rigid perimeters for the conduct of a public involvement program (Lindsey & McGuinness, 1998).

Quantitative.

To accomplish quantitative data collection, the use of electronic surveys was administered to project staff who interacted with the public during one or more public meetings from 2006 to 2011; members of the public who attended public meetings during the same timeframe were also asked to complete this instrument, based on the *Leadership Knowledge Survey*. In addition to the leadership behavior assessment, more in-depth

inquiry with public meeting attendees garnered quantitative insight into the top-five ranked leadership behaviors, the importance of public involvement programs, and a sense of the degree attendees felt satisfaction from the meeting and public participation process. Project staff, as a final question to the survey, were asked to assess their perceptions of how important or unimportant the application of leadership behaviors across all phases of a public involvement program are to the public views.

Public meeting participant survey.

Based on a researcher-created database of email addresses from public meeting attendees from 2006 to 2011 and others who signed up for project information, an electronic survey instrument was distributed to 7,729 stakeholders asking for reflections of the participant regarding the most recent public meeting he or she attended; of these, 569 or 7.36%, self-identified as having attended a public meeting since 2006 and completed the survey instrument. By querying those who have attended one or more public meetings, signed in, and provided a valid email address, it was possible to survey community members from rural, suburban, and urban regions to assess a statewide mix of project types. Demographic data was collected to aid in analysis of results.

For quantitative data, the *Leadership Knowledge Survey* was used to assess the 18 identified leadership traits and asked participants to rate, on a one-to-four scale, the extent to which the trait was demonstrated by project staff (Fullerton, 2010). Permission to use the Likert-style survey instrument was secured from the developer, as well as information on how the survey was validated over several years of use. This survey asked participants to rate leadership behaviors observed by the project staff, using the established instruments to support validity. Beyond reporting on observed leadership

behaviors, public meeting attendees were asked to assess (on a one to five scale) perceptions of meeting success, feelings of public involvement program legitimacy, sense of collaboration, and overall value of public involvement programs for new highway development. Furthermore, the electronic survey requested that participants rank, from one to five, the top leadership behaviors from those identified in the *Leadership Knowledge Survey* they would prefer to see exhibited by project staff, in general, to support successful meetings and legitimate public participation programs.

Qualitative.

Finally, these identified meeting attendees were asked to provide open comment on why the top desired leadership behavior was selected to support productive public meetings, and the ways in which project teams can use leadership behaviors to improve relationships in the community. By asking for qualitative data through structured interviews following assessment of the quantitative data elements, participants were staged to provide valid commentary on perceptions, observations, and reflections that can support the qualitative data.

An approach using both structured and less structured questions for collection of this data was appropriate to ensure a balanced understanding of the terms and to gain the necessary quantitative information. This range of data points provided through this mixed-methods study provided for an analysis to make some determinations as to what the public expects, what the public is currently receiving, and how project staff perceive their own leadership behaviors in an effort to improve meeting effectiveness and reduce conflict (Fung & Wright, 1999). As noted by Wendler (2001) and other scholars, quantitative data analysis, while still viewed by some as more rigorous and academically

defensible, can nonetheless be in conflict with the human perspective of scientifically based research; the role of mixed-methods analysis is to bridge qualitative and quantitative results, which result from differing processes and sometimes divergent philosophies (Reams & Twale, 2008; Williamson, 2005).

Project staff survey.

Mirroring the adapted *Leadership Knowledge Survey* administered to public meeting attendees, a similar instrument was presented to Transportation Department officials, engineers, project managers, and consultants who had potentially participated in a public meeting since 2006. Of project staff, 204 were identified and presented with an opportunity to participate in the survey; 117 or 57.4% self-selected and chose to participate based on having contributed to a public meeting in the timeframe identified. The survey for project staff focused exclusively on quantitative measures. In addition to the *Leadership Knowledge Survey* assessment and ranking of the top five leadership behaviors for successful public meetings, project staff were asked to rate the success of the most recent meeting in which they participated, the legitimacy of public involvement efforts in influencing decision making, the value of public involvement programs in new highway corridor studies, and their understanding of federal public involvement requirements. Project staff were asked to complete the survey based on their personal knowledge and reflections, as opposed to the perception-based assessments of the public meeting attendees.

Qualitative.

The utilization of a structured instrument incorporating a survey as part of a mixed-methods study allows for both the highly rigid qualitative elements and the

qualitative elements such as experience, opinion, and behavior to be correlated and analyzed (Reams & Twale, 2008; Wendler, 2001). Qualitative data, both based on direct researcher observations of public meetings and from public meeting participants, was reviewed and major themes identified to begin building a framework for analysis (Reams & Twale, 2008; Wendler, 2001; Williamson, 2005). Through this qualitative data collection, using Fullerton's *Leadership Knowledge Survey*, further insights into the government-public dynamic were documented in conjunction with specific examples and leadership-schema connections.

Observational data collected during public meetings that were conducted in compliance with NEPA were used to correlate the more structured quantitative data. Through a case study approach, coded data was recorded of observed leadership behaviors by project staff, levels of collaboration between project staff and public meeting attendees, and the extent to which conflict was mitigated. This observational data was recorded on a matrix based on the *Leadership Knowledge Survey* (see Appendix D) to capture the specified leadership behaviors, examples of how that leadership behavior was expressed by project staff, and the observed reaction of public meeting attendees. The primary researcher conducted all of the observations, reducing concerns over protocol training and inter-rater reliability.

Public meeting observation.

Following the principles of participatory and community action research, this study explored the exhibition, intended or unintentional, of leadership behaviors within community involvement programs, focusing on public meetings. Case-study observation was an appropriate methodological approach for this study because of the nuanced

definitions of leadership traits, and to provide baseline understanding of the demonstrated dynamic between the community and governmental spheres (Reams & Twale, 2008).

According to Senge (1990), a learning community is one focused on working together to nurture and sustain a knowledge-creating system. This framework is well aligned with public involvement requirements, which are designed to create a two-way partnership that reviews project proposals, seeks input, and improves upon the ultimate decision while considering a range of impacts on the natural and human-built environments (CEQ, 1997; Noller, 2009; Rahman, 1999). Through meeting observations, the use of language by project staff, methods for receiving and recording public input, and the manner in which challenging or negative comments from stakeholders are received played a role in the overall assessment of leadership exhibition. Observation also allowed for the collection of expressed data from participants in these public forums; positive or negative comments presented that reflect on the public involvement program can support purely observational data with a degree of validation. This data collected through observations provided additional context and support for conclusions reached on the research questions and captured, in aggregate, public sentiments from community members who might not otherwise be included in a formalized study.

Observational data collection was structured to allow for an inventory of leadership/managerial behavioral traits expressed by project staff using the *Leadership Knowledge Survey* instrument as the foundation. Public comments from meeting attendees supported validation of observational data. This inventory, completed by the researcher during the course of each public meeting, accounted for core traits identified in

the literature on primary leadership styles, such as transformational, transactional, leader-member exchange, contingency/situational, or servant (Murphy, 2005; Vecchio et al., 2008; Vroom & Jago, 2007; Wang et al., 2005). This observational data was then sorted and used as independent validation of results from the survey results. This process of cataloguing meeting observation and leadership behaviors was a critical element in providing consistency across the assessed meetings, documenting the emotions that may be present from members of the public in meetings about controversial projects, or in identifying project staff members who stand apart individually, for which quantitative assessments would not account.

In addition to meeting observations, public meeting attendees were asked to respond to two open-ended questions as part of the *Leadership Knowledge Survey* focusing on why they identified the top leadership behavior for project staff to exhibit during public meetings, and how they believed project staff can use leadership behaviors to support more collaborative public meetings. These responses correlate to quantitative inquiries and provide a means of analysis for greater understanding of participant perceptions.

Population and Sample Selection

Two distinct populations were involved in data collection for this study: members of the public who chose to attend transportation-related public meetings, and the project staff who were directly involved with interacting with the public during these public participation programs. Members of the public were identified based on those who signed-in to public meetings between 2006 and 2011 or who requested to be added to project emails lists, and who self-selected to participate in response to an email survey

instrument. In general, these participants were representative of projects across the State of Arizona, and included only English-speaking adults; the survey instrument distributed via email developed a broad, inclusive perspective to extend the range of data presented in the study (Collins, Onwuegbuzie & Jiao, 2006).

The study was limited to English speakers for practical data-collection reasons, and because the state Transportation Department is legally mandated to conduct most business in English; thus, few non-English speakers attend public meetings. This aspect was clearly identified and analyzed as an important limitation, and a significant consideration for further research.

In the quantitative survey, public members were asked to rate 18 areas based on the *Leadership Knowledge Survey*, identify five ideal leadership behaviors in ranked order, and discuss overall meeting satisfaction and their sense of process legitimacy – the perception that the public involvement program is sincerely implemented, fair, and enacted in a manner that can inform the decision process. Time required for this process was estimated to be less than 15 minutes. The survey included comprehensive instructions and answers to questions emphasizing that behaviors and perceptions should be based solely on the participant's perspective; participants were instructed to use common-meaning definition of leadership terms. Data was collected for leadership behaviors on a one-to-four scale, and for secondary variables on a one-to-five Likert-style scale.

As a correlational study, 100 participants was the target population size, based on a 64-participant minimum for a one-tailed hypothesis or 82 for a two-tailed hypothesis (Collins et al., 2006; Faul, Erdfelder & Buchner, 2009). Ultimately, 569 stakeholders

(7.36%) self-selected to participate in the study, based on the screening criteria of having attended a Transportation Department meeting between 2006 and 2011.

Project staff is a category that includes Transportation Department leadership, staff-level civil servants, and private-sector consultants working directly and indirectly for the project sponsor. Any project staff member who directly interacted with the public at a meeting between 2006 and 2011 was asked voluntarily to complete the *Leadership Knowledge Survey* self-assessment; this group totaled 204 with 117 (57.4%) self-selecting to participate based on the screening criteria. Completion time was estimated to be five minutes and was an email-based instrument done individually, but with the same instructions and behavior directions as provided to community participants. It was anticipated that no fewer than 25 project staff members would be assessed during the research phase.

Integrated as part of the electronic survey, all participants were asked to complete a standard consent form integrated into the electronic survey, and had an opportunity to receive a final copy of the research findings via email. No compensation was provided. Project staff were able to freely choose to participate or not without consequence or penalty. As an email survey, a higher degree of confidentiality was granted; this may have been an especially important factor for project staff who choose to participate or who may have viewpoints they view as divergent from the Transportation Department's philosophies. All participants were asked to provide demographic information, based on the U.S. Census form, to aid in data analysis and cross-tabulation of results.

Instrumentation / Sources of Data

Quantitative.

The quantitative instrument selected for this study, and for which usage was granted from the original researcher, is the 18-behavior *Leadership Knowledge Survey* (Fullerton, 2010; J. Fullerton, personal communication, July 21, 2010). Using college students enrolled in a leadership-development program, this instrument was validated against the *Developmental Advising Inventory*, a commercially available educational assessment tool (Fullerton, 2010). Based on data collected from 1986 through 1995, results provide confidence in the validity and reliability of the dimensions of the *Developmental Advising Inventory*. Internal consistency reliability coefficients ranged from a low of .82 to a high of .87 on all dimensions for the field-testing sample ($N=1,551$) from 18 institutions during a one-year period. Subsequent data from a validation sample ($N=2,679$) collected between 1992-1996 from ten institutions showed that internal consistency ranged from .78 to .90 across all nine dimensions. These nine dimensions include Intellectual, Life Planning, Social, Physical, Emotional, Sexual, Cultural, Spiritual, and Political and were used as the basis for Fullerton's *Leadership Knowledge Survey* (Fullerton, 2010; Dickson et al., 1998).

While not previously used outside of an academic setting, the *Leadership Knowledge Survey* was deemed as an appropriate instrument because of the plain-talk leadership behavior descriptions and the range of behaviors presented. It was also selected because it was an instrument with equal application for both project staff members and stakeholders, a shortcoming among other instruments that are not designed to measure observed leadership behaviors. Finally, as detailed in Chapter Two, this

instrument measures leadership behaviors that align with the principles of public involvement (IAP2, 2009).

With the *Leadership Knowledge Survey* instrument, key components of leadership can be measured without survey participants engaging modern theories or lengthy characteristic analysis. Rather, the clarity of the categories for assessment support a plain-speak approach appropriate for a general audience, and allow for similar instrumentation to be used between populations.

The 18 elements for rating in the *Leadership Knowledge Survey* instrument, on a scale of “none”, “limited”, “moderate,” and “comprehensive”, are:

Teamwork	Vision
Goal-Setting	Leadership Styles
Situational Leadership	Risk-Taking
Identifying Strengths in Others	Delegation
Values	Ethics & Character
Decision-Making	Conflict Management
Attitude	Initiative
Social Change	Community Service
Global Perspectives	Lifelong Learning

Project staff members completed the *Leadership Knowledge Survey*. However, additional Likert-scale questions focused on success of the most recently attended meeting, the fairness of the meeting and its ability to influence the ultimate decision, the sense of collaboration, the value of public involvement programs for new highway development, and knowledge of NEPA public involvement guidelines. Project staff were

also asked to rank, from one to five, the top leadership behaviors to support successful and productive public meetings.

The public meeting attendees who elected to participate in the study also completed the *Leadership Knowledge Survey*, basing their responses on behaviors of staff observed at the most recently attended public meeting. In addition to the *Leadership Knowledge Survey*, public meeting attendees were asked Likert-scale survey questions on meeting success, fairness of the public involvement program, sense of collaboration, and value of public involvement programs in developing transportation corridors. Public participants were asked to rank ideal leadership behaviors to support successful public meetings.

Qualitative.

In addition to the *Leadership Knowledge Survey* and supplemental quantitative survey questions posed to public meeting attendees, two structured interview questions were asked for open-ended responses to explain why the participant choose the top-ranked leadership behaviors for staff to demonstrate at public meetings, and the ways in which project staff can use leadership behaviors to improve relations with the community. These structured interview questions allowed for deeper exploration of underlying issues and perceptions to support analysis with qualitative case study observations (Darnall & Jolley, 2004; Denzin et al., 2006).

A researcher-developed matrix, based on the *Leadership Knowledge Survey*, was used to document observations of the 18 leadership behaviors measured by the survey, illustrate examples of how the behavior was used, and the response by the audience.

Sources of Data

Meeting observations, structured interviews, project staff surveys, and public attendee surveys constitute the complete range of data collected for this study. This data provided the necessary information to determine correlations between primary and secondary variables within the public involvement framework. As a mixed-method project, this research incorporates a balance of qualitative and quantitative data elements, collected and analyzed concurrently. The three data elements collected for this study were designed to provide full analysis, increasing validity and reliability, and provide consistency across diverse meeting settings/environments.

By using the *Leadership Knowledge Survey* with a Likert-scale as the foundation for this research, the source of data for both populations was balanced. Providing greater depth, however, were the follow up questions, which were either qualitative or quantitative based on the population; project staff members were kept in the quantitative realm, while public meeting attendees responded to both qualitative and quantitative questions. A separate, concurrent effort involved assessing public meetings and coding observed leadership behaviors based on the *Leadership Knowledge Survey* and prevailing leadership theories (Andrews & Field, 1998; Avolio et al., 1999; Babcock-Robertson & Strickland, 2010; Badaracco, 2001; Bass & Riggio, 2006; Bjugstad et al., 2006; Fullerton, 2010).

Beyond the *Leadership Knowledge Survey*, questions asked of project staff to measure the secondary variable included:

- (1) With one being the most important, please rank the top five leadership behaviors identified in the *Leadership Knowledge Survey*.

- (2) On a scale of one to five, how valuable are public involvement programs for supporting the development of highway corridors?
- (3) Based on your most recent meeting experience, on a scale of one to five how successful do you believe the meeting was?
- (4) On a scale of one to five, how well do you understand the public involvement requirements of NEPA and the federal government's expectations for public participation programs?
- (5) Did you feel like the project's public involvement program was fair and influential to the decision-making process?
- (6) On a scale of one to five, did this meeting incorporate a sense of collaboration?
- (7) On a scale of one to five, did this meeting have a sense of legitimacy?

Public meeting attendees who were identified and self-identified for participation in the study were asked the following questions beyond the *Leadership Knowledge Survey* to assess the secondary variables, from both qualitative and quantitative perspectives:

- (1) With one being the most important, please rank the top five leadership behaviors identified in the *Leadership Knowledge Survey*.
- (2) Reflecting on your ranking, why did you identify the top behavior as being important for public meetings?
- (3) Based on your most recent meeting experience, on a scale of one to five how successful do you believe the meeting was?

- (4) On a scale of one to five, did this meeting incorporate a sense of collaboration?
- (5) On a scale of one to five, how valuable are public involvement programs for supporting the development of highway corridors?
- (6) On a scale of one to five, did this meeting have a sense of legitimacy?
- (7) On a scale of one to five, did you feel like the project's public involvement program was fair and influential to the decision-making process?
- (8) How can project teams utilize leadership behaviors to improve relationships with the community?

Validity and Reliability

Developed and tested for research assessing the effectiveness of a student leadership-development program at a mid-sized western university, the *Leadership Knowledge Survey* was created as a pre- and post-program assessment. Content of the survey, 18 thematic leadership behaviors, were developed based on current leadership theory and research, and provided the framework for creation of the broader student leadership academy at the originating institution (Fullerton, 2010). The research of Fullerton, focusing on transformative learning in college students, was found to be valid through multi-year, multi-phase survey administration that demonstrated response/result consistency across a range of ages and levels of academic experience. The *Leadership Knowledge Survey* was correlated with other leadership assessment tools, including the *Developmental Advising Inventory*, to support validity across age, gender, academic

experience, and previous baseline knowledge of leadership theory (Dickson et al., 1998). Test-retest validity has also been confirmed.

In the administration of the adopted survey instrument, both to members of the public and project staff, consistent instructions supported cross-population understanding of the terms and concepts reflected in the instrument. In part, the *Leadership Knowledge Survey* was selected because it is short, easy to understand, and focuses on leadership behavioral awareness rather than more common characteristic assessments like the *Multifactor Leadership Questionnaire* (Babcock-Robertson & Strickland, 2010). When administered to project staff, instructions asked participants to indicate level of knowledge based on a self-assessment of leadership behaviors. Members of the public who participated in the research were asked to indicate their perceived levels of these behaviors by the project staff collectively; the aspect of perception was added as part of the public assessment to account for behaviors that may not be readily observable, but about which meeting attendees can make logical assumptions.

In development of the adopted survey instrument, field testing was conducted with more than 35 individuals, nine of whom were doctoral-level professionals with expertise in the fields of public involvement, leadership studies, NEPA implementation or meeting facilitation. This content validation and field-testing/piloting process evaluated the form, format, and ease-of-use of the survey instruments.

Validation of data collected through quantitative assessments of public members was established through structured interview questions, answers from which were categorized and coded to identify themes, correlations, and opinion ranges. This

qualitative survey data was then compared against the case study observations collected by the researcher to support analysis of findings.

The effect of time on the validity of data is not anticipated to be of significant concern, in part due to the slow-moving, multi-year nature of NEPA transportation studies and the progressive series of public meetings held for each project. However, the effectiveness of data collected relative to the meeting and public participation programs was constrained by the population that chooses to attend meetings of this nature; this constraint will have some degree of an effect on broad-implication validity, which will be documented as a limitation and area for further research. In general, public meeting attendees are those with a direct interest, are a primary stakeholder, or engage the project based on a philosophical position (Alexander, 2008; Carrasco et al., 2006). This population may not be fully reflective of the general public who are within a project's study area or are stakeholders. This study attempted to capture a sufficient population of participants from diverse meeting types and from varied locations to adjust for meeting attendee biases. This two-stage study was designed to preserve validity by correlating meeting attendee and project staff survey data on leadership behaviors observed during meetings, and public attendee reflections on meeting effectiveness. Ultimately, validity was demonstrated through data correlations, which suggest that higher levels of observed leadership will result in higher public satisfaction, and a smaller difference between staff and public perceptions of leadership behaviors will yield higher public satisfaction scores (Adams, 2004; Bayley & French, 2008; Bens, 1994; Bickenstaff & Walker, 2005; Carrasco et al., 2006; Delli Carpini et al., 2004; Irvin & Stansbury, 2004; Stewart et al., 2007).

Data Collection Procedures

In this mixed-methods study, data was collected through an Internet-based survey instrument, available for 30 days, to establish correlations and via case study observations of public meetings. All collected data will be retained for seven years in both paper format secured in a fireproof case and backed up electronically in three locations (Internet cloud document storage, researcher-retained hard drive, and a secure off-site file server).

Quantitative.

Data was collected through administration of the *Leadership Knowledge Survey* with the addition of supplemental structured interview and quantitative questions by using an industry standard, electronic mail-based tool. This instrument was administered voluntarily to community members who were identified through public meetings sign-in sheets and provided a valid email address, and from members of the public who had provided their email addresses to the Transportation Department for project-related updates. Collection of this data remained separate from usual public meeting feedback forms and processes generally employed by project-sponsor agencies to maintain an independence of the effort and preserve data confidentiality. Participants were told that the research was being conducted independently from any specific public meeting, and all responses are confidentially maintained. This information was reiterated on the required informed consent waiver, which was integrated into the survey instrument as a required first step.

In the surveys with public meeting attendees, participants were asked to provide feedback on the 18 behaviors documented in the *Leadership Knowledge Survey* based on

the formal meeting presentation and personal interactions with project staff from the public meeting most recently attended. These participants were also asked to provide insights into ideal public involvement program leadership behaviors, using the same survey instrument and providing rankings of 1 (*desirable*) to 5 (*most desirable*).

In addition to that collected from public meeting attendees, quantitative data was amassed from project staff who conduct meetings to correlate and analyze self-reflections on leadership characteristic awareness. From these two sources, project staff and public meeting participants, correlations were examined on the “how and to what extent/benefit” leadership behaviors were evidenced in public meetings.

Based on a power analysis, it was determined that a minimum sample for this study would be 82 participants with a .3 effect and .8 power. This exceeded expectations of reaching 100 participants, which would increase the power to .92. Completing the power analysis provided a research-founded basis for establishment of a population size, rather than simply setting a goal or using a convenient sample (Faul, et al., 2009).

Qualitative.

As a mixed-method study, the primary qualitative data source was through the observations, and coding of leadership behaviors and styles exhibited at public meetings conducted by the Transportation Department around the State of Arizona using the *Leadership Knowledge Survey* and the same plain-meaning definitions presented to participants through the quantitative survey. Descriptive and reflective notes were collected and coded for organized analysis of themes; included in these notes was demographic information on the meeting location and audience composition. The researcher, acting only as non-participating observer, also recorded levels of

collaboration and efforts to mitigate conflict in the observed meetings to provide context for the quantitative data. However, observational data is somewhat limited because of a lack of inter-observer observations and because of the researcher's more advanced understanding of leadership theories and concepts.

In addition, as part of the primary survey instrument public meeting participants were also asked structured interview questions to provide open-ended responses that support correlation of observational data and to increase the validity of findings through better understanding of the *what* and *how* aspects of the public meeting dynamic.

A cylindrical process of data collection and analysis support stronger conclusions; two survey populations and observations created direct opportunities to compare perceptions and values. As this research was supported by a government agency directly engaged in the public involvement process, general approvals were secured to collect and apply this data to the proposed research project; specific approvals were sought and obtained once the survey instrument and research methodology were fully articulated through Transportation Department leadership, with support from the Arizona Department of Transportation Research Center.

Data Analysis Procedures

Because this is a mixed methods study examining correlations (quantitative) and observations (qualitative), analysis relied on an interpretative, concurrent analysis approach to appropriately analyze the observed, desired, and self-reflection data collected from both public meeting participants and project staff. Analysis focused on the identification of leadership behaviors, aligning those characteristics with research-based leadership theories, and correlating those findings with the observations of the

participants. The initial step was a review of all data elements to ensure that incorrect, non-responsive, or illegible inputs were discarded to avoid any contamination of the analysis pool. Data was weighed equally between qualitative and quantitative spheres.

Quantitative.

Quantitative data was analyzed for baseline correlations and the strength of those correlations, with the objective of finding the areas of strongest and weakest linkage between staff and public perceptions related to observed leadership characteristics in public meetings. From there, the public's identified ideal top five behaviors were analyzed to correlate with what the public observed in-practice, and analyzed against staff self-assessments. Thus, a correlation of quantitative data was undertaken to compare (a) project staff members' behaviors and the public's perception of those behaviors during the meeting; (b) publically observed leadership behaviors during the meeting and the public's identified ideal behaviors; and (c) the self-assessment of project staff against the public's ideal behaviors.

Because this data is interval and not solely ordinal, correlational analysis to relate primary and secondary variables provided baseline findings, and allowed for illustration of the findings to support audience expectations. These analysis processes included the Pearson Product-Moment Correlation to examine the strength between variables, and the Spearman Rank-Order Correlation to assess the statistical dependence on two variables to measure the association between two assessed quantities (Thochim, 2006). By looking at the micro- and macro-experience, data analysis assessed correlations, trends, and differences while maintaining the independence of variables.

Qualitative.

Qualitative data was collected from two sources: meeting observations recorded via a matrix (primary) and through structured interview questions of public meeting attendees (secondary). Data received from surveys and observations was organized and coded in two tracks using a data-transformation process. First, public meeting attendees' perceptions of ideal leadership behaviors for project staff members were correlated to traits identified in literature for core leadership styles. Reflections from the public meeting attendees on the success and legitimacy of the meeting were documented and analyzed across all meetings to examine trends, intersections, or other microanalysis relationships to the quantitative data. Second, observations collected by the principal investigator were recorded and coded based on primary leadership styles (e.g. transformational, transactional, leader-member exchange, contingency/situational, servant, etc.). This observational data was then sorted, analyzed for thematic trends, and assessed for correlations with other data sources.

Ethical Considerations

To address any ethical considerations related to the free participation in data collection by project staff or community members, informed consent was obtained before the study participant could progress into the survey; these consent forms, integrated as an initial step in the electronic survey instrument, required agreement to progress into the survey. Specialized for each population group, these informed consent forms fully explained the data collection process and that group's role in that process. These were the only documents reflecting the identity of actual study participants, using Internet

Protocol addresses as a source of validation and to ensure that only one response per computer/participant was received.

Raw data, especially that from the project staff who were directly involved with public meetings, was only presented in an aggregate format to preserve professional confidentiality, for which increased concerns by participants was a recognized consideration. All participation was voluntary; no personal or acute effects are projected for those who choose to participate.

Researcher bias was mitigated through the use the wide-reaching email database of potential participants, diversifying community member experiences and project types from across the state. Furthermore, researcher biases were identified and adjusted through the use of survey instrument pre-testing to norm any findings and conclusions. Following the conclusion of the study, a summary of results and conclusions will be provided to participating government agencies and made publically available via a website.

