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Jorge Cesar Figueredo
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PUBLIC PARTICIPATION IN TRANSPORTATION:
AN EMPERICAL TEST FOR AUTHENTIC PARTICIPATION

by

JORGE CESAR FIGUEREDO
M.P.A. University of Central Florida, 1997
B.A. University of Central Florida, 1980

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Major Professor: Xiaohu Wang

ABSTRACT

This dissertation examines the public participation activities of State Departments of Transportation (SDOTs) in the United States. A review of existing literature and legal frameworks suggests that an "authentic" public participation results when dimensions of representativeness, use of public inputs, interactiveness, and quality of citizen inputs have been achieved. The study sought to identify conditions that serve as measurements that must presumably be satisfied for authenticity to exist in public participation. The result was a Model of Authentic Public Participation that served as the basis for creation of a new four-tiered methodology to assess the performance of these districts relative to authenticity requirements.

This study also sought to identify the key determinants that lead districts to achieve Authentic Public Participation in District public involvement programs. A Predictor Model for Authentic Public Participation was created to test whether the key internal and external determinants are responsible for districts achieving authenticity in their public participation programs. The data for this study came from a mail-back survey that was administered to all senior district administrators in 380 State Departments of Transportation districts in the United States. A total of 233 surveys were returned for a response rate of 61.3 percent.

The results of the study suggest that most SDOT districts struggle to implement public participation programs that achieve high levels of authenticity. The increased use of public participation tools, specifically those active tools that allow for increased interaction between district staff and the public, can assist districts in achieving higher levels of authenticity in their programs. Of key importance to achievement of authenticity is the willingness of district staff to adopt new ideas and innovation learned from dealings with the public. District public

participation programs benefit from training that increases the individual's acceptance of public

participation as a valid mechanism for serving the public.

Recommendations were made for SDOTs to work toward:

- The creation of increased opportunities for the occurrence of Authentic Public Participation
- The creation of individual ownership of authenticity in public participation
- The creation of community partnerships to foster authenticity in public participation

This is dedicated to my wife Trish Figueredo. Thank you for your love, support, encouragement, and understanding during these years. This dissertation would not have been possible without you. I love you.

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CHAPTER ONE: INTRODUCTION

This dissertation examines the public participation programs of State Departments of Transportation (SDOTs) in the United States. These public participation programs are important because they serve as a critical point of entry for citizens to access and influence these agencies at the technical, planning, and implementation levels. In the broader context of governance, public participation is important as an effective means to ensure representation and accountability in a democracy (Cole, 1975a, Cole, 1975b; Creighton, 1999), while contributing positively to social justice (Cvetkovich and Earle, 1994).

Overview and General Perspective

The focus of this study is public participation in SDOTs at the district level. SDOTs are State agencies that are typically subdivided into geographic subsets commonly called districts or divisions. As highly technical and structured organizations, public participation occurs in SDOTs through implementation of structured public involvement programs within districts. These public involvement programs provide a critical point of engagement for citizens and communities that are affected by transportation projects. SDOT public involvement programs are the singular structured opportunity for citizen interaction to effect substantive decisions for the development and implementation of SDOT transportation projects. Void of these opportunities, public participation in SDOT matters is substantially removed from the technical processes of the agency and is often left to reside and languish in the political sphere.

SDOTs are the agencies responsible for the construction, operation, and maintenance of more than 44,000 centerline miles of Interstate highways and hundreds of thousands of miles of other major arterial roadways in the United States. Annually the 50 SDOTs spend a combined total of more than $76 billion in federal and state funds to accomplish their mission which includes the maintenance, repair and enhancement of the Interstate Highway System, hundreds of thousands of miles of other state and primary roads, transit systems, and airports (FHWA, 1998b). SDOTs oversee the majority of the nation's high-capacity and vital transportation network. It is this vast network that has provided the needed transportation capacity for the creation and expansion of the world's largest economy (World Fact Book, 2003). Every aspect of life in America relies on the mobility provided by the nation's transportation network. The critical nature of SDOTs and the essential national purposes they serve make them important entities for academic research.

Significant efforts have occurred since the 1950s to implement effective public involvement programs in the transportation field and in government programs in general. Results have been mixed, with a pervasive belief among public sector professionals and academicians that public participation programs consistently fail to achieve desired results for engaging the citizenry (Arnstein, 1969; Gordon, 1996; Ammons, 1997; Campbell and Marshall, 2000; Rowe and Frewer, 2000; Crosby, Kelly, and Schaefer, 1986; Kathlene and Martin, 1991; Kweit and Kweit, 1981, Kweit and Kweit, 1987; Parsons, 1990).

A review of existing literature and legal frameworks suggests that an "authentic" public participation results when dimensions of representativeness of participants,

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interactiveness of participation processes, quality of citizen inputs, and use of citizen inputs in decision-making have been achieved.

The Research Questions

This project proposes two research questions that seek to examine the existence of Authentic Public Participation in SDOTs and to identify its determinants. The project research questions are stated:

1. "To what extent do State Departments of Transportation district public involvement programs achieve Authentic Public Participation?"