No experimental or deceptive research processes were employed; thus, debriefing sessions with participants were deemed unnecessary.

Limitations

As research taking a new approach to examination of the public-government relationship within the community-meeting context, this project has identified limitations, primary of which is the lack of a firm, well-established theoretical foundation for the role of leadership behaviors as a supportive structure within the deliberative democracy construct. While previous research and literature evaluates the collaborative democratic processes, the role of leadership in a group setting, the operational function of formal public meetings, and necessity of public involvement for large-scale public works

projects, little has been done to bridge those independent spheres to seek contributions to improved meeting outcomes through leadership behaviors (Adams, 2004; Berman, 2008; Carrasco et al., 2006; Castillo, 2008; Ellis, 2008; Harms, 2008). The audience that attends public meetings presents another limitation; like other forms of civic engagement, public involvement tends to attract those who have a vested interest, are directly affected, or become engaged through a strongly-held philosophical belief, such as environmental protection (Carrasco et al., 2006). As such, conclusions can directly relate to only the population that attends public meetings, and the views of those volunteer participants may be influenced based on their views of the project under discussion.

This research was not designed to extend into increasing participation, but only to improving public involvement program effectiveness. As noted previously, data-collection challenges and state English-only laws generally limit the participant pool to English speakers; the range of opinions and perception between different ethnic, socioeconomic, or age classifications will merit further study. Finally, this study examined public participation programs required under NEPA and related to state-level transportation projects. The Federal Highway Administration regulates interpretation and implementation of NEPA requirements for these projects. While NEPA is a broad law covering most proposed federally funded projects, different sponsoring federal agencies have divergent implementation requirements that could differ from those articulated as part of this research (GAO, 1994). There are no implied connotations beyond highway projects.

This research effort was intentionally confined to examine 18 specified leadership behaviors, rather than attempting to identify a leadership-theory schema for all public

meetings. This narrow focus is designed to maintain simple, easy-to-understand instrumentation for study volunteers and to address the behavioral characteristics as part of the institutional relationship. This study was also limited to public meetings within Arizona, and only those conducted as an element of the required NEPA process, which is engaged only for the preliminary design and environmental impact assessment phases of a proposed projects; other meetings are conducted following the completion of the NEPA process, after a final decision on a proposed project (CEQ, 1997). By conducting data collection only in conjunction with public meetings, this study has been delineated to focus only on what is observed and experienced as part of a public meeting, rather than querying a sample of the potential stakeholder population to comprehensively examine the role of public participation in transportation projects.

Finally, the *Leadership Knowledge Survey* was not designed for the purpose of measuring leadership knowledge within the public involvement framework. While other instruments exist to measure personal knowledge of leadership skills or traits, no other instruments were identified that worked both to assess personal reflections by one group, and to measure personal observations made by another group. The process of direct observation of the public meeting demonstrates the final limitation, with the potential for researcher bias to influence the observations made during these four public meetings. As for the data analysis protocol, Pearson correlation was used as the primary means of analyzing data, although the researcher did compute using Spearman's *rho* and found nearly identical results. Pearson correlations were used because the data can be viewed as interval and not solely ordinal.

Summary

In an age of increasing themes advocating for governmental transparency and heightened public participation in proposed government projects, research findings may prove important for defining and, perhaps, supporting an improvement in processes and expectations between communities and their government (Bayley & French, 2008). Findings like this further clarify the citizen-government relationship within federal environmental review processes and the public participation components of these processes. While the public meeting outcomes may not change, perceptions may be adjusted to facilitate feelings of inclusiveness, empathy, collaboration, and fairness founded in leadership principles. Research of this nature may be of importance to federal officials who administer the National Environmental Policy Act, local governments that are required to follow these laws, project representatives, environmental advocates, and community leaders, all of whom share an interest in an improved process that is more productive, open, and inclusive.

Improvements to the tactical implementation of public involvement processes, such as through public meetings, supports the more strategic needs of overall process improvement as defined by the National Environmental Policy Act and furthering the objectives of sound decision making by the government (Ellis, 2008; Harms, 2008; Lowry, 2008). Furthermore, the collected data may provide perspective for both members of the public/advocacy groups and government officials on the perceptions, desired state, and observed state of leadership and collaboration as part of mandated public involvement programming. Ultimately, the public will be the beneficiaries of

findings that spur improved government-citizen relationships based on current leadership research.

Chapter 4: Data Collection and Analysis

Introduction

The purpose of this study was to examine the relationship between leadership behaviors exhibited by government staff, and stakeholder satisfaction with the public involvement processes mandated under the National Environmental Policy Act. As previously documented, public participation programs, such as those required to be conducted by the Arizona Department of Transportation, generally suffer from low levels of community engagement, dissatisfaction in the degree of legitimacy, and a perceived confrontational relationship between citizens and the government (Brady, 1990; Carrasco et al., 2006; Dayton, 2002; Habermas, 2003; Stitch & Eagle, 2005). Previous research suggests that the exhibition of leadership behaviors may positively affect the perceptions of community members when reflecting on the effectiveness of the public involvement program, potentially reducing conflict and creating additional opportunities for collaboration (Delli Carpini et al., 2004; Ellis, 2008; Fung & Wright, 1999). Thus, it is not known how and to what extent leadership behaviors associated with vision, situational leadership, ethics, attitude, or community service influence public meeting attendees' perceptions of effectiveness and legitimacy of government projects required to comply with the National Environmental Policy Act (Andrews & Field, 1998; Avolio et al., 1999; Babcock-Robertson & Strickland, 2010; Badaracco, 2001; Bass & Riggio, 2006; Bjugstad et al., 2006; Fullerton, 2010).

Using a mixed-methods approach, this relationship was explored through concurrent examination and correlations of quantitative and qualitative hypotheses/research questions using the adapted *Leadership Knowledge Survey* as the

primary data-collection instrument for both qualitative and quantitative data, supported by observations of four public meetings and structured interviews. As detailed in this chapter, a mixed-methods approach was selected to provide greater focus on public involvement program execution while offering an opportunity to analyze this data more closely. The methodology pursued included baseline collection of quantitative data via the *Leadership Knowledge Survey* of Arizona residents who had attended Transportation Department public meetings and of project staff members, supported by structured interviews, and observations of geographically distributed public meetings.

The quantitative approach involved conducting a survey of public meeting attendees and project staff from across Arizona to understand the relationships between observations and knowledge of leadership behaviors exhibited during NEPA-required meetings. The qualitative data collection incorporated structured interviews conducted electronically to obtain stakeholder opinions of the top five leadership behaviors needed for productive and collaborative meetings, why those behaviors are important, and strategies for project staff members to improve relationships with the community.

Hypotheses for quantitative study.

- Public meeting attendees will perceive a significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members identified on the *Leadership Knowledge Survey*.
- A significant relationship exists between project staff self-reported knowledge of leadership behaviors and public meeting attendee identification of ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

- A significant relationship exists between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.
- A significant relationship exists between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

Research questions for qualitative study.

- What leadership behaviors are most commonly exhibited by project staff during public meetings?
- What does the public believe are the staff leadership behaviors that are important to support productive and collaborative public meetings?

While current research examined tactical methods for engaging the public in discussions about proposed projects, as described in Chapter Two, there is little research exploring the foundations for these required activities in order to gain deeper understanding and support process improvements (Huxham & Vangen, 2000); this research was designed to bridge that gap. This chapter presents the results of this mixed-methods study, including staff and public surveys, and public meeting observations; analysis of data correlation is provided. This chapter reviews the descriptive data, the data analysis process used, and the results of the qualitative and quantitative data analysis.

Descriptive Data

Data was collected in two realms – through a survey for quantitative data, and through observations of public meetings and structured interviews for qualitative data.

Both project staff and stakeholder groups had an opportunity to self-select to access the email-based survey and structured survey instrument. This instrument, which used SurveyMonkey to support data security and confidentiality, was available for 30 days from July 25, 2011 to August 23, 2011. Beyond the initial email invitation seeking participation, potential study participants received two additional reminder emails seeking inclusion in the study.

Population

Two distinct population groups were assessed as part of this research; both population groups self-selected for participation based on a screening email sent to 7,729 stakeholders and 204 project staff members. This email outlined the purpose of the study, framing the need for participants who had attended or participated in a public meeting between 2006 and 2011. From the total pool of 7,729 potential stakeholder participants and 204 staff member participants, 569 stakeholders (7.36%) and 117 project staff members (57.4%) responded to the survey invitation. Of the total population, it remains unknown how many qualified for the study but chose to not participate or who were ineligible based on the initial screening directive since this was a self-selection process. This study sought a population that had recently attended a Transportation Department public meeting. However, no databases or unified rosters existed to document an established population to be used as the sample. Recent research conducted by the Transportation Department (ADOT, 2009) reflected that fewer than 8% of residents had attended a public meeting conducted by the Arizona Department of Transportation. This percentage of stakeholder attendance of 8% correlates strongly with the study response rate of 7.36%.

While chi-square tests could have been run to look at differences in frequency/categorical data between stakeholders and project staff members, this was not one of the main hypotheses.

Stakeholders. Stakeholder participants were 56.3% male and 40.2% female (3.5% no answer); 73.9% identified themselves as being currently married (7% no answer). In assessing levels of education, as shown in Figure 4.1, based on categories established by the U.S. Census Bureau, 35.9% indicated attainment of a bachelor's degree, 14.3% had one or more years of college but no degree, 28.6% indicated a master's degree, 8.5% reported having a doctoral degree, 6% had a two-year degree, and 4.5% had one year or less of college (2.2% no answer); these figures are significantly higher than the general educational levels for Arizona, where only 25.7% of the population in 2010 was recorded as having a bachelor's degree or higher (U.S. Census Bureau, 2011).

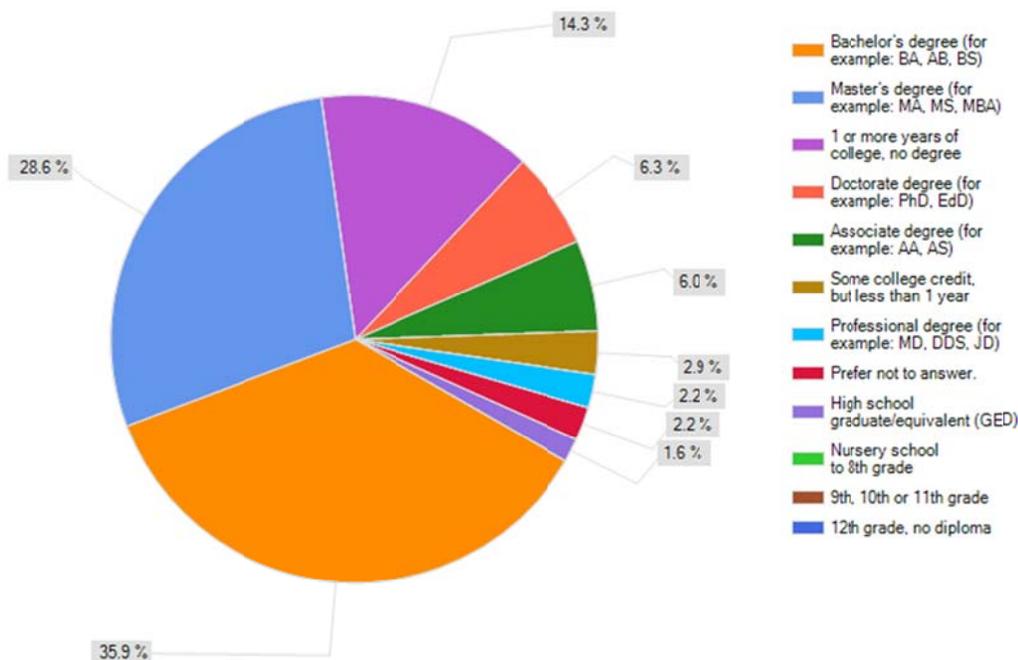


Figure 4.1. Highest level of education completed by stakeholders who responded to the *Leadership Knowledge Survey*.

As shown in Figure 4.2, 72.3% indicated they were currently employed or self-employed, 0.6% reported being out of work and looking for employment, 1% were homemakers, 0.3% said they were unable to work, and 23.6% signified they were retired (2.2% no answer); census data indicates that Arizona, in general, has 13.1% of the population age 65 or older (U.S. Census Bureau, 2011). Of those who are employed, 28.9% indicated they work in a for-profit sector, 20.9% work for local government, 12.9% were self-employed, 11.5% were state government employees, 9.8% indicated working for a charity or nonprofit organization, 5.2% were federal government employees, and 0.3% worked on a family farm (10.5% no answer).

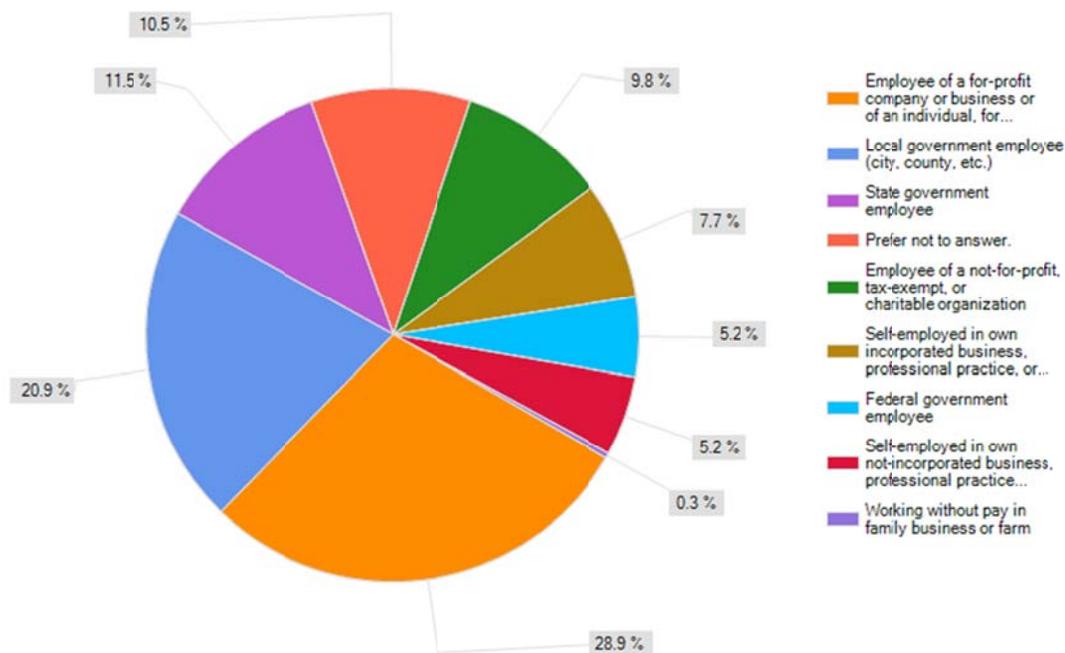


Figure 4.2. Employment classifications, based on U.S. Census Bureau categories, for stakeholders who responded to the *Leadership Knowledge Survey*.

Of the 310 respondents who provided this optional demographic information, 23.5% indicated that their annual income is \$100,000 to \$149,000, 14.8% indicated more than \$150,000, 12.9% reported \$60,000 to \$79,000, 11.9% selected \$80,000 to \$99,000, 9.4% reported \$40,000 to \$59,000, and 4.1% reported \$10,000 to \$39,000 (23.4% no answer); census data reflects a 2009 median household income in the state of \$48,711, below the national median of \$50,221 (U.S. Census Bureau, 2011). As illustrated in Figure 4.3, a total of 85.7% of respondents denoted their race as being white, with 2.9% noting Hispanic/Latino origin, 1.3% selecting Asian, and 0.6% indicating Native American (11.8% no answer); census data for Arizona shows 73% white in 2010 (U.S. Census Bureau, 2011).

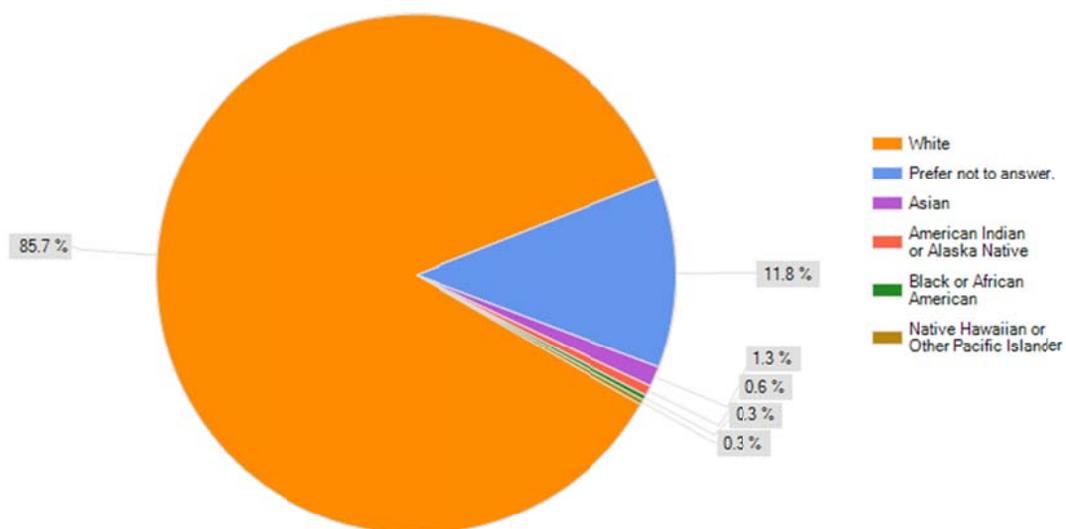


Figure 4.3. Stakeholder self-identification of race.

Finally, as shown in Figure 4.4, 47% indicated they lived in a suburban area, 27.4% indicated urban and 25.6% noted that they live in a rural area.

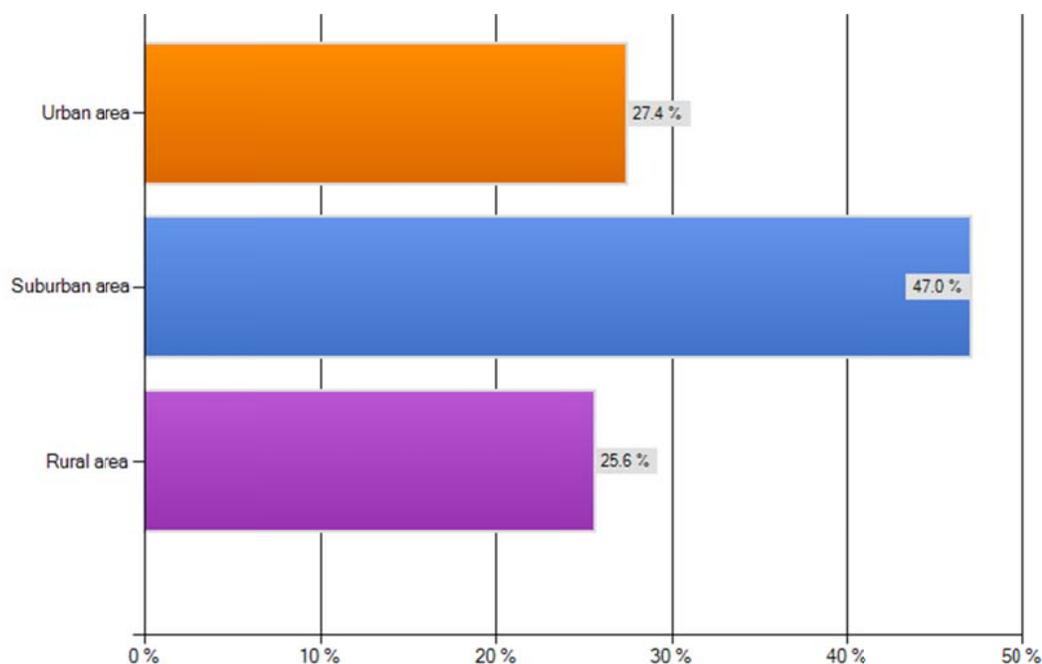


Figure 4.4. Residential classification by stakeholders as identified through the adapted *Leadership Knowledge Survey* instrument.

Project staff. By contrast, the project staff participants – 204 in total – were 58.1% male and 38.4% female (3.5% no answer). Of these, 69.4% indicated they were currently married. As shown in Figure 4.5, a majority were college graduates; 46.5% had a bachelor’s degree and 25.6% attained a master’s degree; 5.9% earned a doctorate. Only 4.7% had one year or less of college, 5.8% had more than one year of college but no degree, and 5.8% had earned a two-year associate’s degree (5.7% no answer).

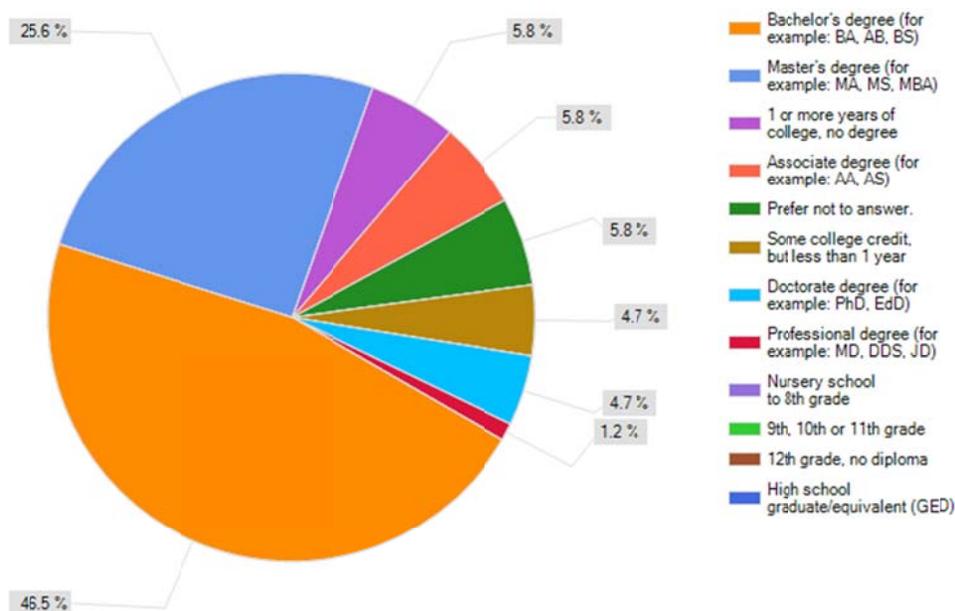


Figure 4.5. Highest level of education completed by project staff members who responded to the *Leadership Knowledge Survey*.

As would be expected for this population group, 90.7% indicated they were employed for wages, with the remainder indicating self-employment or choosing not to answer. Of these, 74.4% worked for state government and 12.8% indicated working in a for-profit organization, likely as consultants to the Transportation Department, 2.3% reported working for local government, 7% were self-employed (3.5% no answer). Income levels were diffused: 25.6% indicated making \$100,000 to \$149,000, 17.4% indicated \$150,000 or greater, 19.7% reported \$60,000 to \$89,000, 12.7% noted making \$40,000 to \$59,000, 9.3% reported \$90,000 to \$99,000, and 1.2% reporting less than \$39,000 (14.1% no answer). For race, as shown in Figure 4.6, 82.6% indicated white (6% Hispanic/Latino origin); 1.2% of project staff participants indicated black/African American and Asian descent (15% no answer).

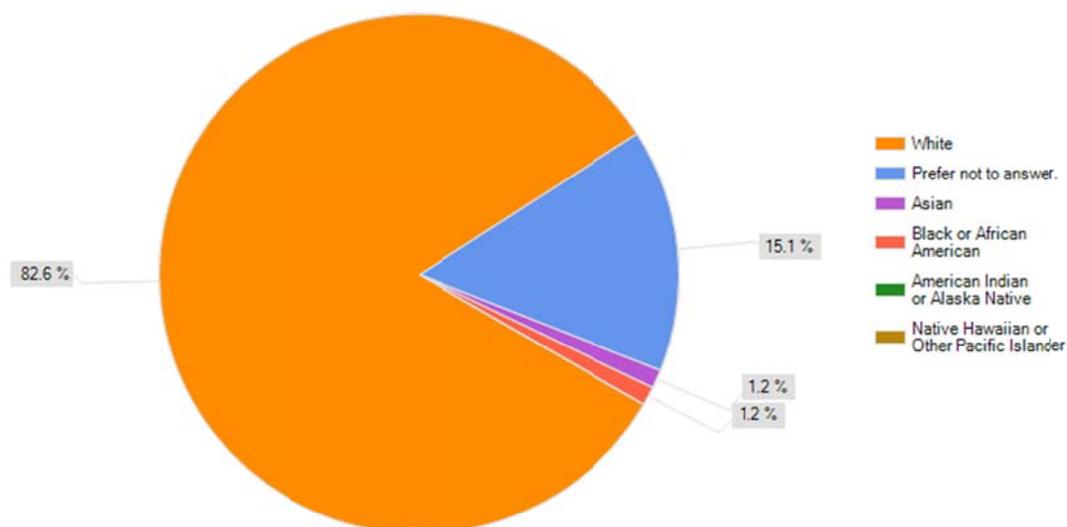


Figure 4.6. Project staff member self-identification of race.

Quantitative

Through an electronic survey administered to both stakeholders and project staff members, data were collected on the top five leadership behaviors needed for successful public meetings, the sense of collaboration and legitimacy at the most recent public meeting, and fairness and influence of the public involvement program, the success of the most recently attended public meeting, and the overall value of public involvement programs.

As shown in Figure 4.7, stakeholders ranked leadership behaviors, as defined on the *Leadership Knowledge Survey*, to identify the top characteristics that support productive and collaborative public meetings. The top five behaviors emerged as ethics and character, attitude, teamwork and team building, vision, and decision-making. Risk

taking, identifying strengths in others, and social change were identified by stakeholders as the least important leadership behaviors for productive meetings.

Similarly, as shown in Figure 4.8, project staff was asked to rank the leadership behaviors needed to support productive and collaborative public meetings. The top five behaviors identified were ethics and character, attitude, situational leadership, conflict management, and values. The behaviors identified as least important were social change, lifelong learning, and delegation.

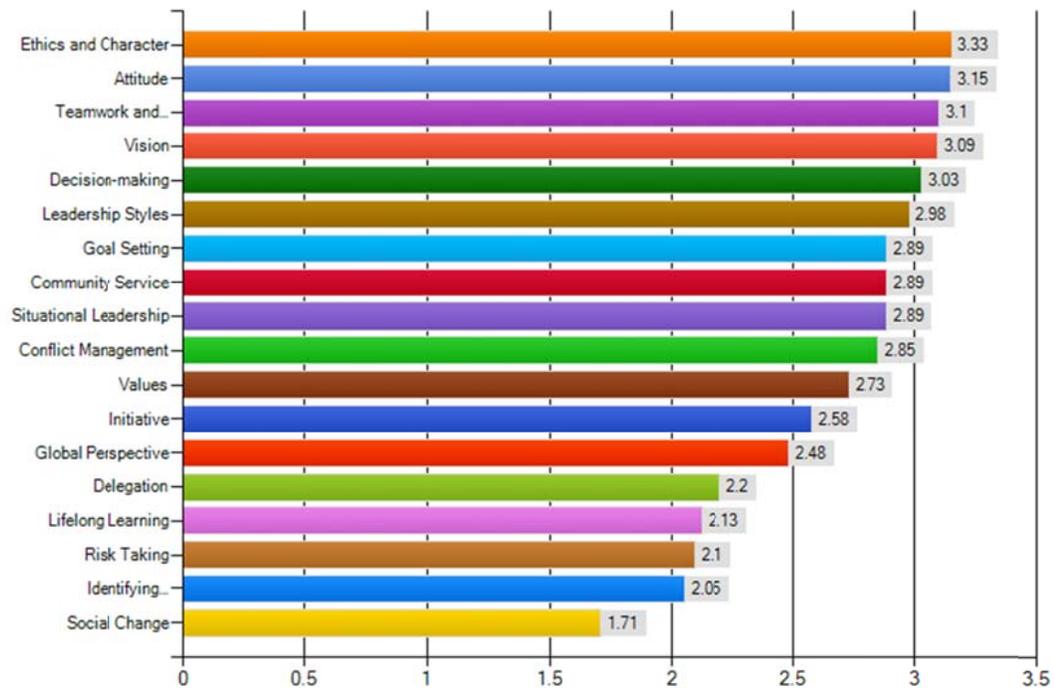


Figure 4.7. Stakeholder ranking on a scale of 1 to 5 of leadership behaviors needed to support productive and collaborative public meetings.

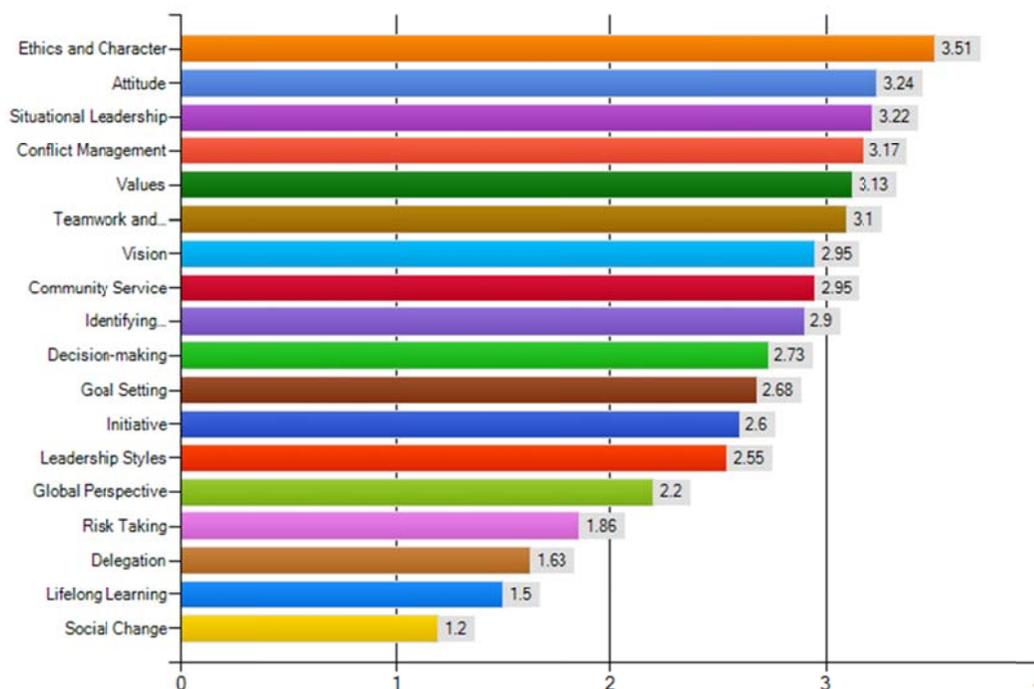


Figure 4.8. Project staff ranking on a scale of 1 to 5 of leadership behaviors needed to support productive and collaborative public meetings. ($N=87$)

When assessing the perspective of stakeholders, the top five behaviors emerge that community members believe create more productive and effective public meetings when project staff members express these behaviors. In order of rank, the public indicated ethics and character, attitude, vision, conflict management, and teamwork and teambuilding as the top leadership behaviors that should be expressed by project staff.

As presented in Table 4.1, rankings were calculated by the value of the rank (one through five) multiplied by the frequency, developing both a total for each of the 18 characteristics as well as a mean ranking. Differences in ranking between the numerical total and the mean rank were observed in six instances (teamwork and teambuilding, decision making, situational leadership, delegation, risk taking, and lifelong learning), reflecting a differential when factoring in the distribution and weight of individual scores.

For the purposes of this analysis, the total scores were used to represent most fittingly the viewpoints of survey participants.

Threats to validity and potential errors could be yielded from history, regression, or selection because of the type of stakeholder who chooses to attend public meetings, and because of the length of time between the public meeting and administration of the survey (Creswell, 2009). Indeed, the survey instrument itself may be a source of error; because it was designed as an instrument to test college leadership program development, it has not been previously used as a more broadly applied instrument to measure the observation or knowledge of leadership behaviors by a non-collegiate population.

As illustrated in Table 4.1, when compared to leadership knowledge expressed through a self-assessment completed by project staff and ideal behaviors for meetings as identified by stakeholders, there is close alignment among the top five. The top five behaviors align between the self-reported knowledge of project staff and the desired behaviors stakeholders indicate are beneficial for public meetings. The order is not based on the correlation analysis, but on how often respondents from both public and staff groups gave the item a one-through-five ranking at all. The top five items were the ones that received the highest rankings by the most people.

Table 4.1

Frequency and Sum of the Top Five Importance Rankings for each of Eighteen Leadership Behaviors by Public Attendees at Arizona Department of Transportation Public Meetings

Leadership Behavior	Frequency of Importance Rank 1 through 5 and Sum of Each										Total	Mean rank	SD
	1		2		3		4		5				
	f	sum	f	sum	f	sum	f	sum	f	sum			
Ethics and Character	26	26	28	56	32	96	30	120	57	285	583	3.37	0.96
Attitude	36	36	28	56	26	78	32	128	48	240	538	3.16	0.89
Vision	33	33	30	60	26	78	28	112	43	215	498	3.11	0.90
Conflict Management	36	36	31	62	40	120	35	140	26	130	488	2.90	0.94
Teamwork/ Team Building	19	19	31	62	34	102	34	136	26	130	449	3.12	0.91
Goal Setting	23	23	32	64	21	63	24	96	23	115	361	2.93	0.95
Decision Making	17	17	26	52	17	51	29	116	20	100	336	3.08	0.91
Community Service	21	21	23	46	21	63	21	84	19	95	309	2.94	1.00
Situational Leadership	19	19	14	28	32	96	25	100	12	60	303	2.97	0.88
Values	16	16	24	48	21	63	13	52	10	50	229	2.73	0.96
Initiative	16	16	14	28	13	39	8	32	10	50	165	2.70	0.90
Global Perspective	17	17	15	30	11	33	11	44	7	35	159	2.61	1.00
Leadership Styles	9	9	5	10	11	33	10	9	9	45	106	2.41	0.87
Delegation	2	2	2	4	5	15	3	12	12	60	93	3.88	0.95

(continued)

Table 4.1 (continued)

Leadership Behavior	Frequency of Importance Rank 1 through 5 and Sum of Each										Total	Mean rank	SD
	1		2		3		4		5				
	f	sum	f	sum	f	sum	f	sum	f	sum			
Identifying Strengths in Others	16	16	7	14	7	21	3	12	3	15	78	2.17	0.92
Risk Taking	12	12	7	14	2	6	7	28	1	5	65	2.24	0.86
Lifelong Learning	8	8	2	4	7	21	2	8	2	10	51	2.43	0.93
Social Change	14	14	5	10	1	3	4	16	1	5	48	1.92	0.92

Note: Sum is the rank value multiplied by the frequency, e.g., rank of 5 X frequency of 19 = 95. Total is the sum of each of the five ranks.

Likewise, as reflected in Table 4.2 project staff present similar viewpoints when asked about the top five behaviors that should be used during stakeholder interactions. In order, these behaviors include teamwork and teambuilding, ethics and character, attitude, conflict management, and vision. Rankings were calculated by the value of the rank (one through five) multiplied by the frequency, developing both a total for each of the 18 characteristics as well as a mean ranking. Differences in ranking between the numerical total and the mean rank were observed in three instances (values, community service, and initiative), reflecting a differential when factoring in the distribution and weight of individual scores. For the purposes of this analysis, the total scores were used to represent most fittingly the viewpoints of survey participants.

When compared to behaviors desired by public-meeting participants for exhibition during community meetings, there is close alignment among the top five. While the top five behaviors match between the self-reported knowledge of project staff

and the desired behaviors stakeholders indicate are beneficial for public meetings, the order of these behaviors differs.

Table 4.2

Frequency and Sum of the Top Five Importance Rankings for each of Eighteen Leadership Behaviors by Arizona Department of Transportation Staff

Leadership Behavior	Frequency of Importance Rank 1 through 5 and Sum of Each										Total	Mean rank	SD
	1		2		3		4		5				
	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum			
Teamwork/Team Building	11	11	13	26	13	39	9	36	16	80	192	3.10	0.68
Ethics and Character	7	7	8	16	6	18	9	36	19	95	172	3.51	0.80
Attitude	8	8	5	10	12	36	15	60	9	45	159	3.24	0.58
Conflict Management	4	4	11	22	9	27	17	68	5	25	146	3.17	0.60
Vision	8	8	8	16	8	24	6	24	8	40	112	2.95	0.58
Situational Leadership	6	6	3	6	2	6	11	44	5	25	87	3.22	0.83
Decision Making	6	6	6	12	13	39	0	0	5	25	82	2.73	0.61
Values	1	1	8	16	6	18	5	20	4	20	75	3.13	0.51
Goal Setting	9	9	4	8	3	9	4	16	5	25	67	2.68	0.77
Community Service	6	6	2	4	4	12	1	4	6	30	56	2.95	0.77
Identifying Strength in Others	2	2	2	4	3	9	1	4	2	10	29	2.90	0.67
Leadership Styles	4	4	1	2	2	6	4	16	0	0	28	2.55	0.86

(continued)

Table 4.2 (continued)

Leadership Behavior	Frequency of Importance Rank 1 through 5 and Sum of Each										Total	Mean rank	SD
	1		2		3		4		5				
	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum	<i>f</i>	sum			
Initiative	4	4	1	2	1	3	3	12	1	5	26	2.60	0.81
Risk Taking	4	4	2	4	0	0	0	0	1	5	13	1.86	0.72
Delegation	4	4	3	6	1	3	0	0	0	0	13	1.63	0.66
Lifelong Learning	5	5	0	0	0	0	1	4	0	0	9	1.50	0.74
Social Change	4	4	1	2	0	0	0	0	0	0	6	1.20	0.69

Note: Sum is the rank value multiplied by the frequency, e.g., rank of 5 X frequency of 19 = 95. Total is the sum of each of the five ranks.

Stakeholders were also asked to rate the success of the last-attended meeting conducted by the Transportation Department, using a five-point scale. As shown in Figure 4.9, 42.1% indicated that the meeting was somewhat successful, 20.9% said it was highly successful, 19.3% indicated that the meeting was neither successful nor unsuccessful, 9.9% noted that the meeting was somewhat unsuccessful, and 7.7% said it was not at all successful.

As detailed in Figure 4.10, 56.8 percent of project staff believed the meeting was somewhat successful; 35.2% indicated it was highly successful; 6.8% said it was neither successful nor unsuccessful; and 1.1% indicated that the meeting was somewhat unsuccessful.

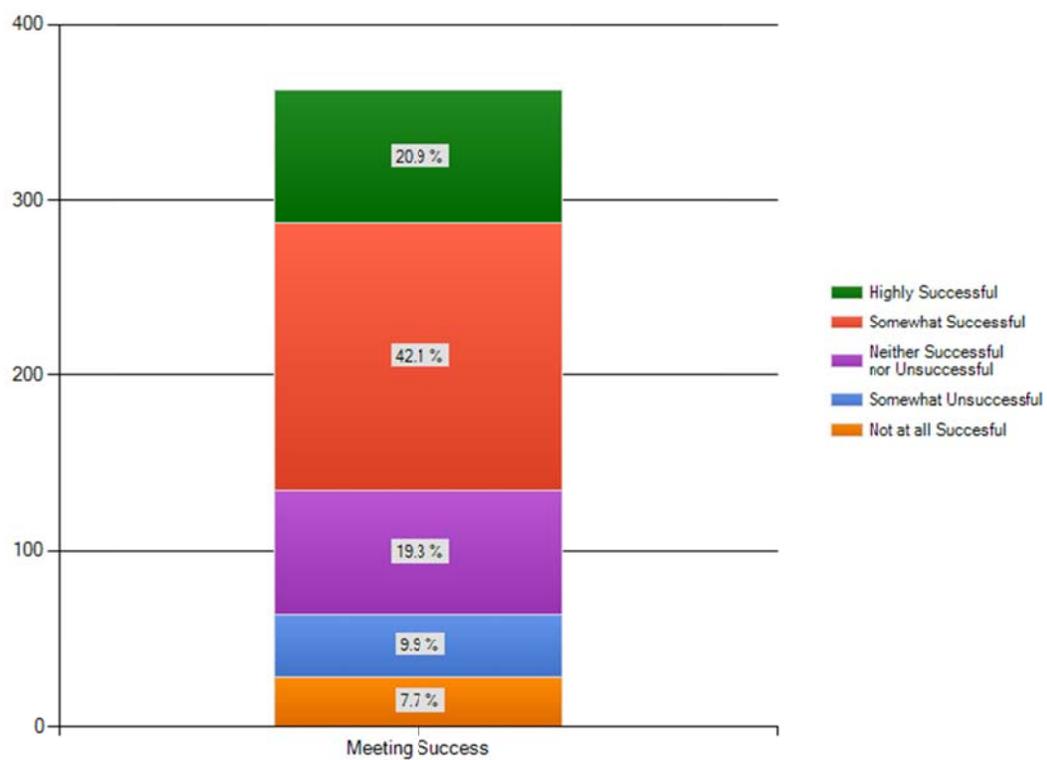


Figure 4.9. Stakeholder rating of the success of the most recently attended meeting ($N=363$).

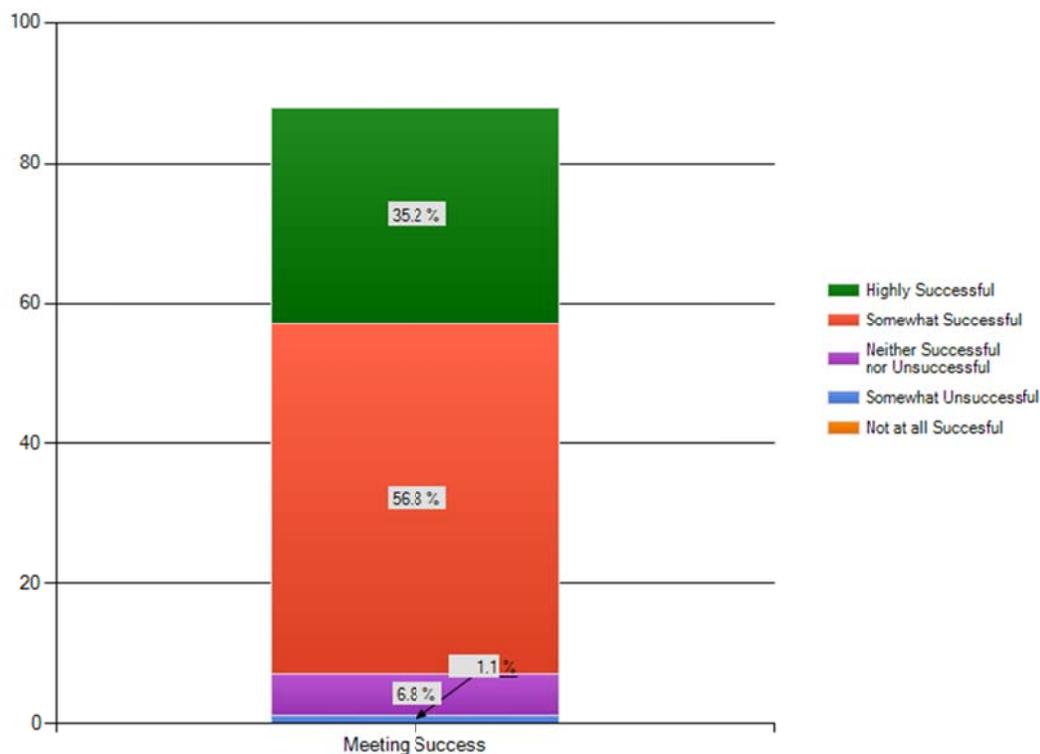


Figure 4.10. Project staff rating of the success of the most recently attended meeting (N=88).

Similar to rating meeting successfulness, stakeholders were asked to provide input on the perceived fairness and influence of the overall public involvement program that they most recently were involved with, as shown in Figure 4.11. A majority – 43.5% – agreed that the program was fair and influential; 27.1% said it was neither fair nor unfair; 12.2% indicated it was unfair; 8.9% strongly agreed that the program was fair; and 8.3% strongly disagreed that the program was fair and influential.

Of project staff, 71.6% agreed that the most recently attended public meeting was fair and influential, as shown in Figure 4.12; 13.6% indicated strong agreement; 12.5% neither agreed nor disagreed; 1.1% disagreed; and 1.1% strongly disagreed.

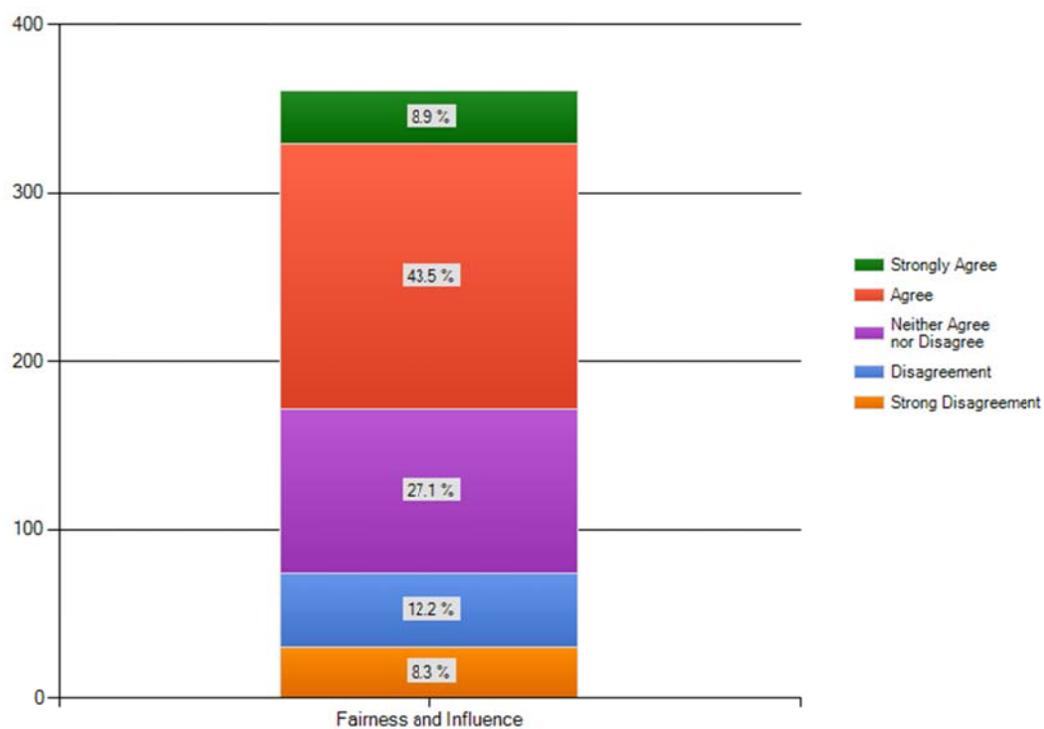


Figure 4.11. Stakeholder ranking of public involvement program fairness and influence. (N=361)

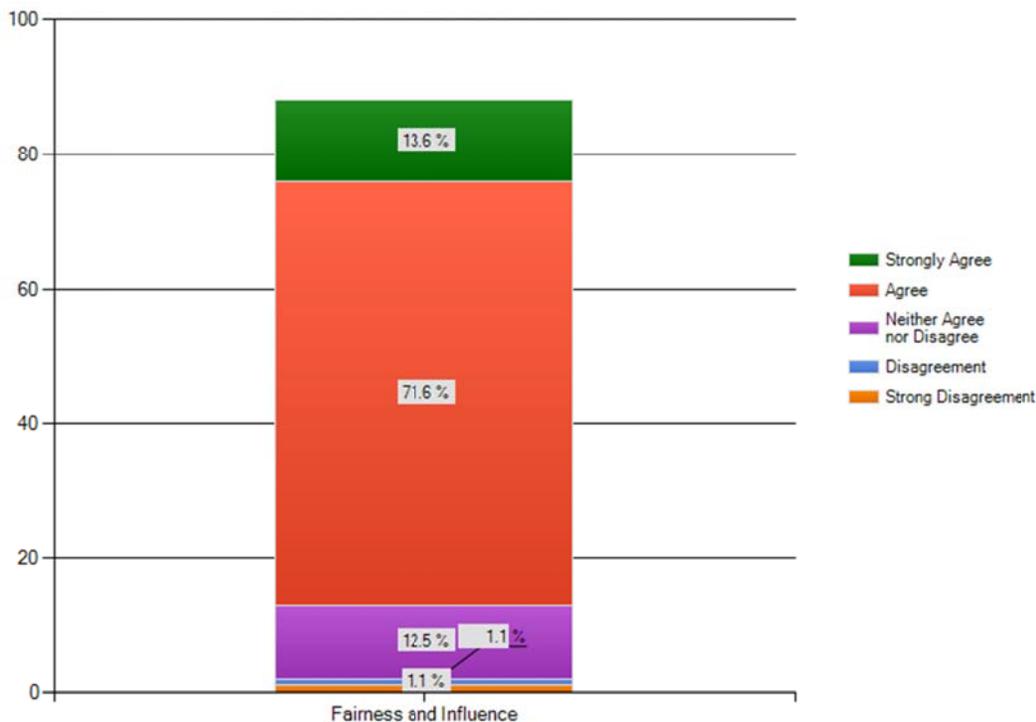


Figure 4.12. Project staff ranking of public involvement program fairness and influence. (N=88)

Data on the degree of perceived meeting collaboration between stakeholders and project staff was collected from those who had attended a recent Transportation Department public meeting, as illustrated in Figure 4.13. Forty-one percent of stakeholders agreed that the meeting incorporated a sense of collaboration; 22.2% neither agreed nor disagreed; 19.7% disagreed; 8.9% strongly agreed; and 8.3% strongly disagreed.

Figure 4.14 reflects that 63.6% of project staff agreed that the most recent meeting included a sense of collaboration; 19.3% strongly agreed; 14.8% neither agreed nor disagreed; and 2.3% disagreed.

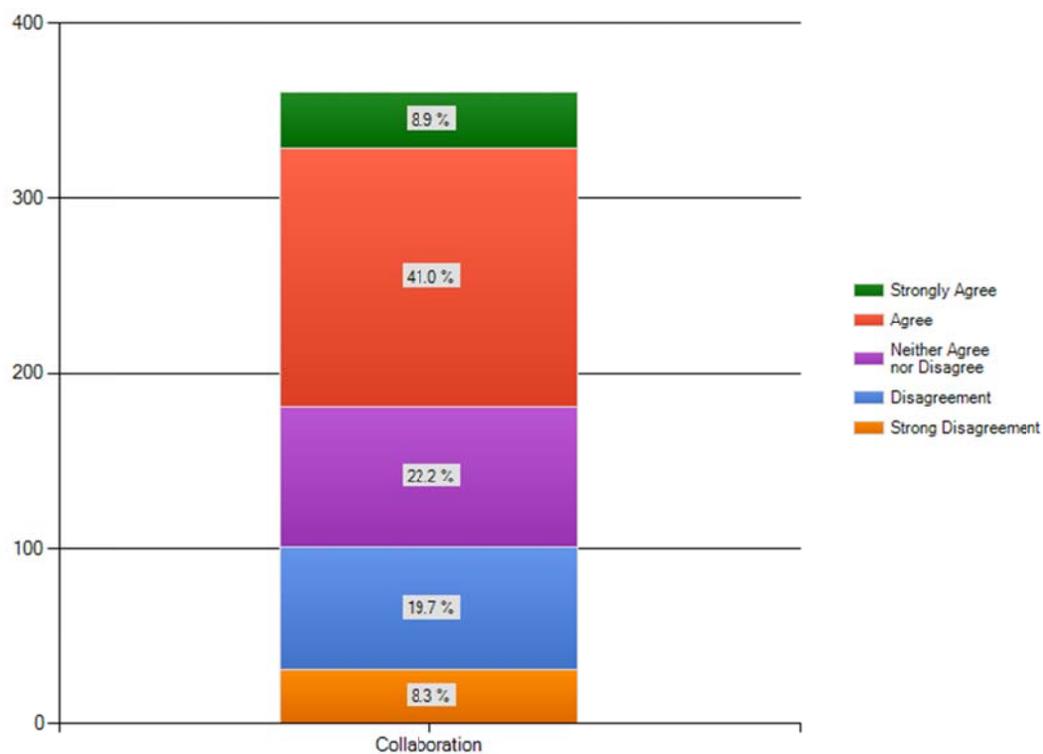


Figure 4.13. Stakeholder ranking of the sense of collaboration integrated into the most recently attended public meeting. ($N=361$)

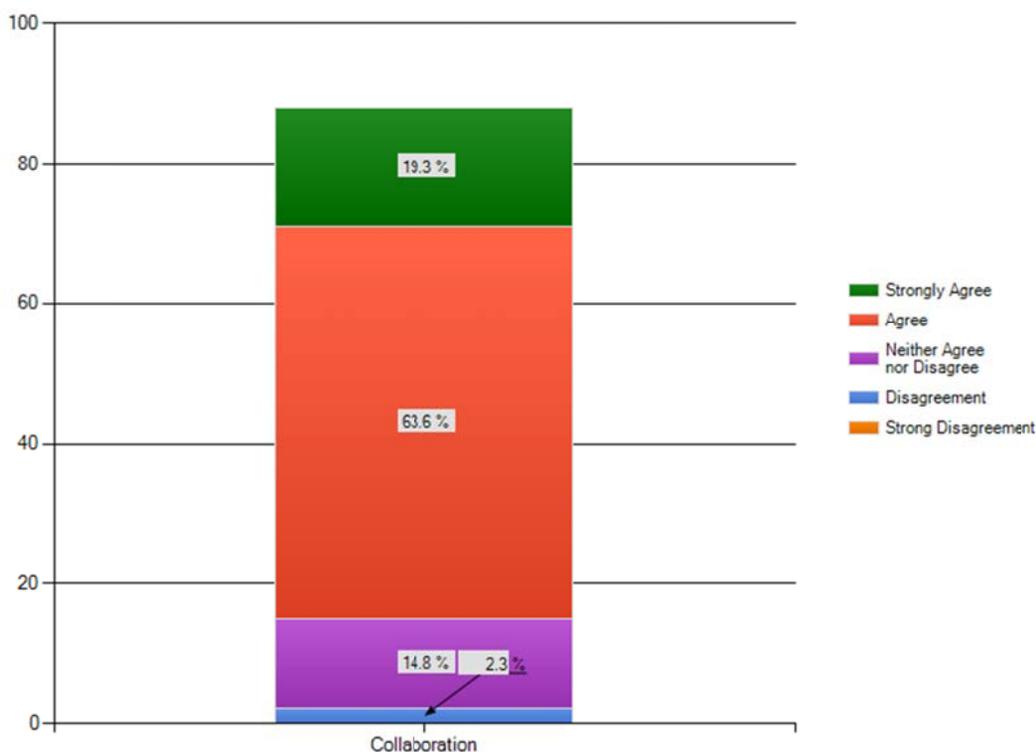


Figure 4.14. Project staff ranking of the sense of collaboration integrated into the most recently attended public meeting. ($N=88$)

Connected to collaboration and program fairness, stakeholders were then asked about the sense of legitimacy perceived at the most recently attended public meeting, as shown in Figure 4.15. A majority – 51.5% – agreed that there was a sense of legitimacy to the meeting; 17.1% strongly agreed; 17.1% neither agreed nor disagreed; 9.7% disagreed; and 4.7% strongly disagreed.