2. "What are the predictors of Authentic Public Participation in State Departments of Transportation Districts?"

The research project seeks to determine the extent to which SDOT districts are achieving authentic public participation through the implementation of public involvement programs. Four dimensions of authenticity are identified in measuring the authenticity of these programs:

1. Representativeness of Public Participation Programs: refers to the degree to which public involvement programs that are implemented are successful in attracting and engaging stakeholders that are representative of the populations being impacted by the transportation project under consideration.

2. Use of Public Participation Input in Project Decision-making Processes: refers to the use of stakeholder inputs obtained from project level public involvement programs in project decision-making.

3. Interactiveness of Participation: refers to the degree to which active participation tools are utilized in the implementation of public involvement programs.

4. Quality of Inputs of Participation: refers to how the participation that occurs and is gathered reflects the true interests of the public being served or affected by the government action.

The representativeness dimension relates to the validity of the input and data that is gathered during the public involvement program as being representative of the populations being served. The literature on public participation suggests that much public participation that is conducted is not representative of groups or individuals that are affected by the project in question. The failure of public agencies to provide for the randomization of participants in public involvement programs, a basic requirement of statistical inquiry, often results in stakeholder input which is reflective of those individuals that are most motivated to participate and have their views heard (Poisner, 1996).

The use of public participation inputs dimension is central to theories of citizen empowerment in government. It is suggested in the literature that decision-making which fails to legitimately consider and utilize public input obtained from public involvement programs can result in citizens becoming disempowered and reacting negatively to agency projects (Rich, Edelstein, Hallman and Wandersman, 1995; King, Feltey and Susel, 1998). Public opposition to transportation projects is often manifested during project planning and construction phases. Citizens often act on this opposition through public outlets such as the media, civic and social groups.

The interactiveness dimension seeks to quantify the frequency of use of public participation tools by SDOT districts and to determine the degree to which those participation tools provide citizens with active participation or two-way opportunities for engagement (IPP, 1981; Poisner, 1996; and IAPP, 1997). Active participation tools are designed to provide high degrees of interaction between representatives of the agency and the citizenry during public participation encounters. Passive participation tools provide

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agencies with the ability to push large amounts of information to the public with little or no two-way communication required.

Active participation tools, while more resource intensive to implement, provide for the sharing of information with the affected citizenry and the establishment of two-way communication between agency and the public. Two-way communication is described the literature as a prerequisite of authentic participation and the notion of citizen empowerment. Agencies that overly rely on passive participation tools risk not adequately assessing how the public received or even understood the information provided. Subsequent project decisions can be based on inadequate information about the affected public. Those agencies that utilize active participation tools benefit from the dialogue and understanding that exists from ongoing communication and the higher quality inputs received from the public.

The quality of inputs dimension refers to the agency's ability to assess the true interests of the communities it serves through the implementation of public involvement programs and the use of public participation tools[1]. The transportation process, which takes a highway from concept to concrete, can last many years and suffer from frequent communication disruptions with the public being served. It is suggested in literature that the more available and integrated public participation becomes, the better the agency is able to correctly assess stakeholder input and use that input to arrive at decisions that will

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[1] Public participation tools are those mechanisms used by agencies that provide for communication and/or interaction with the public and other affected stakeholders. These tools encompass a wide range of mechanisms that allow for the dissemination of information to affected stakeholders and/or the inclusion of individuals or groups into the agency decision-making processes. Public participation tools include, but are not limited to, public hearings, informational meetings, media briefings, advisory board meetings, round table discussions, press releases, position papers and various publications intended to engage the public on relevant issues.

be supported by affected communities (Briand, 1993; Rowe and Frewer, 2000; Wang, 2001).

The four stated dimensions of participation are later aggregated into a new measure of that provides an aggregate construct of authentic public participation to determine the level of authenticity achieved in SDOT district programs.

The Research Hypotheses

The research questions are supported by ten project hypotheses that are stated as follows:

Research Question # 1: To what extent do State Departments of Transportation district public involvement programs achieve authentic public participation?

    H1   Fewer than twenty five percent of SDOT districts achieve Authentic Public Participation

Research Question # 2: What are the predictors of Authentic Public Participation in State Departments of Transportation Districts?

    H2   The broader use of public participation tools increases the authenticity of public participation that occurs in SDOT districts

    H3   The willingness of district senior and project managers to seek exemptions from bureaucratic rules is a predictor of Authentic Public Participation

    H4   The willingness of district senior and project managers to adopt new ideas and innovation is a predictor of Authentic Public Participation

    H5   Ethics training for district staff is a predictor of Authentic Public Participation

    H6   Good relations between the district and the community it serves is a predictor of Authentic Public Participation

H7   Reduced conflict between community leaders served by the
       district is a predictor of Authentic Public Participation

H8   The existence of SDOT policies regarding public participation is a predictor
       of Authentic Public Participation

H9   The existence of District guidelines regarding public participation is a
        predictor of Authentic Public Participation

H10   The existence of State laws regarding public participation is a predictor of
        Authentic Public Participation

Contributions to the Literature

While much literature on public participation can be found within the area of governmental planning, there is no dominant theory on public participation. Further, a gap exists in the literature on how public participation programs are implemented in transportation agencies. The existing public participation literature establishes varying criteria for desirable participation that leads to an empowered citizenry. These criteria are expanded upon in this project and are presented in a holistic framework of authenticity.