As shown in Figure 4.16, 61.4% of project staff agreed that the public meeting had legitimacy; 33% strongly agreed; 3.4% neither agreed nor disagreed; 1.1% disagreed; and 1.1% strongly disagreed.

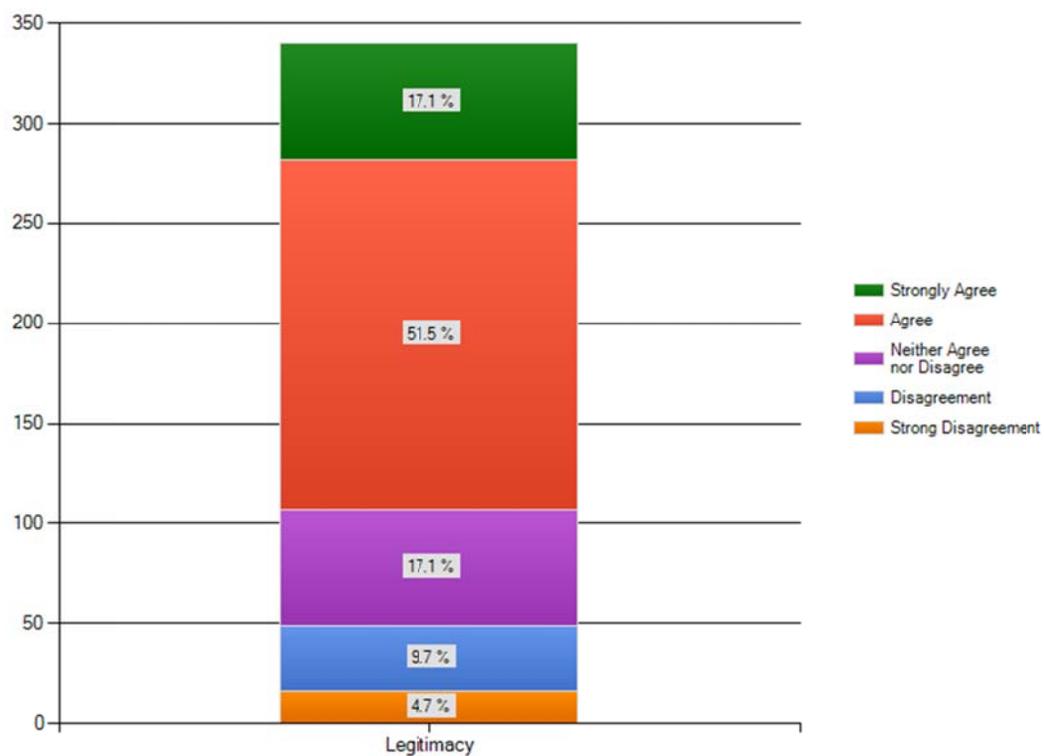


Figure 4.15. Stakeholder ranking of the legitimacy of the most recently attended public meeting. (N=340)

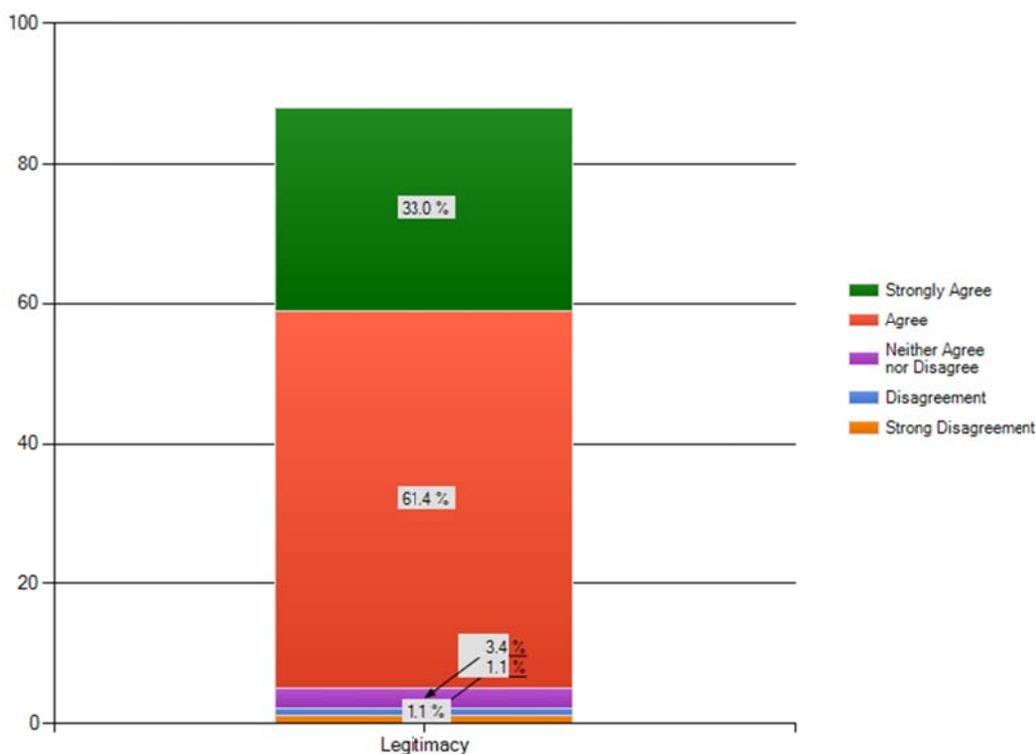


Figure 4.16. Project staff ranking of the legitimacy of the most recently attended public meeting. (N=88)

Finally, as shown in Figure 4.17, stakeholders were asked about the value of public involvement programs for supporting the development of new highway corridors. These results reflect that 44.9% of stakeholders view public involvement programs as highly valuable; 36.8% view them as valuable; 7.8% believe the programs are neither valuable nor non-valuable; 6.1% view them as somewhat non-valuable; and 4.4% view these federally required programs as not at all valuable.

Project staff members reflected similar views, as shown in Figure 4.18, with 52.3% indicating that public involvement programs are highly valuable for supporting the development of new highway corridors; 33% said it is valuable; 9.1% said it is neither valuable nor non-valuable; and 5.7% indicated it was somewhat non-valuable.

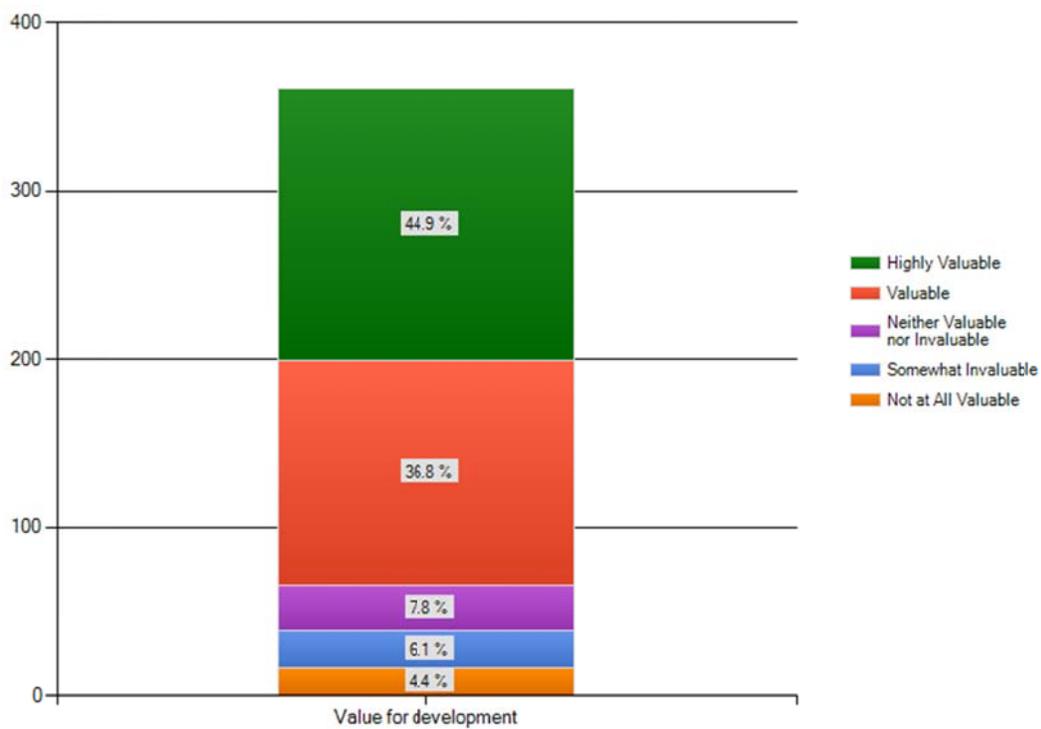


Figure 4.17. Stakeholder ranking of the value of public involvement programs for supporting the development of new highway corridors. (N=361)

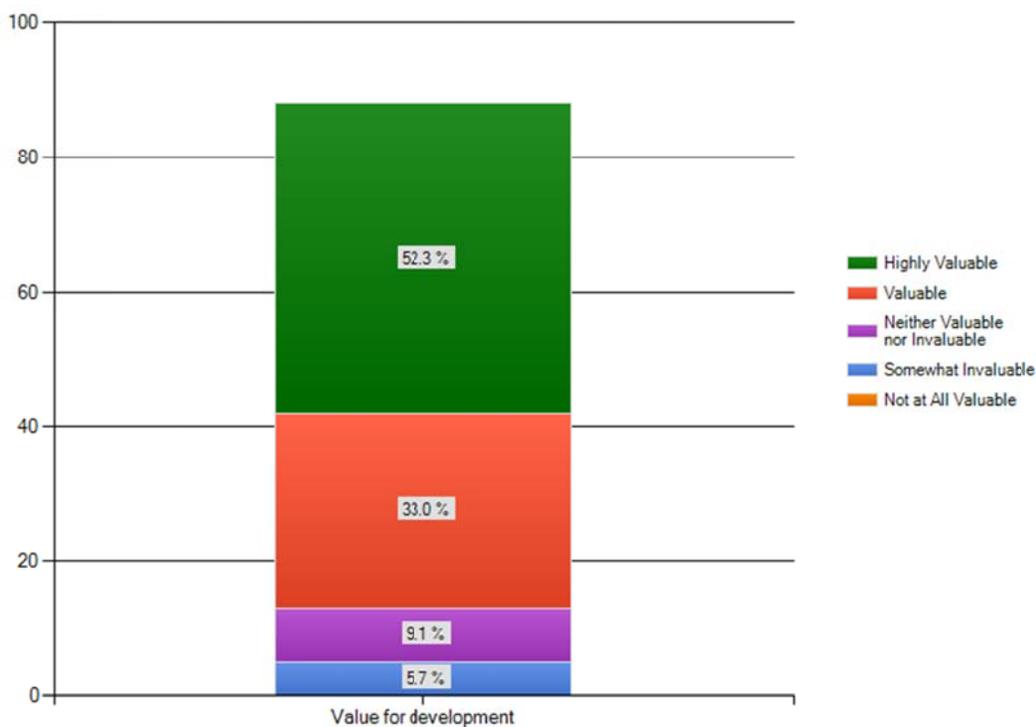


Figure 4.18. Project staff ranking of the value of public involvement programs for supporting the development of new highway corridors. (N=88)

Administered only to project staff, a final question queried knowledge of NEPA and its requirements for public involvement programs, as shown in Figure 4.19. Forty-six percent indicated moderate understanding; 42% said they had a high understanding; 10.2% indicated a low understanding of the requirements; and 1.1% said they had no understanding.

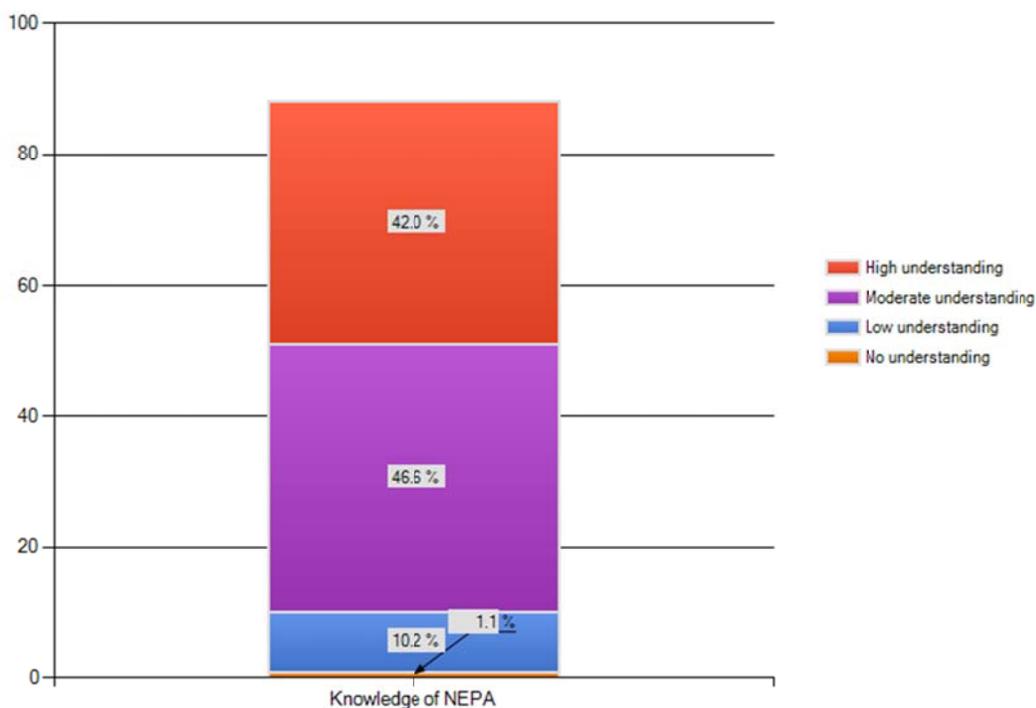


Figure 4.19. Project staff ranking of the knowledge of NEPA public involvement program requirements. ($N=88$)

Qualitative

Qualitative data was collected through observations conducted at public meetings and through structured interviews of stakeholders.

Public meeting observations.

To collect observational data, four public meetings were observed. These meetings included two project update sessions that were informational in nature and served to provide feedback to project staff, and two meetings that were more structured community forums for a NEPA-required Environmental Assessment. Meetings were held in suburban Phoenix (Surprise), Flagstaff, a rural community outside of Flagstaff (Munds Park), and a suburban city near Yuma (San Luis) within the state of Arizona. Each of the meetings was led by staff from the Arizona Department of Transportation and

was open to all members of the public. Meetings were conducted in English except for the session in San Luis, which staff facilitated seamlessly between English and Spanish due to audience makeup. An average of 41.25 stakeholders attended each meeting, which were held in the early evening and generally two hours in duration. As recommended by Creswell (2009), sites identified for observation were done purposefully to incorporate perspectives from urban, suburban, and rural environments to provide for an opportunity to more closely examine these different stakeholder groups.

To collect qualitative data, the researcher was a non-participating member of the audience; project staff members were aware of the researcher's presence but were only informed that research was being conducted with authorization of the Transportation Department. The adapted *Leadership Knowledge Survey* was used as the primary instrument for tracking the exhibition of 18 identified leadership behaviors, examples of the integration of those behaviors into the meeting setting, and how the public responded.

As shown in Table 4.3, behaviors observed from the public meetings, along with the frequency and general examples, are documented based on the behaviors detailed in the *Leadership Knowledge Survey*.

Table 4.3

Frequency of Staff Leadership Behaviors Observed at Four Public Meetings with examples

Observed Behavior	Frequency	Example
Teamwork	8	Presenter stresses need to work as a team with other agencies and the public.
Vision	8	Review of 5-year long-range transportation plan. Presentation introduction included overview of transportation corridor investments to date.
Goal-Setting	3	Establishment of a clear agenda with objectives at onset of the meeting.
Leadership Styles	5	Clear servant leadership expressed by subject-matter expert. Display of transformational presenting style with transactional elements. Movement between leadership styles based on phase of the meeting.
Situational Leadership	10	Flexibility in leadership style based on audience reaction or tone. Reflection of individual concerns from members of the public by the primary presenter. Deviation from the script to match individual community concerns and interests. Addition of a public meeting to address specific concerns from one community.
Risk-Taking	2	Openly ask for the public to express concerns or reservations. Staff acknowledgement of no perfect solution to transportation issue.

(continued)

Table 4.3 (continued)

Observed Behavior	Frequency	Example
Identifying Strengths in Others	2	Primary presenter yielding to subject-matter experts on the study team. Project staff acknowledging and recognizing the expertise of stakeholders. Taking note of community observations and experiences.
Values	3	Plain-speak description of potential environmental impacts for a proposed project. Presenter acknowledging “I don’t know” to certain questions. Open and inclusive meeting format.
Ethics & Character	6	Use of active listening, humor, and patience by primary presenter. Document commitments to follow up on specific requests for additional information.
Decision-Making	3	Clear recommendations made on direction of proposed project with detailed timelines and challenges.
Conflict Management	9	Use of carefully scripted presentation among diverse communities. Break from traditional meeting format to answer questions as they came up rather than awaiting the end of the presentation. Careful, detailed explanation to contentious technical concerns expressed by residents. Mention of a pre-meeting with town mayor and upset business owners to mitigate concerns in advance of the public meeting.

(continued)

Table 4.3 (continued)

Observed Behavior	Frequency	Example
Attitude	5	<p>Straightforward presentation approach.</p> <p>Describing residents as experts of their communities; explaining that the project team is present to learn from stakeholders.</p> <p>Introductory remarks indicating that the project staff had made no decisions and expressing patience in receiving stakeholder input.</p>
Initiative	4	<p>Initiating discussion among stakeholders by posing questions.</p> <p>Presenter describing self as a “problem solver” and committed to supporting the public involvement process.</p> <p>Project team making last-minute changes to the presentation based on early questions from stakeholders.</p>
Social Change	1	<p>Illustrating engineering options that differ from what is traditional or anticipated by many stakeholders in attempt to broaden scope of input.</p>
Community Service	4	<p>At one session, a focus on wildlife crossings as a key community interest.</p> <p>Presenters committing to “do what we can” with regards to an articulated comment from a stakeholder, and another presenter describing self as “an open source for information” for the public.</p>
Global Perspective	4	<p>Introductory remarks providing long-range view of transportation proposals and improvements; systematic approach.</p> <p>Clear connections to other projects at the planning, scoping, and study levels.</p>
Lifelong Learning	4	<p>Primary presenter openly asking for help from stakeholders and project team experts on particular issues.</p>

Structured interviews.

Through structured interviews, administered electronically, stakeholders were asked to provide input on why leadership behaviors are critical for successful public meetings, and the strategies staff should employ to support improved community relations.

As shown in Tables 4.4 through 4.8, the themes surrounding key leadership behaviors that are critical for successful public meetings emerged to include transparency, vision, decisiveness, empathy, and trust.

Table 4.4

Supporting Statements Connected with Theme of Transparency as Identified Through Structured Interviews Focused on Key Leadership Behaviors for Public Meetings

Theme	Supporting Statements from Structured Interviews
Transparency	<p>Keeps the communications [<i>sic</i>] open among attendees versus management.</p> <p>They violated the NEPA process by coming to the public with a decision already made. The public meeting was just for show. The public's input was not incorporated into the decision-making process.</p> <p>Openness to public input is vital to the success of the meetings. Otherwise, why not just come in and educate the public on what ADOT <i>intends</i> to do?</p> <p>Ethical behavior is critical to let members of the public know that their input is valued and that they are being treated equitably.</p>

Table 4.5

Supporting Statements Connected with the Theme of Vision as Identified Through Structured Interviews Focused on Key Leadership Behaviors for Public Meetings

Theme	Supporting Statements from Structured Interviews
Vision	<p>Being able to look at the bigger picture when preparing for a public meeting with regard to other projects/work in the area and how they all work together.</p> <p>In order to express the importance of the project in question, the administrative staff and consultants need to have a firm grasp on the overall vision of the project and be able to convey that to the public in a way that neither implies agreement or disagreement with the project overall.</p> <p>It is important to present the big picture.</p>

Table 4.6

Supporting Statements Connected with the Theme of Decisiveness as Identified Through Structured Interviews Focused on Key Leadership Behaviors for Public Meetings

Theme	Supporting Statements from Structured Interviews
Decisiveness	<p>Leaders who cannot make decisions let important projects/situations either not get resolved, or just drag on until the situation gets worse.</p> <p>You need to know where you plan to be in the future. Not everyone sees you going in the same direction. Coming to consensus is important.</p> <p>Being calm and decisive when the public is challenging the concepts is important.</p> <p>The success of a project relies on making numerous sound, timely decisions.</p>

Table 4.7

Supporting Statements Connected with the Theme of Empathy as Identified Through Structured Interviews Focused on Key Leadership Behaviors for Public Meetings

Theme	Supporting Statements from Structured Interviews
Empathy	<p>They must listen. They appear to have already made up their minds as to what they are going to do and the meeting is just a formality.</p> <p>Do what's right for the community.</p> <p>An attitude to listen to the public. [The Transportation Department] normally tells the public what they are going to do regardless of public sentiment.</p> <p>[The Transportation Department] is a government entity so by definition, a team approach to meeting the needs of the public is required. There is a need to avoid disenfranchisement.</p>

Table 4.8

Supporting Statements Connected with the Theme of Trust as Identified Through Structured Interviews Focused on Key Leadership Behaviors for Public Meetings

Theme	Supporting Statements from Structured Interviews
Trust	<p>To be credible the public must feel a level of trust in the presenter</p> <p>I believe citizens will listen to someone whom they believe is being honest and upfront with facts, figures and information they are being given, even if they don't agree with that particular side of the issue.</p> <p>Need to be confident in them being honest with the project and public needs.</p> <p>Unless the community believes the moderator is completely honest and believable the meeting has no value.</p>

In a separate structured interview question, stakeholders were asked how project teams could utilize leadership behaviors to support improved relationships with the community through more collaborative public meetings. As shown in Tables 4.9 through 4.12, emerging themes included commitment, confidence, attitude, and receptiveness.

Table 4.9

Supporting Statements Connected with the Theme of Commitment as Identified Through Structured Interviews Focused on Strategies to Improve Community Relations

Theme	Supporting Statements from Structured Interviews
Commitment	<p>Quit making promises you can't keep and never should made in the first place.</p> <p>Need community leaders that support the project and why it would be best for the community rather than engineers talking about their project.</p> <p>By radiating that they, too, are a member of the public and want to get the most out of the proposed solutions.</p> <p>Be honest to the public about what is going to take place, if the contractor is running behind on schedule – they need to know!</p>

Table 4.10

Supporting Statements Connected with the Theme of Confidence as Identified Through Structured Interviews Focused on Strategies to Improve Community Relations

Theme	Supporting Statements from Structured Interviews
Confidence	<p>Showing communities the where, why, and how of projects and instilling in them the feeling that these projects have really been well-thought out to benefit all and not just certain areas.</p> <p>Strong leadership can instill confidence in the community.</p> <p>A team's leadership skills and behavior at a public meeting can help to be persuasive or demonstrate lack of concern for the public's opinion which can equate to lack of control at meetings and a higher rate of failure.</p> <p>The real leader needs to deal with the cynicism of the community. Most of us have little trust.</p> <p>Must show decision-making ability along with leadership skills.</p>

Table 4.11

Supporting Statements Connected with the Theme of Attitude as Identified Through Structured Interviews Focused on Strategies to Improve Community Relations

Theme	Supporting Statements from Structured Interviews
Attitude	<p data-bbox="526 422 1414 558">Have a good attitude. Show genuine interest in the opinions of member of the public. Be open to ideas. Don't be hid/bound [by Transportation Department] "policies". Be open to new policy considerations from other states.</p> <p data-bbox="526 579 1414 611">Leadership attitudes lead responsive behaviors [from the public].</p> <p data-bbox="526 632 1414 705">Project teams can promote understanding and acceptance of possible changes.</p> <p data-bbox="526 726 1414 863">There are many dynamics included in successful team building and community relations. [The Transportation Department] should consider what they have actively pursued and assess if they have ever really measured results.</p> <p data-bbox="526 884 1414 957">Let the community decide where it wants to go and keep them focused.</p> <p data-bbox="526 978 1414 1010">Use leadership to get dissenting communities to cooperate.</p> <p data-bbox="526 1031 1414 1094">Exhibit excitement about the projects, recognize the impacts on the public, and really listen to the public concerns.</p>

Table 4.12

Supporting Statements Connected with the Theme of Receptiveness as Identified Through Structured Interviews Focused on Strategies to Improve Community Relations

Theme	Supporting Statements from Structured Interviews
Receptiveness	<p>Be more open to other possible solutions than the one's [<i>sic</i>] they present and keep up with the changes in the state which means something that was good for 1985 may not be the solution for 2011 and beyond.</p> <p>Recognizing vision of system and how the community contributes to that vision.</p> <p>Leaders listen.</p> <p>Involve the community in decisions affecting the community from the <i>beginning</i> of a project, not after expensive engineers and contractors have already been hired to pursue an alternative. Telling the community the alternative [the Transportation Department] has picked while under the pretense of gathering community input is not the proper way to engage the community.</p> <p>Sometimes leaders must follow those that know more than they do. Never underestimate the "man on the street".</p>

Data Analysis

In this mixed-method study, data was analyzed concurrently between qualitative and quantitative aspects. The quantitative portion of the study employed a correlational analysis while the qualitative data was analyzed using a thematic approach.

Qualitative data.

Assessing qualitative data from two sources – public meeting attendee structured interviews and researcher observation of four meetings – allows for a human element to support validation with quantitative data (Reams & Twale, 2008; Williamson, 2005). For the qualitative aspects of this study, thematic analysis was conducted to analyze data for the two research questions. Data from the qualitative portion of this study were designed to validate and support data collected as part of the quantitative aspect of the study.

Public meeting observations. Meeting observations were conducted at four independent meetings incorporating geographical distribution across the state of Arizona. An average of 41.25 stakeholders attended each of the two-hour meetings, ranging from 1.5 to 2.25 hours. Each meeting was interactive, allowing stakeholders to interface directly with project staff members both individually and during the formal meeting presentation. Observational data, using a modified *Leadership Knowledge Survey*, was collected during both the formal meeting and individual interactions between stakeholders and project staff and later coded for analysis (Carley, 1993). The researcher remained a non-participating member of the audience but present with the authorization of the Transportation Department.

The *Leadership Knowledge Survey* was identified as an appropriate observational instrument through the ability to correlate observed findings with stakeholder and project staff survey responses. Recorded observations included reflective notes and demographic information (Creswell, 2009); there was no direct interaction with stakeholders.

Based on the researcher's observation of project staff and stakeholder interactions, the following leadership behaviors were documented, in order of frequency among the sum of the four meetings: (a) situational leadership; (b) conflict management; (c) vision; (d) teamwork and teambuilding; (e) ethics and character; (f) leadership styles; and (g) attitude.

Examining examples of these behaviors, common themes emerge reflecting flexibility in the presentation of information and meeting protocols based on stakeholder needs and attitudes; this flexibility was most aligned with the principles of situational leadership (Blanchard, 2008), but extended into other behaviors as well. In addition,

leadership behaviors were frequently employed to redirect stakeholders or to mitigate conflict between stakeholders, or between stakeholders and the project team. For example, in the meeting conducted in San Luis, the lead presenter from the Transportation Department identified herself as a “problem solver” who met with a group of concerned stakeholders in advance of the formal public meeting to deescalate conditions and mitigate conflict before it became disruptive.

Vision was often employed as a means for directly combating the notion by stakeholders that the meetings were being conducted when decisions had already been made by the Transportation Department; instead, project staff emphasized the long-range necessity of planning for highway improvements while framing the project, in its early planning stage, as a community effort. In multiple instances, project staff openly acknowledged when they did not have direct answers to stakeholder questions, demonstrating ethics and character. Finally, multidimensional and varied leadership styles were demonstrated by staff through flexibility and willingness to move between situational leadership, leader-member exchange, servant leadership, and traits from other identified leadership models (Alimo-Metcalfe & Alban-Metcalfe, 2005). Looking across the four observed meetings, project staff expressed patience, active listening, and flexibility effectively in an effort to support meeting productivity; while these behaviors appeared effective on a tactical level, it is unknown how these behaviors affect overall stakeholder views of the public involvement process.

Structured interviews. Structured interviews were used to support data collection for the two research questions, focusing on staff leadership behaviors most commonly exhibited during public meetings, and ways in which leadership behaviors can support more productive relationships with the community. For these questions, 302 stakeholders participated and provided open-ended responses that were then coded, sorted, and analyzed for common themes.

The themes for key leadership behaviors demonstrated by project staff during public meetings were transparency, vision, decisiveness, empathy, and trust. In analyzing responses inquiring how leadership behaviors could be used by project teams to support improved relationships with the community, the themes of commitment, confidence, attitude, and receptiveness emerged.

Quantitative data.

Quantitative data was collected through administration of the adapted *Leadership Knowledge Survey* (Fullerton, 2010) to both stakeholders, those who are affected by or who have an interest in a project, and to project staff who participated in a Transportation Department public meeting between 2006 and 2011. For stakeholders, the survey instrument inquired about behaviors observed at the most recently attended public meeting and asked for a top five ranking of leadership behaviors for productive public meetings.

Designed as a pre-test/post-test instrument to measure the effectiveness of a college leadership development program, Fullerton's (2010) *Leadership Knowledge Survey* is based on the *Developmental Advising Inventory*, a commercially available educational assessment tool that measures nine internal and external personal dimensions.

These nine dimensions include Intellectual, Life Planning, Social, Physical, Emotional, Sexual, Cultural, Spiritual, and Political (Dickson, Sorochty & Thayer, 1998). The 18 elements of the *Leadership Knowledge Survey* include Teamwork, Vision, Goal-Setting, Leadership Styles, Situational Leadership, Risk-Taking, Identifying Strengths in Others, Delegation, Values, Ethics and Character, Decision-Making, Conflict Management, Attitude, Initiative, Social Change, Community Service, Global Perspectives, and Lifelong Learning.

This instrument has been validated against the *Developmental Advising Inventory* (Fullerton, 2010). Based on data collected from 1986 through 1995, results provide confidence in the validity and reliability of the dimensions of the *Developmental Advising Inventory*. Internal consistency reliability coefficients ranged from a low of .82 to a high of .87 on all dimensions for the field-testing sample ($N=1,551$) from 18 institutions during a one-year period. Subsequent data from a validation sample ($N=2,679$) collected between 1992-1996 from ten institutions showed that internal consistency ranged from .78 to .90 across all nine dimensions. According to Dickson et al. (1998), factor analysis was the primary method used to select items and establish the construct validity of the dimensions. Items with loadings .60 or higher showed a clear identification with a particular dimension. Some were selected with a factor loading less than .40 because of unique qualities and face validity.

The quantitative part of this study involved conducting a correlational analysis of data from the adopted *Leadership Knowledge Survey* to test the four hypotheses.

In evaluating the top behavior needed to support successful public meetings, rankings were calculated by the value of the ranking (one through five), multiplied by the

frequency, developing a total and mean ranking for each of the 18 behaviors measured as part of the *Leadership Knowledge Survey*. Because this data is interval and not solely ordinal, a Pearson correlation analysis was used to examine differences in the rankings between identified ideal behaviors for public meetings, and staff self-identified knowledge of leadership behaviors (Thompson, 2006).

Results

Results are presented for both qualitative and quantitative elements of this study.

Qualitative.

Emerging patterns and themes. Textual coding analysis was used to organize and analyze qualitative data collected via the structured surveys to identify trends, common themes, and perspective to balance other data-collection points (Carley, 1993): “Content analysis enables quantitative analysis of large numbers of texts in terms of what words or concepts are actually used or implied” (Carley, 1993, p. 76). A “text cloud” was used to identify top words and phrases articulated by public participants of the survey. From the coding of this data, concepts, categories, and grounded theories could be established as part of the data analysis (Kelle, 2005).

Community. Through this analysis, the term “community” was articulated by 19% of meeting stakeholder respondents, followed by “vision” (18%), “attitude” (14%), “decision making” (4%), and “ethics and character” (3%) when participants were asked to reflect on the leadership behavior that is the most important for public meeting success. In reviewing the individual comment responses from 302 participants, 58 mentioned “community” or “community service.” Those comments were often associated with the need for the Transportation Department to build a sense of

community around project proposals and to approach the NEPA process from a stance of providing a service to the community rather than advancing the objectives of the project staff. Respondents associated “community” with situational leadership, noting the need to position meetings as more collaborative with legitimate opportunities for project proposals to be changed based on community input.

Vision. In reviewing the 302 comments, “vision” was a frequent and powerfully advanced concept. One participant commented that, “Vision is simply essential”; that theme was consistent among the 56 participants who mentioned “vision” as one of the top behaviors necessary for successful public meetings. Viewpoints indicated the need for the Transportation Department to facilitate both community and stakeholder engagement in the development of a project vision, and to enter a public involvement process with a clear and long-range vision that allows the public to understand better the purpose and need of the proposed project. According to another response: “It is important to explain how the public involvement plan supports the vision for transportation corridor development and therefore community and economic development so that attendees clearly understand why we are here” (Personal communication, July 25, 2011).

Attitude. “Attitude” was mentioned 45 times by participants, most often in the sense of establishing a sense of collaboration during public meetings and the need for project staff members to create an environment “to accept comments without being judgmental,” according to one participant. Other respondents noted that attitude is necessary for conflict resolution and collaboration, aligned with theories of transactional and situational leadership and supported by literature in the field (Parry & Proctor-Thomson, 2003; Roden, 1984; Stitch & Eagle, 2005). A textual coding review shows a

divide among respondents on the role of attitude: some saw it as the means of setting the tone of the meeting while others viewed attitude as a necessary element to support collaboration. Attitude was generally levied as a criticism of project staff and the Transportation Department. As one participant commented: “The meeting I went to was not collaborative. It was after-decision information sharing. In that context, the speakers [*sic*] attitude is most important for audience engagement” (Personal communication, June 25, 2011).

Decision-making. Thirteen participants responded that “decision-making” was the key leadership style, most criticizing the Transportation Department for a perceived failure to conclude projects with a firm, final decision. However, comments also documented a perception that, too often, the public believes decisions have been made in advance of any public involvement efforts. Thus, the decision-making element presented both positive and negative reflections from stakeholders who had previously attended a Transportation Department meeting. As one respondent commented, “Too many of [the Transportation Department’s] projects stall at this point – decision-making is crucial in letting the public know what will happen” (Personal communication, June 25, 2011). Yet another comment, shared by others, said, “It seemed like the meeting had the intent of making us feel better about a decision they would be making regardless of how the community felt about it. We really don’t have a say in decisions made” (Personal communication, August 8, 2011).

Ethics and character. While other phrases present scattered results, “ethics and character” was mentioned by 10 respondents (3%) and often framed as behaviors necessary for servant leadership among government workers and officials (Bjugstad et

al., 2006; De Morris & Leistner, 2009; Jackson, 2001). According to one respondent, “A strong sense of ethics and character can keep public agencies on track so they don’t focus on their product and production to the exclusion of holistic human benefit” (Personal communication, June 25, 2011). Other perspectives opined that ethics and character were lacking among project staff members and others in government service, and were an impediment to meeting success.

Public and community. When asked how project teams best can utilize leadership behaviors to improve relationships with the community, 45% of respondents identified “public” and 34% identified “community” when responses were processed through a textual analysis. This combined 79% reflects a perspective that stakeholders should be the primary consideration for public involvement programs with a stated emphasis on learning from the public and conducting meetings with greater sincerity. According to one participant:

Find a way to give more than lip service to community input. Rather than simply holding a meeting to check it off a ‘to do’ list for the project, actually take our input into consideration and have those leading the meeting given enough power to let the public know that they will act on input. (Personal communication, July 25, 2011)

Doubts of legitimacy. Others made comments questioning why the Transportation Department even conducts public meetings, since all of the decisions appear to already be made, excluding any real opportunities for public input:

Why does [the Transportation Department] even have public meetings? They never listen to what the invited public says. They talk down to the locals about

known features that will affect the project and they come to the meeting already knowing how and where they will be doing the project, the public meeting is just some community relations fluff to try to make the locals feel like they were involved when in reality [the Department] will shove through the location and design of a project in the face of strong local opposition. (Personal communication, July 27, 2011)

“Listening” was mentioned 69 times by structured interview participants (22%). The textual analysis reflects participants’ desire to have meetings conducted with active listening behaviors and to demonstrate legitimacy through the application of public comments into the ultimate decisions. As one respondent articulated, “Exhibit excitement about the projects, recognize the impacts on the public, and really listen to the public concerns” (Personal communication, July 25, 2011).

Answer to research question 1.

Research Question 1: What leadership behaviors are most commonly exhibited by project staff during public meetings?

After coding the stakeholder data based on average response score ranging from one to four, with one indicating no observation and four indicating extensive observation, “vision” (mean score of 2.78 out of 4.0) was identified by participants as the most commonly exhibited leadership behavior by project staff during public meetings, as seen in Figure 4.20. “Attitude” (2.77 out of 4.0) and “goal setting” (2.6 out of 4.0) were closely ranked. “Ethics and character” and “teamwork” (2.61 and 2.60 respectively, out of 4.0) complete the five most observed behaviors, as reported by stakeholders.

Stakeholders recognized that “risk taking” was the least-observed leadership behavior (1.81 out of 4.0).

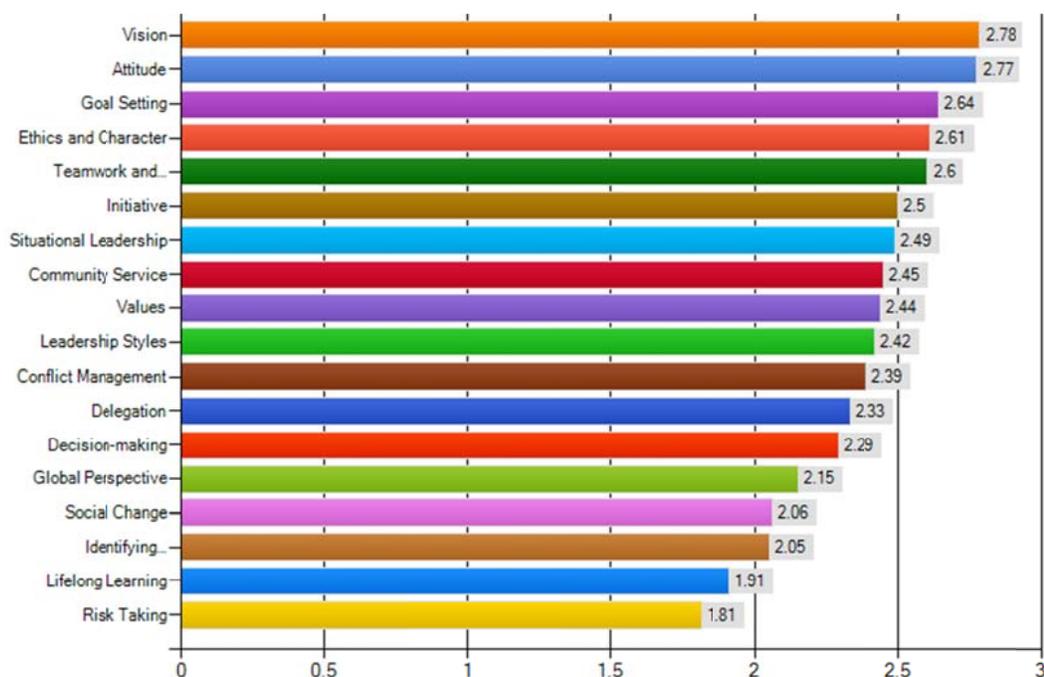


Figure 4.20. Stakeholder identification of leadership behaviors observed at the last attended meeting, based on a scale of one to four, of behaviors identified in the *Leadership Knowledge Survey*. ($N=363$)

As illustrated in Table 4.13, “attitude” was identified as being moderately or extensively observed by 64.6% of participants ($N=363$). “Vision” was observed extensively or moderately by 63.3% of stakeholders. “Goal setting” was identified by 59.9% of stakeholders as being moderately or extensively observed. For “ethics and character,” the fourth-ranked overall behavior, 59.2% of stakeholders identified it as the characteristic moderately or extensively observed. Finally, 55.8% of stakeholder participants noted that “teamwork and team building” were observed extensively or

moderately at the last-attended public meeting conducted by the Transportation Department.

Table 4.13

Response Frequencies and Percents for Leadership Behaviors of Project Staff Observed by Public Attendees at Arizona Department of Transportation Public Meetings

Leadership Behavior	Response Option	Frequency	Percent
Decision Making	No Observation	81	22.4
	Limited Observation	128	35.5
	Moderate Observation	120	33.2
	Extensive Observation	32	8.9
Teamwork and Team Building	No Observation	46	12.7
	Limited Observation	114	31.5
	Moderate Observation	142	39.2
	Extensive Observation	60	16.6
Vision	No Observation	31	8.5
	Limited Observation	102	28.1
	Moderate Observation	145	39.9
	Extensive Observation	85	23.4

(continued)

Table 4.13 (continued)

Leadership Behavior	Response Option	Frequency	Percent
Goal Setting	No Observation	54	14.9
	Limited Observation	91	25.1
	Moderate Observation	150	41.4
	Extensive Observation	67	18.5
Lifelong Learning	No Observation	155	42.8
	Limited Observation	106	29.3
	Moderate Observation	81	22.4
	Extensive Observation	20	5.5
Leadership Styles	No Observation	58	16.0
	Limited Observation	130	35.8
	Moderate Observation	139	38.3
	Extensive Observation	36	9.9
Situational Leadership	No Observation	52	14.5
	Limited Observation	121	33.7
	Moderate Observation	144	40.1
	Extensive Observation	42	11.7

(continued)

Table 4.13 (continued)

Leadership Behavior	Response Option	Frequency	Percent
Risk Taking	No Observation	157	43.4
	Limited Observation	130	35.9
	Moderate Observation	60	16.6
	Extensive Observation	15	4.1
Identifying Strengths in Others	No Observation	120	33.1
	Limited Observation	131	36.2
	Moderate Observation	85	23.5
	Extensive Observation	26	7.2
Delegation	No Observation	86	23.7
	Limited Observation	109	30.0
	Moderate Observation	132	36.4
	Extensive Observation	36	9.9
Values	No Observation	71	19.6
	Limited Observation	112	30.9
	Moderate Observation	129	35.6
	Extensive Observation	50	13.8

(continued)

Table 4.13 (continued)

Leadership Behavior	Response Option	Frequency	Percent
Ethics and Character	No Observation	59	16.4
	Limited Observation	88	24.4
	Moderate Observation	149	41.4
	Extensive Observation	64	17.8
Conflict Management	No Observation	69	19.2
	Limited Observation	125	34.8
	Moderate Observation	120	33.4
	Extensive Observation	45	12.5
Attitude	No Observation	33	9.1
	Limited Observation	95	26.2
	Moderate Observation	158	43.6
	Extensive Observation	76	21.0
Initiative	No Observation	51	14.1
	Limited Observation	127	35.2
	Moderate Observation	134	37.1
	Extensive Observation	49	13.6

(continued)

Table 4.13 (continued)

Leadership Behavior	Response Option	Frequency	Percent
Social Change	No Observation	120	33.1
	Limited Observation	126	34.8
	Moderate Observation	92	25.4
	Extensive Observation	24	6.6
Community Service	No Observation	73	20.2
	Limited Observation	114	31.5
	Moderate Observation	114	31.5
	Extensive Observation	61	16.8
Global Perspective	No Observation	114	31.6
	Limited Observation	119	33.0
	Moderate Observation	87	24.1
	Extensive Observation	41	11.4

Observational data collected by the researcher during four public meetings were coded, sorted, and assessed for demonstrations of leadership behaviors and audience reaction. Situational leadership was observed most frequently (10 instances) as project staff responded to the audience tone, using the leadership behavior to adapt to audience needs. In this context, situational leadership was defined as the bridge between transformational and transactional leadership, allowing leaders to adapt to the needs of

the organization and its followers (Blanchard, 2008; Kotter, 2001; Kouzes & Posner, 2002). More specifically, the situational leadership model was classified as directive, based on the research of Blanchard (2008). Following situational leadership, conflict management, and teamwork and team building (nine instances each) were also noted; audience reaction to these tactical behaviors was a documented reduction in contentiousness in an effort to keep meetings on topic and productive, despite articulated concerns from stakeholders. Ethics and character ranked fourth in observed project staff behaviors. The behavior of leadership styles was the fifth-ranked characteristic; this behavior was defined as a demonstration of cross-dimensional leadership styles based on current literature (Babcock-Roberson & Strickland, 2010).

In analyzing stakeholder survey data and researcher observations, teamwork/teambuilding, ethics/character, and attitude emerged as the most observed characteristics as identified by both the researcher and stakeholders. When adding responses from project staff members on the knowledge and use of the 18 behaviors identified in the *Leadership Knowledge Survey*, attitude, and ethics and character become the top behaviors for supporting productive and collaborative public meetings, or those observed during a meeting; this is followed by teamwork/team building, conflict management, vision, leadership styles, and values.

Through structured interviews, four key themes emerged aligned with the behaviors that support successful public meetings. These themes were transparency, vision, decisiveness, empathy, and trust. Data from these structured interviews reveals that stakeholders value open communication, openness to input from the public, a view towards the larger vision of the project and community, a need for project staff to act

with greater urgency towards a collaborative decision, and a greater emphasis on project staff developing trusting, credible relationships with residents.

Table 4.14, illustrates the top ranked leadership behaviors from the stakeholder and project staff surveys, and public meeting observations.

Table 4.14

Ranked Leadership Behaviors Based on Stakeholder Observation, Project Staff Knowledge and Meeting Observations by Researcher, ranked No. 1 through No. 5

	Stakeholders	Project Staff	Observations
Behavior 1	Attitude	Teamwork	Situational Leadership
Behavior 2	Vision	Ethics and Character	Conflict Management
Behavior 3	Goal Setting	Attitude	Teamwork
Behavior 4	Ethics and Character	Conflict Management	Ethics and Character
Behavior 5	Teamwork	Vision	Leadership Styles

Answer to research question 2.

Research Question 2: What does the public believe are the staff leadership behaviors that are important to support productive and collaborative public meetings?

Based on observed and structured interview data, the use of leadership skills and behaviors are largely designed to reduce contentiousness, focus meetings on the core topic, and to mitigate conflict between the project team and stakeholders or conflict between stakeholders. During observations of the four meetings, situational leadership emerged as the leading strategy employed by project staff, including consultants, to

maintain an appropriate level of decorum with the objective of reaching the meeting's objectives; as identified by stakeholders and project staff, this could be classified more simply as attitude in the *Leadership Knowledge Survey*, which was a top-ranked behavior for both stakeholders and project staff. This behavior was demonstrated through a task-centric approach that, at times, presented a different tone for different portions of the public meeting (introduction, overview, technical review, public comments, questions and answers). The application of this behavior was most evident when the meeting veered from the purpose or when questions were posed to project staff that did not have a direct response. In this context, situational leadership is defined as a varied approach based on circumstance, audience expectation, speaker knowledge, and desired outcomes (Blanchard, 2008).

As revealed in the textual coding analysis of public-meeting participants' structured interviews, project staff are perceived as not listening and are often seen as already having made decisions prior to stakeholder consultation, yet conflict management emerged as the fourth-ranked behavior on the project staff survey and was the second most-identified behavior for the researcher's observations. However, conflict management failed to make the top five ranking from stakeholders' observed behaviors. Of note, risk taking was the leadership behavior *least* observed by stakeholders who had attended a public meeting; as articulated by Blanchard (2008) and others, risk taking can be an essential element in situational leadership and leadership/followership. Previous research (ADOT, 2007) supports this aversion to risk taking in a public setting in an effort to avoid conflict or loss of control of the meeting.

Emerging themes and reactions based on observations. As recorded on an observation matrix and reported in Table 4.15 and Appendix G, examples of how each 18 leadership behaviors were used along with any audience reaction or response were completed for each meeting. In general, leadership behaviors were used as a de-escalation tool during meeting question-and-answer sessions, or when off-topic questions were posed to the study team. As an example, during the public meeting in San Luis, the study team presenter deviated from the normal process where questions were addressed at the conclusion of the formal presentation; this deviation was in response to stakeholder interjections and allowed the Transportation Department to demonstrate situational flexibility and leadership that met both the needs of the community and project team. In another instance, during the suburban Phoenix meeting, an individual peppered the project staff with a line of off-topic questions; the team accepted the inquiries, acknowledged the obvious concern and pledged to review personally his questions following the general session. The project team used phrases such as “we hear your concerns,” “we recognize your interest in that issue,” and “that’s an important topic.” This was a clear adaptation to meet audience and individual needs. Finally, at the meeting in Munds Park, an additional public meeting was added for another potentially affected community based solely on public comment and interest. Each of these examples adds to public involvement program legitimacy and meeting effectiveness, reduced contentiousness, and enhanced collaboration.

As a result, situational leadership, conflict management, and leadership styles were identified as among the 18 behaviors that worked in combination to increase collaboration and legitimacy at public meetings by reducing conflict and maintaining

focus, albeit a flexible focus to meet the needs of stakeholders. However, these tactical behaviors do not address the strategic expectations of stakeholders, such as vision and attitude.

Table 4.15

Most Common Leadership Behaviors for Reducing Conflict at Public Meetings Based on Researcher Observation

	Surprise	San Luis	Munds Park	Flagstaff
Behavior 1	Situational Leadership	Vision	Conflict Management	Values
Behavior 2	Teamwork	Teamwork	Community Service	Lifelong Learning
Behavior 3	Leadership Styles / Conflict Management	Situational Leadership	Teamwork	Situational Leadership
Behavior 4	Values	Conflict Management	Vision	Risk Taking
Behavior 5	Community Service	Ethics and Character	Global Perspective / Leadership Styles	Conflict Management

In assessing behaviors exhibited specifically to reduce conflict during public meetings, situational leadership was the top ranked observed behavior, followed by conflict management, vision, teamwork/team building, and ethics and character. These behaviors align with stakeholders' expressed ideal general leadership characteristics for project staff to exhibit during public meetings. Of note, staff did not appear to employ traditional conflict management techniques, but instead used long-range views of processes or deferred presentation points to other team members who were subject-matter experts in an effort to reduce or avoid conflict. In one session in a rural community,

project staff detoured into a detailed explanation of noise mitigation policies using recognized experts to address a widespread concern among members of the audience.

In assessing behaviors that appeared to promote collaboration with the audience, vision was identified through visionary statements, often redirecting community members to consider a larger perspective of the proposed project or the cumulative impacts of action/inaction. Teamwork/team building was assessed through specific examples of the primary presenter either specifically structuring the meeting to include diverse voices from subject-matter experts or from weaving a theme of community partnership and teaming into the presentation. Situational leadership, in following with definitions outlined in the literature, was assessed based on flexible presenting techniques and strategies based on articulated audience need; it was seen as a clearly flexible presentation strategy. Conflict management was observed through statements, strategies, and presenter techniques to maintain a focus on the meeting purpose and mitigate off-topic or personal stakeholder debates. Finally, ethics and character was identified through direct statements that acknowledged past errors, when the presenters simply said “I don’t know” when faced with a difficult questions for which an immediate answer was unknown, or when the project team posed questions to the audience to open discussion on what was identified to be a sensitive topic, such as the clearing of trees that would be required to implement a project.

Emerging themes from structured interviews. When asked in structured interviews how project teams can use leadership behaviors to support improved relationships with the community, the themes of commitment, confidence, attitude, and receptiveness emerged based on a textual coding of responses. In analyzing the

comments from participants, a clear theme of community service, communication, listening, and leadership emerged as needed to support the public involvement process, with 15% of respondents specifically mentioning listening or active listening as a behavior that was critical to improving relationships with the community.

Each observed meeting had some degree of conflict mitigation via the behaviors assessed on the *Leadership Knowledge Survey*. According to one stakeholder participant who commented through the structured interview:

Strong leadership is essential at public meetings. As a citizen of this state, my involvement at public meetings is usually one of general interest inasmuch as I don't generally speak, but listen. I want to learn all that I can about a project so that I can form my own opinion. A team's leadership skills and behavior at a public meeting can help to be persuasive or demonstrate lack of concern for the public's opinion which can equate to lack of control at meetings and a higher rate of failure. (Personal communication, Aug. 25, 2011)

Quantitative.

Test of hypothesis 1.

H_1 : Public meeting attendees will perceive a significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members identified on the *Leadership Knowledge Survey*.

H_0 : Public meeting attendees will perceive no significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members as identified on the *Leadership Knowledge Survey*.

Using IBM's Statistical Package for the Social Sciences (SPSS) software to conduct a Pearson correlation, analysis of the top five ideal leadership behaviors and the measures of meeting effectiveness as articulated by stakeholders via the survey instrument demonstrated positive correlations between a combined Ideal Leadership Score and overall public meeting effectiveness ($N=337-363$), as shown in Table 4.16. The combined leadership-behaviors score – referred to as the Ideal Leadership Score – includes a sum of the rankings on each of the five leadership behaviors listed in Table 4.16 demonstrated a coefficient of .56 when measured against meeting success, .52 against fairness and influence, .55 with collaboration, and .51 with meeting legitimacy. These positive correlations, with a strong significance level (0.001), show the strongest relationship between vision and measures of meeting effectiveness, which incorporates survey questions focused on meeting success, fairness and influence of the public involvement process, level of collaboration, and overall sense of program legitimacy.

The coefficient of Spearman's *rho* was also calculated. Although the coefficients differed by a few points, the results are identical, reaching statistical significance at the .000 level. Given that the correlations are very close to the same values, the Spearman *rho* coefficients have a very similar coefficients of determination

Table 4.16

Pearson Correlation (coefficient of determination) Coefficients between Ideal Leadership Behaviors and Meeting Effectiveness, as Perceived by Public Attendees

Leadership Behavior	Meeting Effectiveness			
	Meeting Success	Fairness and Influence	Collaboration	Legitimacy
Ethics and Character	.39 (.15) ***	.44 (.19) ***	.43 (.18) ***	.41 (.19) ***
Attitude	.45 (.20) ***	.39 (.15) ***	.44 (.19) ***	.37 (.13) ***
Vision	.43 (.18) ***	.45 (.20) ***	.45 (.20) ***	.45 (.20) ***
Conflict Management	.35 (.12) ***	.32 (.10) ***	.31 (.09) ***	.31 (.09) ***
Teamwork and Team Building	.43 (.18) ***	.39 (.09) ***	.45 (.20) ***	.39 (.15) ***
Ideal Leadership Score ^a	.56 (.31) ***	.52 (.27) ***	.55 (.30) ***	.51 (.26) ***

Note. *** $p < 0.001$. Counts ranged from 337 to 363.

^a Sum of the ratings on each of the five leadership behaviors listed above in table.

As a result, Hypothesis 1 is supported and the null hypothesis is rejected reflecting a statistical connection between public involvement program legitimacy and the top five identified leadership behaviors, as well as when correlated with the Ideal Leadership Score.

Test of hypothesis 2.

H_2 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal

leadership behaviors for public meetings as expressed on the *Leadership Knowledge Survey*.

After completing a Pearson correlation analysis between the knowledge of leadership behaviors on the part of project staff and the ideal behaviors identified by stakeholders, no correlation was demonstrated ($r=.22, p=.717$). Further analysis using the coefficient of determination confirmed the results.

Seeking a correlation using only the top five ideal behaviors identified by members of the public demonstrated low significance in the analysis, as demonstrated in Figure 4.21.

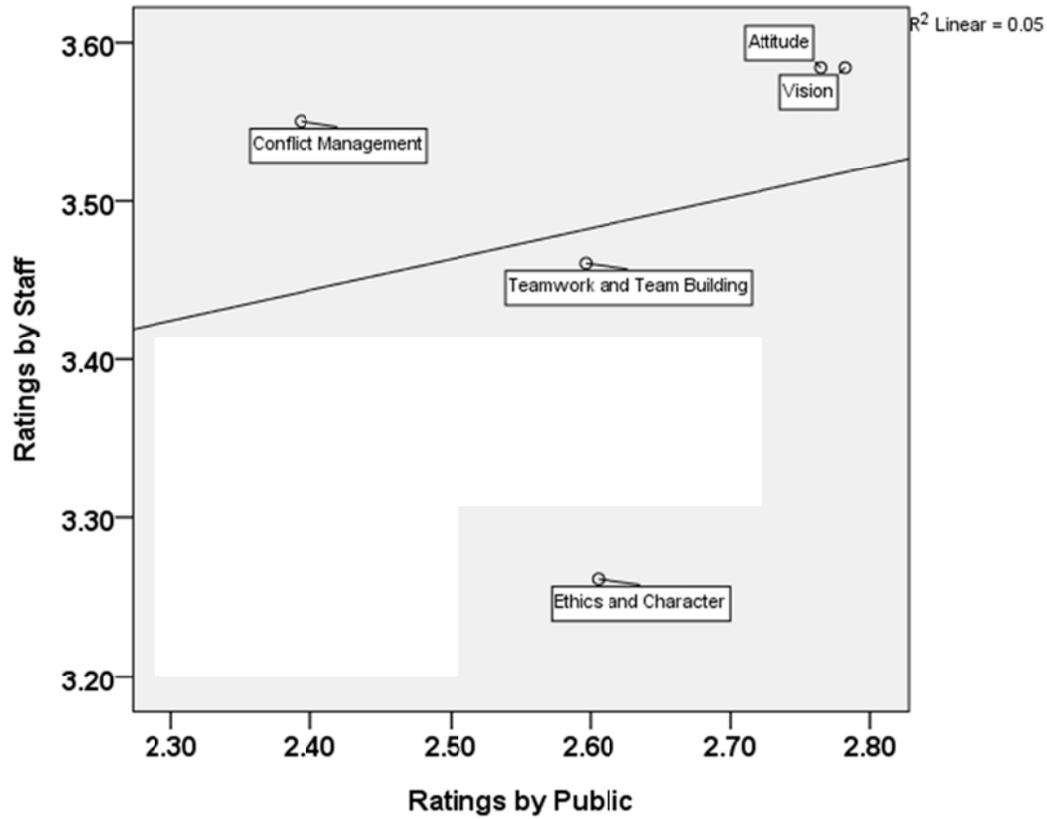


Figure 4.21. Scatterplot of mean staff self-ratings of knowledge of ideal leadership behaviors by mean attendee ratings of ideal leadership behaviors observed in staff during a public meeting.

As a result, the null hypothesis is accepted, demonstrating no statistical relationship between the self-reported knowledge of leadership behaviors by project staff and the ideal behaviors identified by members of the public. This was an anticipated result based on the review of literature, confirming that there is a weak or no correlation between project staff knowledge of leadership behaviors and public identified ideal leadership behaviors.

However, when analyzing ideal leadership behaviors as identified by stakeholders and project staff based on the 18 leadership behaviors listed as part of the *Leadership Knowledge Survey*, a strong correlation exists among the top five behaviors, as shown in Figure 4.22.

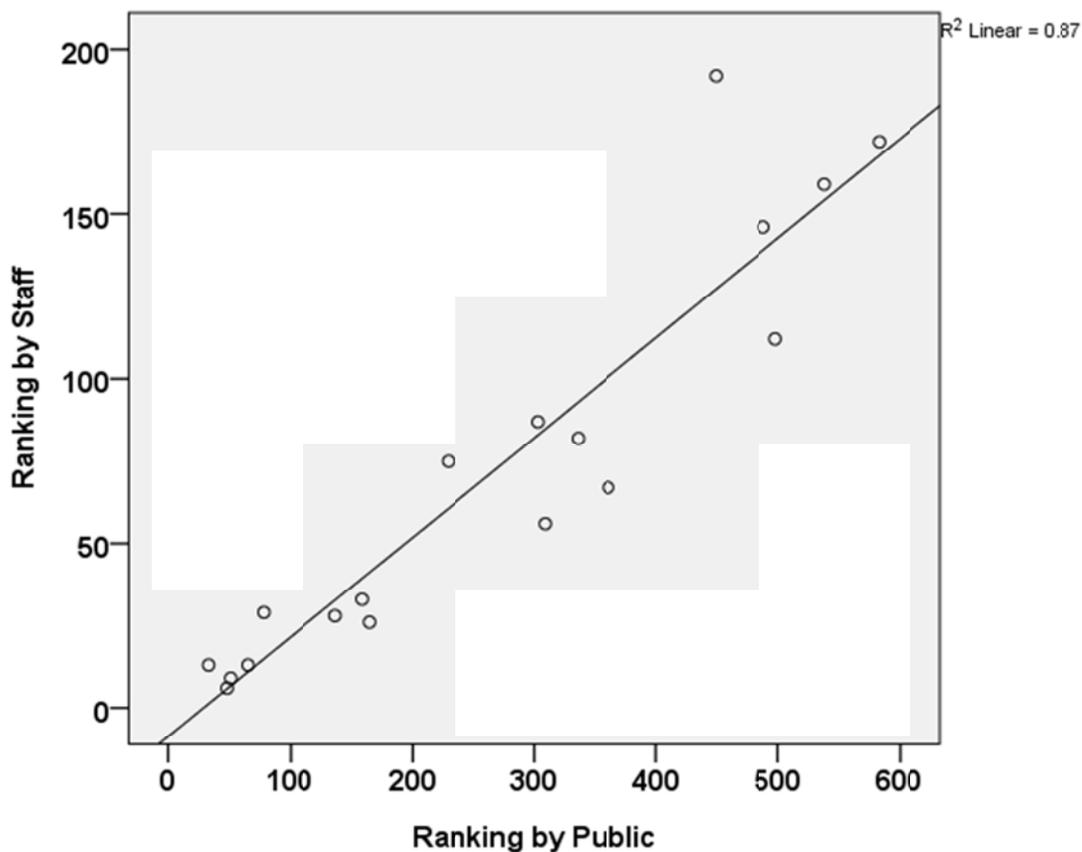


Figure 4.22. Scatterplot of staff-selected ideal leadership behaviors by public selected leadership behaviors. Given a list of 18 behaviors, respondents selected the top five behaviors by ranking them from 1 (least important) to 5 (most important). Values for each behavior in the plot are the sum of each behavior derived by multiplying the frequency and rank position of the selected behaviors and adding the result.

While not directly connected to Hypothesis 3, Figure 4.22 supports findings earlier in this chapter indicating that the top five behaviors identified by project staff and stakeholders generally align, albeit in a different order. Furthermore, these behaviors are in alignment with the behaviors observed in project meetings when assessing the interactions between stakeholders and project staff. No formal regression analysis was completed; fit line to the data provided in Figure 4.22 to assist with a visual examination of how the data points cluster to form a pattern.

Test of hypothesis 3.

H_3 : A significant relationship exists between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

H_0 : There is no significant relationship between project staff self-reported knowledge of leadership behaviors and public meeting attendees' perceptions of leadership behaviors as identified on the *Leadership Knowledge Survey*.

As reviewed in the qualitative analysis, of the 18 leadership behaviors assessed as part of the *Leadership Knowledge Survey*, project staff and stakeholders directly agreed on attitude as the second-ranked behavior to support legitimate meetings. Thus, the survey results reflect that this behavior was observed by stakeholders at the most recently attended meeting, and it was identified as a key behavior by project staff.

However, as shown in Figure 4.23 there is no statistical relationship between project staff self-assessed knowledge of 18 behaviors identified on the *Leadership Knowledge Survey* and the perceptions/observations of stakeholders from the most recently attended meeting ($r=.04, p=.866$). While project staff members generally rate their knowledge as comprehensive for 14 out of 18 of the leadership behaviors, stakeholders report not observing these behaviors during public meetings.

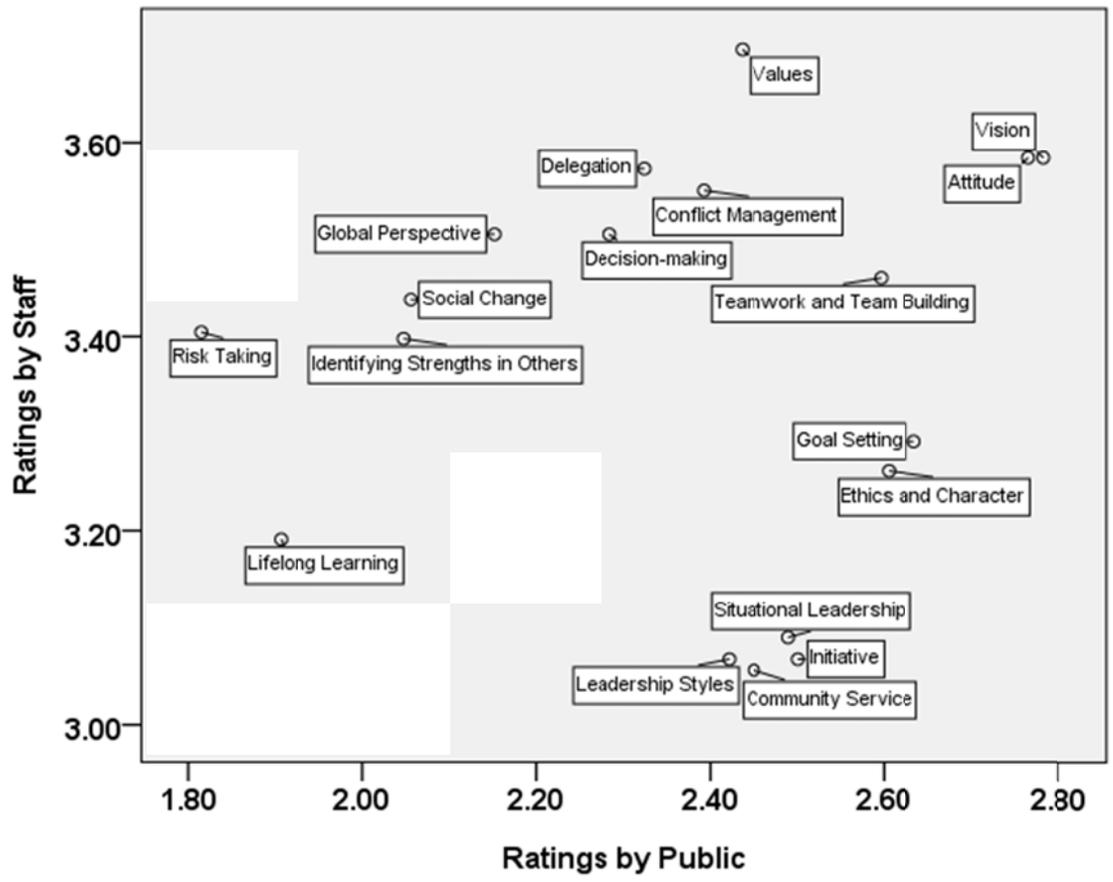


Figure 4.23. Scatterplot of mean staff self-ratings of knowledge of leadership behaviors by mean attendee ratings of leadership behaviors observed in staff during a public meeting.

Of note, ethics and character was least correlated among the identified behaviors; however, excluding that fifth behavior still provided a low level of significance.

Thus, the null hypothesis is accepted reflecting that there is little or no correlation between project staff self-assessed leadership knowledge and stakeholder perceptions of exhibited leadership behaviors as identified through the *Leadership Knowledge Survey*. Again, this was an anticipated result based on the literature review.

Test of hypothesis 4.

*H*₄: A significant relationship exists between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

*H*₀: There is no significant relationship between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified on the *Leadership Knowledge Survey*.

As detailed in Table 4.16, the Ideal Leadership Score positively correlates ($r=.55$) to stakeholders' sense of meeting collaboration; this combined score, reflecting all five of the top identified leadership behaviors by stakeholders, supports hypothesis four.

Looking at each individual leadership behavior, moderate correlations are seen when measured against perceived or observed levels of collaboration. Teamwork and team building, and vision were the strongest correlations ($r=.45$), followed by attitude ($r=.44$), ethics and character ($r=.44$), and conflict management ($r=.31$). In general, these correlations align with stakeholder observation of public meetings and project staff stated knowledge of leadership behaviors.

Thus, the null hypothesis is rejected and the alternative is confirmed, demonstrating a positive correlation between ideal leadership behaviors identified by stakeholders, and perceptions of increased collaboration.

Summary

As this analysis demonstrates, project staff report having strong knowledge of the 18 behaviors identified on the *Leadership Knowledge Survey*. However, the public does not appear to see these behaviors demonstrated at the same level of strength during public meetings. Yet, there is a strong connection between leadership behaviors and stakeholder perception of meeting success – strong correlations were identified between public meeting effectiveness and vision, and teamwork and team building. An Ideal Leadership Score was developed to incorporate the top five leadership behaviors for project staff – ethics and character, attitude, vision, conflict management, and teamwork – to measure correlations against stakeholders' sense of meeting success, fairness and influence, collaboration, and legitimacy. In each instance, the Ideal Leadership Score demonstrated positive correlations. Thus, Hypothesis 1 and Hypothesis 4 are confirmed.

While there is a clear connection between key leadership behaviors and a sense of meeting effectiveness, there was no demonstrated correlation between staff self-reported knowledge of leadership behaviors and stakeholder-identified ideal behaviors, or between project staff self-reported knowledge of leadership knowledge and stakeholder perceptions of exhibited leadership behaviors at public meetings. Thus, Hypothesis 2 and Hypothesis 3 are rejected and the null hypotheses are supported, as anticipated based on the review of literature.

On the qualitative aspects, stakeholders identified vision, attitude, goal setting, ethics and character, and teamwork as the top five behaviors most often seen in public meetings conducted by the Transportation Department. Similarly, project staff reported teamwork, ethics and character, attitude, conflict management, and vision as the top behaviors based on a self-report administered through the *Leadership Knowledge Survey*. Researcher observation identified situational leadership, conflict management, teamwork, ethics and character, and leadership styles as the behaviors most often observed by the researcher during four meetings conducted in compliance with the National Environmental Policy Act.

While comments from the public provided as part of the structured interview portion of the instrument reflect frustration with the openness of public involvement processes, a sense of pre-decisional meeting approaches, and a lack of sincere collaboration, a range of behaviors were recorded that contribute to reduced conflict at public meetings based on researcher observation. These behaviors, as recorded using the *Leadership Knowledge Survey*, included situational leadership, teamwork, values, community service, and leadership styles.

By assessing the qualitative and quantitative data, a positive correlation appears to exist between the 18 behaviors measured in the *Leadership Knowledge Survey* and a sense of meeting success, legitimacy, fairness and influence, and collaboration. The Ideal Leadership Score, developed to incorporate the top five public-identified leadership behaviors for public meetings, showed correlations ranging from .51 to .56 on the elements of meeting effectiveness.

Based on this data analysis, Chapter Five will focus on a summary of chapters one through four, offer conclusions, implications, and recommendations for further study and application.

Chapter 5: Summary, Conclusions, and Recommendations

Introduction

Since implementation of the National Environmental Policy Act in 1970, the courts and the President's Council on Environmental Quality have increased the role of public involvement for projects governed by this landmark environmental law (Rahman, 1999; Stitch & Eagle, 2005). The need for public involvement programs for governmental and nongovernmental projects is a requirement that will continue only to increase as the public demands more information, involvement, and engagement (Stitch & Eagle, 2005; Luther, 2005). The challenging dynamic between highly technical and oftentimes contentious project proposals, and the need to engage stakeholders and members of the public in a process of deliberative democracy, has been explored through this research.

The mechanism of consultation required by NEPA is one of both process and relationship (Wagenet & Pfeffer, 2007). Process is the breadth and depth of engagement opportunities for stakeholders interested in a governmental project, while relationship focuses on the stakeholder-government dynamic that influences the quality of engagement (Habermas, 2005; Hibbing & Theiss-Morse, 2002; Wagenet & Pfeffer, 2007). Exploration of both the process and relationship elements within the context of observed leadership behaviors was the focus of this research, with an emphasis on understanding how leadership behaviors can support more productive and sincere collaboration between citizens and their government, bounded by the theories of deliberative and participatory democracy (Habermas, 2003; Mutz, 2006; Roussopoulos & Benello, 2005).

Reducing conflict, enhancing collaboration, and better meeting the legal and policy implications of the National Environmental Policy Act through the concerted application leadership behaviors during public meetings can be an effective strategy, extending tactical recommendations presented previously in the literature review. As detailed in Chapter Three, this study followed a concurrent, mixed-methods approach that examined correlations between researcher observations of public-involvement meetings, structured interviews, and survey responses from project staff and stakeholders who attended meetings of a state Transportation Department using the adopted *Leadership Knowledge Survey* (Fullerton, 2010).

This chapter will summarize this mixed-methods study, including a review of theoretical and practical implications, and recommendations for application and future research.

Summary of the Study

Political and community dynamics have evolved such that modern society is advancing towards a more participatory form of governance. It is no longer sufficient simply to elect or appoint leaders to make decisions on behalf of the group (Habermas, 2005; Huxham & Vangen, 2000; Roussopoulos & Benello, 2005). As a result, a deeper and more sophisticated understanding of the public-government dynamic is needed to improve these public involvement processes with the objective of gaining critical insights to create project plans that are more context sensitive, acceptable, and environmentally sustainable (Rahman, 1999; Roden, 1984).

This study addressed one aspect of this public-government dynamic. By examining leadership behaviors of project staff members as observed by stakeholders,

and seeking correlations between self-reflections and levels of public involvement program satisfaction, the findings can support more authentic public engagement activities and greater comfort among staff in dealing with a sometimes contentious public (IAP2, 2009; Noller, 2009). Ultimately, these relationship-based insights can improve the overall structural construct between project sponsors and the public and, upholding a primary NEPA objective, result in better projects from both the perspectives of the community and project team (Hibbing & Theiss-Morse, 2002; NEPA, 1994; Noller, 2009).

The problem statement for this study stated that it is not known how and to what extent leadership behaviors such as vision, situational leadership, ethics, attitude, or community service influence public meeting attendees' perceptions of effectiveness and legitimacy for government projects required to comply with the National Environmental Policy Act (Babcock-Robertson & Strickland, 2010; Bass & Riggio, 2006; Fullerton, 2010). The primary purpose for this study was to measure how and to what degree leadership behaviors observed by public meeting attendees influence perceptions of public involvement programs conducted by project staff for government projects that are required to comply with the National Environmental Policy Act. The objective of this study was to examine current leadership behaviors and characteristics at a sample of public meetings conducted by a state Department of Transportation, assess any relationship between exhibited and public-identified ideal behaviors, and examine the linkage between the exhibition of leadership behaviors by project staff and higher levels of community member satisfaction and perceptions of legitimacy towards the meeting or public involvement process.

This research was an initiative to explore ways to shape future public involvement efforts, but not to dwell on past performance or perceptions (Senge & Scharmer, 2001). This is especially important since previous research indicates that both the public and representatives of the government consider public meetings to be the best opportunity to engage in collaborative project programs; however, project staff members also indicate that they often have negative experiences at these meetings (ADOT, 2007; CEQ, 1997). This research bridged that gap.

This study examined the extent to which observations of project staff leadership behaviors by attendees at public meetings conducted in compliance with NEPA were related to public involvement program effectiveness and legitimacy. For this study, legitimacy was defined as public involvement programs that are perceived by participants as being fair, conducted with sincerity on the part of project staff, and influential on the ultimate decision process (Adams, 2004; Bayley & French, 2008; Bens, 1994; Delli Carpini et al., 2004; IAP2, 2009; Mohl, 2004; Stitch & Eagle, 2005). In this study, Pearson correlational analysis (Creswell, 2009) was used to measure the relationship between observed and ideal leadership behaviors as perceived by public meeting attendees, the relationship between perceived behaviors of attendees and self-reported knowledge of leadership behaviors by project staff members, and the relationship between observed leadership behaviors and perceptions of process legitimacy. At the same time, implementation of deliberative/participatory democracy was explored using a case study approach (Yin, 2009) in observing leadership behaviors of project staff during public meetings conducted in compliance with NEPA. Structured interviews were also conducted electronically with stakeholders to gain insights into emerging themes related

to how the use of leadership behaviors supports productive public meetings, and the ways in which leadership behaviors can be used to improve overall community relations.

The rationale for combining both qualitative and quantitative data is to understand more thoroughly the research problem by converging quantitative correlations with qualitative observations to develop recommendations for the training of project staff and to aid in the design of public involvement programs (Creswell, 2009; Yin, 2009). This quantitative and qualitative data was collected using an adapted version of Fullerton's (2010) *Leadership Knowledge Survey* as the primary instrument for assessing stakeholder observations of project staff, for staff to self-assess their knowledge of leadership behaviors, and to document researcher observations of leadership characteristics displayed at public involvement meetings conducted by the Transportation Department.

Summary of Findings and Conclusion

Through an analysis of the qualitative and quantitative data, which included responses to structured interview questions posed to stakeholders, clear themes emerged centered around constructs of community, vision, attitude, decision-making, ethics and character, public and community, and doubts of legitimacy. While most of these themes identified shortcomings in current public involvement programs, the input from stakeholders when asked to justify their top identified leadership behavior needed for successful and productive meetings yielded insights into the receiver dimension of project engagement efforts that previous research has not addressed.

Research question 1.

Research Question 1 asked which leadership behaviors are most commonly exhibited by project staff during public meetings. Data to address this question was

collected from observations of public meetings by the researcher, and through the administration of the *Leadership Knowledge Survey* to 569 stakeholders from across Arizona and from 117 project staff members.

Based on the researcher's observation of project staff and stakeholder interactions, the following leadership behaviors were documented, in order of frequency among the sum of the four meetings: (1) situational leadership; (2) conflict management; (3) teamwork and teambuilding; (4) ethics and character; and (5) leadership styles.

Observational data collected by the researcher during four public meetings was coded, sorted, and assessed for demonstrations of leadership behaviors and audience reaction. Situational leadership was observed most frequently (10 instances) as project staff responded to the audience tone, using the leadership behavior to adapt to audience needs. In this context, situational leadership was defined as the bridge between transformational and transactional leadership, allowing leaders to adapt to the needs of the organization and its followers (Blanchard, 2008; Kotter, 2001; Kouzes & Posner, 2002). More specifically, the situational leadership model was classified as directive, based on the research of Blanchard (2008). Following situational leadership, conflict management, and teamwork and team building (nine instances each) were also observed. Ethics and character ranked fourth in observed project staff behaviors. The behavior of leadership styles was the fifth-ranked characteristic; this behavior was defined as a demonstration of cross-dimensional leadership styles based on current literature (Babcock-Roberson & Strickland, 2010).

After sorting and coding responses from stakeholders, the following were identified as the top leadership behaviors identified during public meetings: (1) attitude; (2) vision; (3) goal setting; (4) ethics and character; and (5) teamwork.

As presented previously, attitude was identified as being moderately or extensively observed by 64.6% of participants ($N=361$). Vision was observed extensively or moderately by 63.3% of stakeholders. Goal setting was identified by 59.9% of stakeholders as being moderately or extensively observed. For ethics and character, the fourth-ranked overall behavior, 59.2% of stakeholders identified it as the characteristic moderately or extensively observed. Finally, 55.8% of stakeholder participants noted that teamwork and team building were observed extensively or moderately at the last-attended public meeting conducted by the Transportation Department. Of the 18 behaviors measured, risk taking was identified as least observed, with 43.4% of stakeholders indicating there was no observation of the behavior at the last-attended public meeting; because of the importance of risk taking in the leadership/followership dynamic, this is an important observation (Blanchard, 2008).

Research question 2.

Research Question 2 examined which staff leadership behaviors the public believed are important to support productive and collaborative public meetings. In general, the use of leadership skills and behaviors are largely designed to reduce contentiousness, focus meetings on the core topic, and to mitigate conflict between the project team and stakeholders or conflict between stakeholders. Data to answer Research Question 2 came from meeting observations and structured interviews.

During observations of the four meetings, situational leadership emerged as the leading strategy employed by project staff, including consultants, to maintain an appropriate level of decorum with the objective of reaching the meeting's objectives; as identified by stakeholders and project staff, this could be classified more simply as attitude in the *Leadership Knowledge Survey*, which was a top-ranked behavior for both stakeholder observation and project staff knowledge. In this context, situational leadership was defined as a varied approach based on circumstance, audience expectation, speaker knowledge, and desired outcomes (Blanchard, 2008) to forge a form of audience-variable flexibility in the public involvement approach.

Stakeholders did not strongly recognize conflict management as among the top observed leadership behaviors, suggesting that conflict is mitigated through the use of more subtle techniques to keep a meeting on topic through the use of expert presenters and strategies that defer combative questions to the end of the general meeting session. Some of these techniques may be viewed more as audience-management mechanisms than conflict-management strategies that support more productive meetings, at least for the Transportation Department's mission. As discussed in detail in Chapter Four, this points to the dangerous nexus between public involvement programs that remain focused and productive for the project under discussion, and those programs which seem pre-decisional and lacking in legitimacy.

Through a coding and sorting of themes observed from public meetings, situational leadership, conflict management, and leadership styles were identified as among the 18 behaviors that worked in combination to increase collaboration and legitimacy at public meetings by reducing conflict and maintaining focus, but a flexible

focus, to meet the needs of stakeholders. However, these tactical behaviors do not address the strategic expectations of stakeholders, such as vision and attitude.

In assessing behaviors exhibited specifically to reduce conflict during public meetings, situational leadership was the top ranked observed behavior, followed by conflict management, vision, teamwork/team building, and ethics and character. These behaviors align with the stakeholder's expressed ideal general leadership characteristics for project staff to exhibit during public meetings.

Hypothesis 1.

Hypothesis 1 suggested that public meeting attendees would perceive a significant relationship between public involvement program legitimacy and ideal leadership behaviors of project staff members, as identified on the *Leadership Knowledge Survey*. This hypothesis was confirmed; the null hypothesis was rejected.

After completing a Pearson correlation, analysis of the top five ideal leadership behaviors and the measures of meeting effectiveness, as articulated by stakeholders via the survey instrument, demonstrated positive correlations between a combined Ideal Leadership Score and overall public meeting effectiveness. The combined leadership-behaviors score – referred to as the Ideal Leadership Score – included a sum of the rankings on each of the five leadership top leadership behaviors (ethics and character, attitude, vision, conflict management, and teamwork/team-building) demonstrated a coefficient of .56 when measured against meeting success, .52 against fairness and influence, .55 with collaboration, and .51 with meeting legitimacy. These positive correlations, with a strong significance level (0.001), show the strongest relationship between vision and measures of meeting effectiveness, which incorporates survey

questions focused on meeting success, fairness and influence of the public involvement process, level of collaboration, and overall sense of program legitimacy.

As a result, a statistical connection is reflected between public involvement program legitimacy and the top five identified leadership behaviors, as well as when correlated with the Ideal Leadership Score.

Hypothesis 2.

Hypothesis 2 suggested that a significant relationship existed between project staff self-reported knowledge of leadership behaviors, and public meeting attendee identified ideal leadership behaviors for public meetings based on the *Leadership Knowledge Survey*. As anticipated, this hypothesis was rejected and the null hypothesis supported.

After completing a Pearson correlation analysis between the knowledge of leadership behaviors on the part of project staff and the ideal behaviors identified by stakeholders, no correlation was demonstrated ($r=.22$, $p=.717$). Further analysis using the coefficient of determination confirmed the results. Seeking a correlation using only the top five ideal behaviors identified by members of the public demonstrated low significance in the analysis.

As a result, the null hypothesis was accepted, demonstrating no statistical relationship between the self-reported knowledge of leadership behaviors by project staff and the ideal behaviors identified by members of the public. Based on a review of the literature, this was an anticipated result, confirming that there is a weak or no correlation between project staff knowledge of leadership behaviors and public identified ideal leadership behaviors.

However, when analyzing ideal leadership behaviors as identified by stakeholders and project staff based on the 18 leadership behaviors listed as part of the *Leadership Knowledge Survey*, a strong correlation exists among the top behaviors.

Hypothesis 3.

Closely related to Hypothesis 2, Hypothesis 3 suggested that a significant relationship existed between project staff self-assessed knowledge of leadership behaviors and public meeting attendee perceptions/observations of leadership behaviors. As expected, this hypothesis was rejected and the null hypothesis accepted.

As reviewed in the qualitative analysis, of the 18 leadership behaviors assessed as part of the *Leadership Knowledge Survey*, project staff and stakeholders directly agreed on attitude as a top-ranked behavior to support legitimate meetings. Thus, the survey results reflect that this behavior was observed by stakeholders at the most-recently attended meeting, and it was identified as a key behavior by project staff.

However, there is no statistical relationship between project staff self-assessed knowledge of 18 behaviors identified on the *Leadership Knowledge Survey* and the perceptions/observations of stakeholders from the most recently attended meeting ($r=.04$, $p=.866$). While project staff generally rate their knowledge as comprehensive for 14 out of 18 of the leadership behaviors, stakeholders report not observing these behaviors during public meetings.

As a result, the null hypothesis was accepted, reflecting that there is little or no correlation between project staff self-assessed leadership knowledge and stakeholder perceptions of exhibited leadership behaviors as identified through the *Leadership Knowledge Survey*.

Hypothesis 4.

Hypothesis 4 suggested that a significant relationship existed between ideal leadership behaviors as identified by public meeting attendees, and perceptions of increased collaboration among meeting participants as identified through the *Leadership Knowledge Survey*. This hypothesis was confirmed; the null hypothesis was rejected.

The Ideal Leadership Score positively correlates ($r=.55$) to stakeholders' sense of meeting collaboration; this combined score, reflecting all five of the top identified leadership behaviors by stakeholders, supports Hypothesis 4. Looking at each individual leadership behavior, moderate correlations are seen when measured against perceived or observed levels of collaboration. Teamwork and team building, and vision were the strongest correlations ($r=.45$), followed by attitude ($r=.44$), ethics and character ($r=.44$), and conflict management ($r=.31$). In general, these correlations align with stakeholder observation of public meetings and project staff stated knowledge of leadership behaviors.

Thus, the hypothesis is confirmed, demonstrating a correlated linkage between stakeholders' identified ideal leadership behaviors and a sense of increased meeting collaboration between members of the community and project team.

Implications

Technology is changing the varied dimensions of public involvement programs, offering new avenues for transportation departments to pursue when attempting to engage stakeholders and general community members in projects. However, public meetings – be they formal or less formal – will continue to be part of the required mix of offerings, especially for larger and more controversial project proposals governed by NEPA (Brady,

1990; Button & Ryfe, 2005; Stitch & Eagle, 2005). This research presented potential implications for the future of public meetings conducted under NEPA, methods for public engagement, and how project staff members can be trained to better engage in a constructive community dialogue.

Primarily, the findings of this research should help transportation departments and other public agencies that are required to conduct public meetings to better evaluate staff preparation for these sessions, and how leadership-skills training can provide for more productive and collaborative meetings that meet both the needs of the public *and* the agency. From this research, the top five leadership behaviors, as identified by the public, were teamwork and teambuilding, ethics and character, attitude, conflict management, and vision (followed by situational leadership, decision making, and values). It is clear that these are critical values and skills to express when engaging the public.

As this research described, it is also clear that there is a level of mistrust currently between the Transportation Department and its stakeholders. Meetings are seen as held with little legitimacy and are often conducted when the public believes a decision has already been made. Concurrently, the public also lacks a sense of decisive action on the part of the Arizona Department of Transportation, complaining that input is often ignored or simply filed away for projects that never seem to reach a conclusion; this is likely a symptom of necessary but tough-to-describe, long-range planning for transportation corridors. Nonetheless, the public feels disconnected from projects and the ultimate decisions, despite evidence that NEPA is not necessarily a democratic process (Roussopoulos & Benello, 2005; Smith, 2010). By better understanding how the public currently view NEPA processes and execution of public involvement programs, it is

possible for transportation departments to create more authentic and legitimate program experiences for stakeholders; such a change, however, stretches beyond public meetings and requires amending how community input is transparently applied to the agency's work.

Theoretical implications

Leadership is a discipline and range of behaviors that have broad application and wide-ranging theoretical foundations established in current literature (Tichy, 2002; Vroom & Jago, 2007). This study attempted to address the relatively unexplored area of leadership behaviors within the federally required public involvement process. While there is consensus that the public is increasingly demanding more participation in governmental decision processes, current literature primarily addresses tactical techniques for enhancing current programs rather than exploring the broader, more strategic constructs (Hibbing & Theiss-Morse, 2002; Wagenet & Pfeffer, 2007). Furthermore, prior research suggests that the public generally views public involvement efforts as less-than-legitimate, lacking in efficacy, and more akin to simply check-mark processes (ADOT, 2007; Berman, 2008; Bickerstaff & Walker, 2005; Carrasco et al., 2006; Delli Carpini et al., 2004; Harvey, 2009; Rahman, 1999; Wagenet & Pfeffer, 2007). From a theoretical perspective, this research advances the notion that specific leadership behaviors, when appropriately applied to public involvement programs, can increase productivity, collaboration, and stakeholders' sense of legitimacy towards the NEPA process and the project deliberations.

To strengthen further research linking leadership behaviors with stakeholder feelings of legitimacy, expanded data collection from meeting participants and

correlation among meetings would allow for a sharper focus on specific behaviors and why those behaviors had a perceived influence on meeting success. Nonetheless, this study – by reaching a sizable sample of both project staff members and stakeholders from across the state of Arizona – provides credible insights into the leadership dynamic and supports the need for the integration of behaviors, including ethics and character, attitude, teamwork, vision, and decision-making to be integrated into training programs for public involvement practitioners and project staff members.

Practical implications

At the core, this project was focused on understanding the dynamic, during public meetings, between project staff members and stakeholders. From a practical stance, this data should be used to create and enhance preparatory programs for project staff members, using stakeholder insights to shape public involvement program approaches. From the research, stakeholders indicated that these were the top five behaviors that should be used to make public meetings more productive and collaborative: teamwork and team building, ethics and character, attitude, conflict management, and vision. Knowing this, training and continuing education programs, and the structure of public meetings, can be created considering these five factors. These programs and structural changes can better help project staff to connect sincerely with stakeholders and create more open forums to receive and apply input to enhance projects.

Future implications

Clearly, project staff members believe they have high leadership competencies, but those competencies are not always observed by stakeholders who attend public meetings. While staff may be resistant to exhibit leadership behaviors during public

meetings, those self-assessed leadership competencies may truly fail to meet stakeholder expectations. This is a question that remains and may pose elusive, even under the scrutiny of more detailed research and analysis. This gap between self-reported leadership knowledge of project staff and public perception of the effectiveness of those behaviors presents a theoretical chasm that current research in the public involvement field fails to address. As previous research demonstrates (ADOT, 2007), project staff members are resistant to demonstrate any risk-taking behaviors in public meetings; exploring this resistance more fully and expanding it to the other 17 behaviors listed in the *Leadership Knowledge Survey* may present further insights for practical and theoretical implications. Indeed, the expression of leadership behaviors may be perceived by project staff as a risky approach for public interactions.

This research looked only at the relationship between leadership behaviors and the public's sense of legitimacy and collaboration, which are factors of effective public involvement (IAP2, 2009). Future research could further examine the issue of effectiveness, making more direct associations between specific leadership behaviors and perceptions of public involvement program effectiveness through an experimental design, or through closer examination of project staff behaviors during individual meetings. Indeed, a more rigorous research design would directly connect stakeholder perceptions to specific meetings and to specific project staff members to measure effectiveness, legitimacy and collaboration of the public involvement process.

Recommendations

As a result of this research and analysis, the following recommendations for future research and practice are evidenced.

Recommendations for future research

As a field with little existing research, there are extensive opportunities for additional inquiry into the connections between leadership behaviors and public involvement programs.

- (1) This research examined, in aggregate, stakeholder perceptions of the most recently attended public meeting. There was no connection made to individual presenters or meetings. Additional quantitative research could focus on these direct connections, gaining insights into the exact behaviors that were observed, which were not observed, and how those perceptions affected the outcomes of the meeting.
- (2) While something of a limitation for this study, participants were asked to recall the experience from their most recently attended meetings from 2006 to 2011. For some participants, this could have resulted in a loss of a clear recollection on what was observed and how they reacted to it. As a result, additional research could conduct qualitative and quantitative inquiry during or immediately following public meetings to gain fresh recollections and perceptions from stakeholders, as well as to better capture the behaviors of staff members. Such an approach would further allow the researcher to assess supporting materials used for the meeting, such as handouts or electronic presentations, and the degree to which those materials support collaborative and legitimate meetings.
- (3) From this research, it is clear that there is a challenging relationship between project agencies and stakeholders; this is a finding supported by research as documented in Chapter Two. Further research, perhaps employing an

ethnographic research design, would more fully explore this relationship and the dimensions creating conflict with the objective of seeking productive middle ground that meets the objectives of the National Environmental Policy Act while increasing the sense of legitimacy and productivity from the perspective of stakeholders. An ethnographic method would allow for a more complete exploration of the overall relationship, while focusing on the divide between stakeholder expectations and the limitations of deliberative democracy.

- (4) Based on the research of De Morris and Leistner (2006) and this study, there is a clear expectation of democratic decision-making in public involvement programming. However, NEPA does not require such a process, just as it does not require that the least-harmful alternative be selected for a new transportation corridor (Stitch & Eagle, 2005). Further research could focus on the philosophies of Habermas to evaluate the effectiveness of aligning government public involvement programs more closely with the theories of deliberative and participatory democracy. This examination, using a qualitative, experimental approach, could differentiate the benefits and downfalls of each theory to guide the reformation of public meeting structure. Variables could include public rancor as documented through meeting comment cards or media coverage, survey responses to questions focused on feelings of public empowerment and true deliberative democracy, or the extent to which attendance at public meetings changes as a project progresses.
- (5) Using the Ideal Leadership Score as a foundation, additional research can be conducted into factors of public meeting success, fairness and influence,

collaboration, and legitimacy while seeking stakeholder definitions of these effective meeting demonstrators. A mixed-methods approach could provide for an expanded focus on these four factors, building from the research contained herein. Strong correlations, with high confidence, were found between the Ideal Leadership Score and these four effectiveness factors; additional research could describe how and why these factors benefit public involvement programs and the ultimate project outcome.

- (6) This research focused on those who attend public meetings – fewer than 8% of the residents of Arizona (ADOT, 2009). Further research can explore methods and strategies for engaging the 92% who do not generally attend public meetings, seek alternatives to appropriately integrate input from those stakeholders into the ultimate decision process, and further distribute the democratic process beyond only those with a direct stake or who will be directly affected. This research should, through a mixed-methods approach, explore *why* people do not or cannot attend public meetings. This research could further identify appropriate alternatives to traditional public meetings.

Recommendations for practice

Based on the findings of this study, several recommendations for practice are suggested to improve project staff preparation, public meeting structure, and leadership-skills integration into NEPA decision processes.

- (1) This research, particularly Hypothesis 3, confirms the disconnect between staff self-reported knowledge of leadership behaviors and public perception of those behaviors during public meetings as outlined in current literature. Training

programs should be created and sustained that support the development of leadership behaviors among project staff members, including consultants, to embrace the key behaviors identified by the public and develop strategies for integrating those techniques into public meeting settings.

- (2) Based on the four factors of meeting effectiveness, universal public meeting evaluation forms should be developed to measure, track, and assess public meeting performance and perceptions of success. This evaluation form should be made available to public meeting attendees immediately following the meeting to provide instant feedback that can be tracked over time to assess trends and identify opportunities for improvement. By creating a uniform evaluation instrument, the Transportation Department can better track meeting success and project staff performance.
- (3) Additional efforts need to be applied to identify, connect, and explore relationships with stakeholders and at-large community members who do not attend public meetings. This can be accomplished through innovative new public outreach techniques, such as telephone town halls, virtual meetings, or televised forums broadcast in partnership with municipal public-access cable channels. Despite evaluating new approaches to public involvement, the key leadership behaviors identified in this study will remain relevant.
- (4) Public agencies can increase transparency – and public involvement program legitimacy – through publication of public comments and, more importantly, how those comments influenced decision-makers and the ultimate decision for the project under deliberation. Current practices generally require formal publication

of summarized comments with a formal response; expanding that to incorporate greater availability of these comment reports with insights into the *so what* aspect to provide the public with a greater sense of influence and collaboration.

Understandably, projects cannot be subject to popular vote, but by explaining how public input affected the decision-making process or course of the study team, the public may increase engagement in project discussions through greater confidence in agency sincerity, reducing the check-mark perception.

(5) While this study used Fullerton's (2010) *Leadership Knowledge Survey* to assess 18 leadership behaviors, individual agency efforts to develop state-specific leadership indicators will yield training and evaluation programs tied directly to community perceptions of what leadership means and how those definitions connect to public involvement program effectiveness. This additional research and implementation project would extend from this analysis through identification of the values community members expect for effective public meetings without the boundaries of a set instrument.

Summary

Among other purposes, the National Environmental Policy Act was designed to include stakeholders and the affected population in the discussion and deliberation process for any proposed federally funded project. While not a democratic process, NEPA provided a voice to the public on if, how, and where proposed projects should be implemented. However, as documented in this research, previous literature demonstrates that the public has little confidence in public involvement programs and sees little sincerity in the efforts by government agencies to incorporate public input into project

deliberations (Stitch & Eagle, 2005). This research looked at the relationship between the exhibition of leadership behaviors by project staff and stakeholder's sense of public involvement program legitimacy, success, and productivity. While this research does demonstrate a divide between staff self-reported knowledge of leadership behaviors and the public's perceptions of leadership behaviors in public meetings, the findings did establish the core behaviors that both groups believe would support better public involvement programs.

While technology may alter the face of public involvement from a tactical perspective, the foundational need to involve the public is expected only to increase as stakeholders continue to become more engaged in proposed projects (Tuler et al., 2005). Yet, a sense of mistrust is clear, presenting a challenge for public involvement practitioners and government agencies. This research explored the relationship between public program legitimacy, as perceived by stakeholders, and the exhibition of leadership behaviors by staff. The practical implications of these findings will help better the understanding of the dynamic relationship between the government and stakeholders, and assist decision-makers to design more productive and collaborative public involvement programs. The structure of public meetings, and training programs for project staff members can be developed and implemented based on these findings. Future research can further explore the gap between self-reported knowledge of leadership behaviors by project staff and stakeholder perception of those leadership behaviors.

This chapter also made several recommendations, both for future research and for future practice. Primary among these was a recommendation to complete additional research correlating specific meetings to stakeholder perceptions of success and

perceived leadership behaviors to identify the behaviors of individual staff members that equate to a greater sense of collaboration and meeting success. Additionally, experimental research should be conducted in coordination with or immediately following public meetings to gain fresh recollections of the process and project team's performance based on whether or not the project team has completed a leadership-development program. Finally, expanded research can explore the effects of more closely aligning public involvement programs to deliberative and participatory democracy theories, and examining methods for increasing public engagement in participation opportunities.

When looking at opportunities for future practice, this chapter recommended the development of training programs based on the findings to enhance public involvement programs based on the identified ideal leadership behaviors. Additional emphasis in the design of public involvement programs can also be applied to connect better with those who are not currently attending public meetings, broadening the reach of public involvement efforts. Finally, this chapter recommended increasing project study transparency through the publication of public comments with insights into how that input affected the ultimate decision process, reducing the check-mark perception that undermines the effectiveness of some public participation programs.

Throughout this research, the nexus between leadership behaviors and a sense of collaboration in public involvement programs has been explored, seeking to bridge a gap in existing literature that has not examined the role of leadership behaviors by staff in planning federally funded projects. As this research has illustrated, attitude, vision, and goal setting are the top behaviors observed by stakeholders during public meetings.

Correlating the qualitative and quantitative data, ethics and character, attitude, vision, conflict management and teamwork were identified by stakeholders as being key behaviors for project staff to exhibit during public meetings to support effective and legitimate meetings. Knowing this, and expanding on these insights, can support the development of training and staff development. Realizing the connection between leadership behaviors of staff, as measured by the Ideal Leadership Score, and stakeholder reaction to those behaviors can help agencies develop more sincere, productive and collaborative public involvement programs that, ultimately, benefit project designs and communities.

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Appendix A

Permission to use *Leadership Knowledge Survey*

Permission to use *Leadership Knowledge Survey*

July 21, 2010

Dr. Fullerton,

I'm a doctoral student at Grand Canyon University in Phoenix. I'm examining the correlations between leadership characteristics of government officials and the levels of satisfaction for members of the public who attend community meetings related to public-works projects governed by the National Environmental Policy Act. In pursuit of this, I am reviewing leadership instruments for the government staff to self-assess their knowledge/skills; through observational data collection, I'll measure if the exhibited characteristics match their self-assessments.

In your work, I came across the *Leadership Knowledge Survey*. I'm interested in learning a bit more about the instrument, such as where it originated, so that I can seek permission should I choose to advance with this option. Further, has this instrument been validated in any way? I'll openly admit that I have not yet read your entire dissertation in detail, so feel free to point me to page numbers if I am asking dumb questions.

I appreciate any help you are able to offer – I'm excited about this potential tool.

Warmly,

Tim Tait, M.S.

Doctoral Student - Organizational Management/Leadership

Grand Canyon University, Phoenix

July 22, 2010

Tim,

Yours is the first inquiry I've had about my dissertation. It's kind of nice that somebody's actually looking at it besides my committee.

Our LKS was self-designed, based on the learning curriculum for participants in our annual Leadership Academy. We addressed each leadership topic through a speaker (such as the mayor, business people, etc.) who related their life experiences with that topic. For example, we regularly brought in a former state legislator who had great stories to share about decision-making and conflict management as a member of the minority party in state government. We then asked each student participant to interact with the speaker through Q & A, and then to write a short reaction paper.

The students also worked on a semester-long service project with other Academy members, and at the end of the semester they were asked to address how each of these leadership topics played into their project.

We pre- and post-tested with the same instrument every year for Academy participants. It was used as a tool to show changes in confidence and competence by the participants. However, we have discontinued the Leadership Academy and will no longer be using that same instrument.

You'd be welcome to use it or variations of it if you so choose. You may want to use different leadership learning categories that seem more appropriate and relevant for your research participants.

FYI, since the time that I collected data for my dissertation, we have designed a new leadership self-assessment tool that is based on leadership development categories

defined by CAS (the Council for the Advancement of Standards in Higher Education) which we feel will be more universally relevant and generalizable. We simply used the same type of self-assessment scale, but inserted leadership learning categories that were identified by CAS.

We are just beginning to use this new instrument with freshman participants in a yearlong leadership development program, as well as participants in a new minor in Leadership Studies.

The thing that we're recognizing is that there must be some sort of critical incident or learning intervention between the pre- and post-tests. This intervention must be based on experience and/or learning, but without some learning catalyst in between there is unlikely to be any significant change. (A simple concept, yes, but one that has been slow in coming to us.) So, if you're pre- and post-testing for leadership abilities in, say, decision making, there would need to be some sort of incident or intervention in decision making in between.

Anyway, I hope this is helpful. Good luck to you as you work through your research project. If you can just keep moving forward, you'll get there.

All the best,

Jim Fullerton

Idaho State University

Appendix B

Leadership Knowledge Survey – Public

Leadership Knowledge Survey – Public

The Arizona Department of Transportation, in conjunction with Grand Canyon University, is seeking your input on public meetings. Doctoral student researcher Tim Tait is looking at how certain aspects of public meetings can make for more collaborative and productive experiences for community members.

If you have attended an ADOT public meeting since 2006 your help is needed to complete this short survey – it will take less than 15 minutes. The results will be analyzed and used to develop training for ADOT staff and consultants to create more productive meetings.

If you have any questions or comments, please feel free to contact me directly – and thanks for your help.

Sincerely,
Timothy Tait
ttait@azdot.gov :: 602-345-0435

Introduction

Assessing leadership influences within public involvement programs for transportation studies: a mixed-methods study

***1. THE ARIZONA DEPARTMENT OF TRANSPORTATION
and
GRAND CANYON UNIVERSITY**

RESEARCH TITLE:

Assessing leadership influences within public involvement programs for transportation studies: a mixed-methods study

OVERVIEW:

In collaboration with the Arizona Department of Transportation, doctoral student Timothy Tait, working under the direction of Professor Lisa Reason at Grand Canyon University in Phoenix, is conducting a study into ADOT's public involvement program. This study is looking at leadership behaviors that can support better public meetings.

We are recruiting community members to participate in a brief survey to answer questions about your observations from the Arizona Department of Transportation meeting you most recently attended. This survey should take no longer than 15 minutes. No specialized knowledge is needed to participate.

Your participation in this study is voluntary and anonymous. If you have any questions concerning the research study, please call Timothy Tait at 602-345-0435 or 602-712-7070 or by email at ttait@my.gcu.edu.

CONFIDENTIALITY:

As a researcher working on the above research study at Grand Canyon University, I understand that I must maintain the confidentiality of all information concerning research participants. This information includes, but is not limited to, all identifying information and research data of participants and all information accruing from any direct or indirect contact I may have with said participants. In order to maintain confidentiality, I hereby agree to refrain from discussing or disclosing any information regarding research participants, including information described without identifying information, to any individual who is not part of the above research study or in need of the information for the expressed purposes of the research program.

Are you willing to participate in this brief survey?

Yes

No

Recent Attendance

***2. As a member of the public, have you attended any Arizona Department of Transportation public meeting since 2006?**

Yes

No

Leadership Knowledge Survey for Members of the Public

Listed below are 18 leadership behaviors that you may have observed at an ADOT public meeting. For each one, mark how well you believe the project staff – which includes ADOT employees and consultants -- exhibited these behaviors during the public meeting you most recently attended.

There are no incorrect responses — this is based solely on your observations and reflections of project staff as a group.

Each person will have a slightly different definition of these terms. Some may not seem to apply at all. Nonetheless, assess each individual behavior using your personal understanding of the term.

***3. From members of the project team for each of these behaviors, do you recall: 1) No Observation of the behavior; 2) Limited Observation of the behavior; 3) Moderate Observation of the behavior; or 4) Extensive Observation of the behavior?**

	No Observation	Limited Observation	Moderate Observation	Extensive Observation
Decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamwork and Team Building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal Setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifelong Learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership Styles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Situational Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Risk Taking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identifying Strengths in Others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delegation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethics and Character	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitude	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Initiative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Global Perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Most recent meeting

Was the most recent meeting you attended successful? For instance, did it meet your informational needs and expectations?

***4. Was the most recent ADOT meeting you attended successful?**

	Not at all Successful	Somewhat Unsuccessful	Neither Successful nor Unsuccessful	Somewhat Successful	Highly Successful
Meeting Success	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Influence of public involvement

The next set of questions focuses on the influence of public involvement programs, and the extent to which you felt a sense of collaboration at the meeting you most recently attended.

***5. The project's public involvement program was fair and influential to the decision-making process.**

	Strong Disagreement	Disagreement	Neither Agree nor Disagree	Agree	Strongly Agree
Fairness and Influence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***6. This meeting incorporated a sense of collaboration.**

	Strong Disagreement	Disagreement	Neither Agree nor Disagree	Agree	Strongly Agree
Collaboration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***7. This meeting had a sense of legitimacy.**

	Strong Disagreement	Disagreement	Neither Agree nor Disagree	Agree	Strongly Agree
Legitimacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***8. How valuable are public involvement programs for supporting the development of highway corridors?**

	Not at All Valuable	Somewhat Invaluable	Neither Valuable nor Invaluable	Valuable	Highly Valuable
Value for development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Top 5 Behaviors

This next question asks you to identify the Top 5 leadership behaviors that you believe will support productive and collaborative public meetings.

***9. With five (5) being the MOST important and one (1) being the LEAST important, rank the Top 5 leadership behaviors for project staff to exhibit in order to support productive and collaborative public meetings. Use each number only once.**

Identifying Strengths in Others	<input type="text"/>
Situational Leadership	<input type="text"/>
Social Change	<input type="text"/>
Conflict Management	<input type="text"/>
Ethics and Character	<input type="text"/>
Community Service	<input type="text"/>
Leadership Styles	<input type="text"/>
Lifelong Learning	<input type="text"/>
Attitude	<input type="text"/>
Global Perspective	<input type="text"/>
Decision-making	<input type="text"/>
Values	<input type="text"/>
Initiative	<input type="text"/>
Teamwork and Team Building	<input type="text"/>
Vision	<input type="text"/>
Delegation	<input type="text"/>
Risk Taking	<input type="text"/>
Goal Setting	<input type="text"/>

***10. Reflecting on the behavior you identified as most important, why did you identify that behavior as being critical for public meetings?**

***11. In general, how can project teams utilize leadership behaviors to improve relationships with the community?**

Demographics

The next series of questions are optional and are designed to help us better analyze the responses of survey participants. These questions are similar to what the U.S. Census Bureau asks.

12. Gender

- Male
- Female
- Prefer not to answer.

13. In what year were you born? (optional)**14. Marital Status?**

- Now married
- Widowed
- Divorced
- Separated
- Never married
- Prefer not to answer.

15. What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

- Nursery school to 8th grade
- 9th, 10th or 11th grade
- 12th grade, no diploma
- High school graduate/equivalent (GED)
- Some college credit, but less than 1 year
- 1 or more years of college, no degree
- Associate degree (for example: AA, AS)
- Bachelor's degree (for example: BA, AB, BS)
- Master's degree (for example: MA, MS, MBA)
- Professional degree (for example: MD, DDS, JD)
- Doctorate degree (for example: PhD, EdD)
- Prefer not to answer.

16. Employment Status?

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Retired
- Unable to work
- Prefer not to answer.

17. Please describe your work.

- Employee of a for-profit company or business or of an individual, for wages, salary, or commissions
- Employee of a not-for-profit, tax-exempt, or charitable organization
- Local government employee (city, county, etc.)
- State government employee
- Federal government employee
- Self-employed in own not-incorporated business, professional practice, or farm
- Self-employed in own incorporated business, professional practice, or farm
- Working without pay in family business or farm
- Prefer not to answer.

18. What is your total household income?

- Less than \$10,000
- \$10,000 to \$19,999
- \$20,000 to \$29,999
- \$30,000 to \$39,999
- \$40,000 to \$49,999
- \$50,000 to \$59,999
- \$60,000 to \$69,999
- \$70,000 to \$79,999
- \$80,000 to \$89,999
- \$90,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more
- Prefer not to answer.

19. Please specify your ethnicity.

- Hispanic or Latino
- Not Hispanic or Latino
- Prefer not to answer.

20. Please specify your race.

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Prefer not to answer.

21. I live in a:

- Urban area
- Suburban area
- Rural area

Thank you

Thank you for participating in this brief survey. If you have any questions, please contact student researcher Timothy Tait at 602-345-0435 or ttait@my.gcu.edu.

The findings of this research will be used to help ADOT improve public involvement efforts for future projects.

To learn more about research being conducted by the Arizona Department of Transportation Research Center, visit:
<http://azdot.gov/TPD/ATRC>

Appendix C

Leadership Knowledge Survey – Staff

Leadership Knowledge Survey – Staff

Leadership Knowledge Survey - ADOT/GCU - Project Staff

The Arizona Department of Transportation, in conjunction with Grand Canyon University, is seeking your input on public meetings and your knowledge of 18 leadership behaviors. Doctoral student researcher Tim Tait is looking at how certain aspects of public meetings can make for more collaborative and productive experiences for community members.

As a member of a project team (ADOT staff or consultant), if you have participated in an ADOT public meeting since 2006, your help is needed to complete this short survey – it will take less than 15 minutes. The results will be analyzed and used to support more productive meetings.

If you have any questions or comments, please feel free to contact me directly -- and thanks for your help.

Sincerely,
Timothy Tait
ttait@azdot.gov :: 602-712-7070

Introduction

Assessing leadership influences within public involvement programs for transportation studies: a mixed-methods study

Leadership Knowledge Survey - ADOT/GCU - Project Staff

***1. THE ARIZONA DEPARTMENT OF TRANSPORTATION
and
GRAND CANYON UNIVERSITY**

RESEARCH TITLE:

Assessing leadership influences within public involvement programs for transportation studies: a mixed-methods study

OVERVIEW:

In collaboration with the Arizona Department of Transportation, doctoral student Timothy Tait, under the direction of Professor Lisa Reason at Grand Canyon University in Phoenix, is conducting a study into ADOT's public involvement program. This study is looking at leadership behaviors that can support better public meetings.

We are recruiting individuals to participate in a brief survey to answer questions about the ADOT meeting in which you most recently participated. This survey should take no longer than 15 minutes. No specialized knowledge is needed to participate.

Your participation in this study is voluntary and anonymous. If you have any questions concerning the research study, please call Timothy Tait at 602-712-7070 or by email at ttait@azdot.gov.

CONFIDENTIALITY:

As a researcher working on the above research study at Grand Canyon University, I understand that I must maintain the confidentiality of all information concerning research participants. This information includes, but is not limited to, all identifying information and research data of participants and all information accruing from any direct or indirect contact I may have with said participants. In order to maintain confidentiality, I hereby agree to refrain from discussing or disclosing any information regarding research participants, including information described without identifying information, to any individual who is not part of the above research study or in need of the information for the expressed purposes of the research program.

Are you willing to participate in this brief survey?

Yes

No

Leadership Knowledge Survey - ADOT/GCU - Project Staff

Recent Attendance

***2. As a member of a project team (consultant or ADOT staff), have you participated in any Arizona Department of Transportation public meeting since 2006?**

- Yes
- No

Leadership Knowledge Survey - Staff

For each of the following, please make what you think is a realistic assessment of your personal knowledge of each of these leadership behaviors. There are no incorrect answers – this is based solely on your personal reflection of your knowledge of leadership traits.

Each person will have a slightly different definition of these terms. Some may not seem to apply at all. Nonetheless, assess each individual behavior using your personal understanding of the term.

***3. Personal understanding of leadership concept: 1) No Understanding, 2) Limited Understanding; 3) Moderate Understanding; or 4) Comprehensive Understanding.**

	No Understanding	Limited Understanding	Moderate Understanding	Comprehensive Understanding
1) Teamwork and Team Building	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) Vision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) Goal Setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) Lifelong Learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Leadership Styles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) Situational Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) Risk Taking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) Identifying Strengths in Others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) Delegation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10) Values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11) Ethics and Character	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12) Conflict Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13) Attitude	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14) Initiative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15) Social Change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16) Community Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17) Global Perspective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18) Decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Leadership Knowledge Survey - ADOT/GCU - Project Staff

Most recent meeting

Was the most recent meeting you participated in successful?

***4. Was the most recent ADOT meeting you attended successful?**

Not at all Successful Somewhat Unsuccessful Neither Successful nor Unsuccessful Somewhat Successful Highly Successful

Meeting Success

Influence of public involvement

This next set of questions assesses the fairness and effectiveness of public involvement programs based on the most recent meeting in which you participated.

***5. The project's public involvement program was fair and influential to the decision-making process.**

Strong Disagreement Disagreement Neither Agree nor Disagree Agree Strongly Agree

Fairness and Influence

***6. This meeting incorporated a sense of collaboration.**

Strong Disagreement Disagreement Neither Agree nor Disagree Agree Strongly Agree

Collaboration

***7. This meeting had a sense of legitimacy.**

Strong Disagreement Disagreement Neither Agree nor Disagree Agree Strongly Agree

Legitimacy

***8. How valuable are public involvement programs for supporting the development of highway corridors?**

Not at All Valuable Somewhat Invaluable Neither Valuable nor Invaluable Valuable Highly Valuable

Value for development

***9. How well do you understand the public involvement requirements of the National Environmental Policy Act and the federal government's expectations for public participation programs?**

No understanding Low understanding Moderate understanding High understanding

Knowledge of NEPA

Top 5

This next question asks you to identify what you believe to be the most important behaviors for project staff to exhibit to support productive and collaborative public meetings.

Leadership Knowledge Survey - ADOT/GCU - Project Staff

***10. With five (5) being the MOST important and one (1) being the LEAST important, rank the Top 5 leadership behaviors for project staff to support productive collaborative public meetings. Use each number only once.**

Leadership Styles	<input type="text"/>
Social Change	<input type="text"/>
Teamwork and Team Building	<input type="text"/>
Ethics and Character	<input type="text"/>
Vision	<input type="text"/>
Decision-making	<input type="text"/>
Delegation	<input type="text"/>
Community Service	<input type="text"/>
Initiative	<input type="text"/>
Values	<input type="text"/>
Global Perspective	<input type="text"/>
Lifelong Learning	<input type="text"/>
Risk Taking	<input type="text"/>
Conflict Management	<input type="text"/>
Situational Leadership	<input type="text"/>
Identifying Strengths in Others	<input type="text"/>
Goal Setting	<input type="text"/>
Attitude	<input type="text"/>

Demographics

The next series of questions are optional and are designed to help us better analyze the responses of survey participants. These questions are similar to what the U.S. Census Bureau asks.

11. Gender

- Male
- Female
- Prefer not to answer.

12. In what year were you born? (optional)

Leadership Knowledge Survey - ADOT/GCU - Project Staff**13. Marital Status?**

- Now married
- Widowed
- Divorced
- Separated
- Never married
- Prefer not to answer.

14. What is the highest degree or level of school you have completed? If currently enrolled, mark the previous grade or highest degree received.

- Nursery school to 8th grade
- 9th, 10th or 11th grade
- 12th grade, no diploma
- High school graduate/equivalent (GED)
- Some college credit, but less than 1 year
- 1 or more years of college, no degree
- Associate degree (for example: AA, AS)
- Bachelor's degree (for example: BA, AB, BS)
- Master's degree (for example: MA, MS, MBA)
- Professional degree (for example: MD, DDS, JD)
- Doctorate degree (for example: PhD, EdD)
- Prefer not to answer.

15. Employment Status?

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Retired
- Unable to work
- Prefer not to answer.

Leadership Knowledge Survey - ADOT/GCU - Project Staff**16. Please describe your work.**

- Employee of a for-profit company or business or of an individual, for wages, salary, or commissions
- Employee of a not-for-profit, tax-exempt, or charitable organization
- Local government employee (city, county, etc.)
- State government employee
- Federal government employee
- Self-employed in own not-incorporated business, professional practice, or farm
- Self-employed in own incorporated business, professional practice, or farm
- Working without pay in family business or farm
- Prefer not to answer.

17. What is your total household income?

- Less than \$10,000
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- \$80,000 to \$89,999
- \$90,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more
- Prefer not to answer.

18. Please specify your ethnicity.

- Hispanic or Latino
- Not Hispanic or Latino
- Prefer not to answer.

Leadership Knowledge Survey - ADOT/GCU - Project Staff

19. Please specify your race.

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Prefer not to answer.

20. Do you have any other comments?

Thank you.

Thank you for participating in this brief survey. If you have any questions, please contact researcher Timothy Tait at 602-712-7070 or ttait@azdot.gov.

The findings of this research will be used to help ADOT improve public involvement efforts for future projects.

To learn more about research being conducted by the Arizona Department of Transportation Research Center, visit: <http://azdot.gov/TPD/ATRC>

Appendix D

Meeting Observation Matrix

Meeting Observation Matrix

ASSESSING LEADERSHIP INFLUENCES WITHIN PUBLIC INVOLVEMENT PROGRAMS
FOR TRANSPORTATION STUDIES: A MIXED-METHODS STUDY

Leadership Knowledge Observation Matrix

	Number of specific instances	Audience response/reaction	Example
Teamwork and Team Building			
Vision			
Goal Setting			
Lifelong Learning			
Leadership Styles			
Situational Leadership			
Risk Taking			
Identifying Strengths in Others			
Delegation			
Values			
Ethics and Character			
Conflict Management			
Attitude			
Initiative			
Social Change			
Community Service			
Global Perspective			
Decision-making			

Appendix E

Site Authorization Letter

Site Authorization Letter



Arizona Department of Transportation
Multimodal Planning Division
 206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer
 Governor

John S. Halikowski
 Director

May 17, 2011

Jennifer Toth
 Division Director

Office of Academic Research
 Grand Canyon University
 College of Doctoral Studies
 3300 W. Camelback Road
 Phoenix, AZ 85017
 Phone: 602-639-6106

Dear IRB Members,

After reviewing the proposed study, "Assessing leadership influences within public involvement programs for transportation studies: a mixed-methods study", presented by Timothy Tait, I have granted authorization for Mr. Tait to conduct research at public meetings conducted by the Arizona Department of Transportation throughout the state, and through electronic surveying of public meeting attendees and agency employees.

I understand the purpose of the study is to assess the public's observation of leadership behaviors at public meetings, as well as the self-reported knowledge of leadership traits among project staff; in addition the study will observe public meetings to assess the interactions between the public and project staff. Mr. Tait will conduct the following research activities: observe and collect data, and administration of an electronic survey. It is understood that this project will end no later than February 28, 2012.

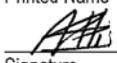
I have indicated to Mr. Tait that the Arizona Department of Transportation will allow the following research activities: onsite observation of public meetings to collect data on the interaction between staff and community members, in addition to electronic surveys distributed to previous attendees of public meetings and staff. Mr. Tait understands that his role at these public meetings will be one of observer and, to maintain the integrity of the National Environmental Policy Act process, it will be necessary not to distract from the subject of the meeting.

To ensure that the employees and public meeting attendees are protected, Mr. Tait has agreed to provide to me a copy of any Grand Canyon University IRB-approved, consent document before he recruits participants at from the Arizona Department of Transportation. Mr. Tait has agreed to provide a copy of the study results, in aggregate, to the Arizona Department of Transportation Research Center.

If the IRB has any concerns about the permission being granted by this letter, please contact me at 602-712-6910 or aellis@azdot.gov.

Sincerely,

Anne Ellis, Ph.D.
 Director, Arizona Department of Transportation Research Center

Anne Ellis
 Printed Name

 Signature
5/17/2011
 Date

Appendix F

Observation Matrix – Data Collected

ASSESSING LEADERSHIP INFLUENCES WITHIN
PUBLIC INVOLVEMENT PROGRAMS
FOR TRANSPORTATION PROJECTS: A MIXED-METHODS STUDY
Leadership Knowledge Observation Matrix – Collected Data

	Number of specific instances	Audience response/reaction	Example
Teamwork and Team Building	8	<p>Maintained meeting focus; allowed for a disaggregation of questions between those of singular and general interest.</p> <p>Public made to feel included as part of the meeting rather than passive audience.</p> <p>Expression of an alleviated concern.</p> <p>Support from community on pledge to maintain open communication as project is initiated.</p>	<p>Facilitated question-and-answer session.</p> <p>Opportunity for questions with responses from project team members.</p> <p>Presenter expresses need to “work as a team” to address issue under study.</p> <p>Commitment of notice of all activities on project.</p> <p>Review of team member roles and responsibilities.</p>
Vision	8	<p>Zoomed out perspective of community members from single project to more macro perspective.</p> <p>Acknowledgement of investment in corridor.</p> <p>Opened up opportunity to provide candid feedback and ask direct questions.</p> <p>Participants expressed better understanding the ultimate plans and how current plans fit into vision.</p>	<p>Focus on long-range transportation plan.</p> <p>Reflecting on \$70 million in prior work on a corridor and how proposal links to that work.</p> <p>Willingness to take and apply input.</p> <p>Presenter carefully established long-range vision for the corridor.</p>
Goal Setting	3	<p>Comments indicated appreciation from the community for establishing long-range goals for improvements.</p> <p>Professional driver acknowledged efforts of project staff to accommodate non-passenger vehicle traffic.</p> <p>Stakeholders kept focused and on-task for meeting purpose.</p>	<p>Articulated objective of using one study to spur additional efforts to evaluate an existing corridor.</p> <p>Recognizing professional-driver challenges and expressing interest in integrating solutions into plans.</p> <p>Clear agenda outlined for the meeting.</p>

(continued)

ASSESSING LEADERSHIP INFLUENCES (continued)

	Number of specific instances	Audience response/reaction	Example
Lifelong Learning	4	<p>“Thank you for considering that position.”</p> <p>Community member deferred question when promised follow-up once research was completed.</p> <p>Audience saw depth of project staff and recognized team members beyond those engaged specifically in public involvement.</p>	<p>Subject-matter experts demonstrating open minds to new information or approaches</p> <p>Presenter indicating additional research was being conducted to better understand maintenance/operations of existing corridor.</p> <p>At one point, presenter asked for help addressing question during presentation.</p>
Leadership Styles	5	<p>Added instant credibility to expert and built a sense of community service.</p> <p>Created a buffer between meeting control and open collaboration.</p> <p>Other audience members asked challenging participant to save questions to ask one-on-one with staff rather than hold up the meeting.</p>	<p>Demonstration of servant-leadership, as specifically articulated by one subject-matter expert assigned to a project team.</p> <p>Exhibition of patience when faced with a challenging community member.</p>
Situational Leadership	10	<p>Returned meeting to core topic while acknowledging concern.</p> <p>Redirected community discussion back to the project and away from any perceived deficiencies in the public involvement program.</p> <p>Added credibility and familiarity among stakeholders; less formal of a feeling.</p> <p>Questions addressed as they emerged, meeting community expectation.</p> <p>Focused question period on items of community interest</p>	<p>Focus on individual community member concerns.</p> <p>Additional meeting added to meet the specific needs of one community.</p> <p>Use of scripted language and support understandable and accessible presentation.</p> <p>Use of local presenters who know community and are known within the community.</p> <p>Allowed interruptions during presentation for pressing questions.</p> <p>Use of one-on-one time to answer various inquiries, like about roundabouts.</p> <p>Asking audience “what do you need to know from us?” to start question period.</p>

(continued)

ASSESSING LEADERSHIP INFLUENCES (continued)

	Number of specific instances	Audience response/reaction	Example
Risk Taking	2	Stakeholders able to move on to other topics/concerns, recognizing that the project team has documented/understood issue. Community members supported statement from project team through comments during the Q&A portion of the meeting.	Acknowledging concerns as a project team. “No 100% solution” to address the traffic issues.
Identifying Strengths in Others	2	Accommodate based on needs and comfort level of audience. Added to sense of respect and comfort. Stakeholders were able to receive an immediate response rather than wait for a researched answer.	Full recap of information in Spanish. Presenter acknowledged when they did not know the answer to a question and had to refer to a subject-matter expert.
Delegation	3	Stakeholders articulated identification of which project team member oversaw which aspects of the project, allowing them to better address questions and provide input. Stakeholder received best answer from a direct source, rather than from the Transportation Department as an intermediary. Stakeholders were able to seek out the best individuals for one-on-one questions following formal presentation.	Primary presenter did not hesitate to pass the microphone to others on the study team, including consultants, to address questions or sections of the meeting. Refer portions of presentation or questions to partner agency. Introduction of staff with insights into each person’s specialization.
Values	3	Comments directly recognizing the project team’s interest in the environmental consequences of a project. Community member noted feeling included in the process of evaluating options.	Equal focus in the presentation on both the engineering and environmental aspects of a project proposal, and customizing presentations to address community environmental concerns. Sense of inclusivity and collaboration expressed by project team. Acknowledging “I don’t know.”

(continued)

ASSESSING LEADERSHIP INFLUENCES (continued)

	Number of specific instances	Audience response/reaction	Example
Ethics and Character	6	<p>Took audience off-track from meeting focus, but addressed a prevailing issue that was top of mind. Discussion was engaged and completed.</p> <p>De-escalation of tension and setting a positive tone among stakeholders.</p> <p>Comment from stakeholder expressing appreciation for “actually listening” to concerns.</p> <p>Stakeholder wanted instant answer, but expressed appreciation for the follow through.</p>	<p>Specifically seek responses to an issue involving the illness affecting trees lining a highway – a recognized sensitivity in the community.</p> <p>Use of humor by presenter.</p> <p>Demonstrations of active listening by project staff.</p> <p>Staff made commitment to follow up on participant concern.</p>
Conflict Management	9	<p>A defined and focused meeting agenda, topic and objectives that allowed for positive discourse while allowing time for off-topic, individualized attention following the formal presentation.</p> <p>Raised voices lowered; calm restored based on transparency to answer and ability to ask individual questions following meeting.</p> <p>Mayor expressed appreciation for opportunity to meet with Transportation Department staff in advance of public meeting to clarify certain concerns.</p> <p>Study team was prepared to address concerns and presented a unified front in open Q&A and one-on-one questions.</p>	<p>Scripted meeting with aligned messages.</p> <p>Careful, detailed explanation of noise policy to respond to upset homeowners.</p> <p>Pre-meeting with key stakeholders to reduce conflict during the meeting.</p> <p>Staff screened community members based on neighborhood of residence to best understand issues that may emerge during meeting.</p>
Attitude	5	<p>Stakeholder voices acknowledgement of the team’s positive attitude and openness.</p>	<p>Presenter offers very straight, no nonsense approach.</p> <p>Patient and engaged approach.</p>

(continued)

 ASSESSING LEADERSHIP INFLUENCES (continued)

	Number of instances	Audience response/reaction	Example
Initiative	4	Prompted discussion in order to gain input on needed topics.	Use of consultants to stage questions within the audience to spur conversation.
		Constituent expressed appreciation for comprehensive nature of the study.	Complete discussion of transit options provided based on question.
		Demonstrated understanding of audience needs, in part based on pre-meeting and questions posed in advance of public meeting.	Making minor revisions to presentation before the meeting.
Social Change	1	Stakeholder indicated understanding of the sometimes in-conflict demands on project team. Urged continued analysis.	In discussion of visual resource analysis in the environmental document, presenter mentioned need to balance safety with environmental considerations.
Community Service	4	Individual responses from community members recognizing project staff for their service, and focus on local issues.	Direct comments from presenters indicating a strong willingness to represent the community in the process.
		Stakeholders gravitated to staff member for business cards to maintain communication.	Presenter describing self as “open source for information.”
			Presenter said “we will do what we can” to support community during construction.
Global Perspective	3	Expressions of support from community member in executing proposed project during times of least impact to local economy.	Connect to other projects in area.
			Address high-season issues.
		Recognition through direct statements of Transportation Department’s investment and attention, even if somewhat trailing development.	Tying multiple projects together to create broader perspective of planned improvements.
Decision-making	3	Understanding from community on next steps and nature of recommendation. Questions focused on necessity of improvements.	Clear recommendations in the presentation.
		Community member recognized forced acceptance of singular option with input open only on the details of the project.	Somewhat directive presentation of option for specific project.
		Public understood what was planned and how it would take place.	