The public participation literature on transportation agencies that does exist does not provide a comprehensive view of current public involvement practices at SDOTs, or an assessment of whether the participation that does occur in these agencies is authentic. Existing literature provides a limited analysis of the application of specific types of participation mechanisms and tools in specific situations. This results in an incomplete evaluation of "what" occurred in specific situations instead of "why" a participation strategy was chosen and little insight into the processes and drivers of the participation.

This project addresses these gaps in the literature by creating a new methodology to assess the performance of district public participation programs relative to the requirements of authenticity.

This new four-tiered methodology provides an aggregate construct of authentic public participation for the assessment of SDOT district programs to determine the level of authenticity achieved in these programs. Values are assigned from the responses of district administrators in a self-administered survey that demonstrate satisfaction of the desirable dimensions authenticity through the existence of certain conditions. Based on these findings, districts are ranked into four categories of achievement of public participation:

1. Very High Authentic Public Participation
2. Authentic Public Participation
3. Acceptable Public Participation
4. Token Public Participation

Those districts that achieve Very High Authentic Public Participation in their programs fully satisfy the dimensional requirements of authentic public participation in their programs. These Districts demonstrate a very high level of commitment to processes that provide enhanced opportunity for stakeholder participation in public participation program and nearly always exceed minimum federal requirements for public participation in district projects.

Districts achieving Authentic Public Participation programs demonstrate a high level of commitment to processes that provide enhanced opportunity for stakeholder participation in public participation programs. These Districts often exceed the minimum federal requirements for public participation.

Districts that achieve a score corresponding to Acceptable Public Participation demonstrate a medium level of commitment to processes that provide enhanced opportunity for stakeholder participation in public participation programs. These Districts are compliant with federal requirements for public participation and while they do some times go beyond the minimum requirements they typically do not do so.

Districts performing at a Token Public Participation demonstrate a low-level of commitment to processes that provide enhanced opportunity for stakeholder participation in public participation programs. These Districts are compliant with federal requirements and rarely if ever go beyond the minimum federal requirements.

The Research Effort

A self-administered survey was sent to the senior district administrator at SDOTs in the United States. One survey was mailed to each of the 380 districts in the 50 SDOTs following the Dillman method (2000). The survey relied on the use of seven point Likert Scale questions to survey senior district administrators and construct index variables of the dimensions and predictors of authentic public participation. These constructs of authenticity are conceptualized and operationalized beginning on page 61 of the dissertation. The Model of Authentic Public Participation (Figure 2) illustrates the statistical tests of the index variables as they explain the construct Authentic Public Participation. Further, the Multiple Regression Model Predictor Model for Authentic Public Participation (Figures 3) demonstrates the causal relationship of the independent and control variables to the construct Authentic Public Participation.

The models and other associated statistical tests are triangulated with a total of eight qualitative in-depth telephone interviews among those respondents who indicate the four hierarchical levels of public participation at their district. Two districts were interviewed from each of the four hierarchical categories of districts. These interviews provide further insight and understanding into attitudes concerning public participation in SDOT districts and their effect on achievement of authentic public participation.

Limitations of the Study

Limitations of the study relate to:

- SDOT districts being chosen as the unit of measure
- The affect of centralization and decentralization on SDOTs district public participation programs
- Senior district administrators as respondents.

SDOT Districts as the Unit of Measure

The unit of analysis of the research is the district, which is a subset of the SDOT. As subsets of the larger statewide organization, districts are subject to overriding influences and controls from the agency and the environment that emanates from the State level. At a minimum, districts are organizationally subordinate to the SDOT and must comply with direction and mandates consistent with bureaucratic models of governance (Weber, 1983; Mintzberg, 1983).

The district level was chosen as the unit of analysis because of the proximity of project level decision-making to the characteristics and structures of public involvement programs and because of the available number of survey points. SDOTs were eliminated from consideration as the unit of analysis due to: the broad nature of organizational

decision-making regarding public involvement programs from a statewide perspective; the relative distance of statewide decision-making from public participation being implemented at the local project level; and, with a maximum of fifty states there were too few measurement points for statistical analysis[2].

<u>The Affect of Centralization and Decentralization on SDOT District Public Participation Programs</u>

A further limitation of the research relates to the bureaucratic relationship that exists between state and district level officials. Districts are generally allowed equivalent decision-making authority on operational matters that are based on technical requirements or standards. However, key differences exist in the degree of centralization or decentralization that is delegated from the SDOT central office to the district across States. Bureaucratic centralization posits that organizational decision-making is made at the headquarters location of the agency, with little or no decision-making authority allowed at the district level. Conversely, de-centralization provides for the maximum

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[2] As statewide agencies, SDOTs are responsible for the delivery of services and products to large geographic areas. SDOTs accomplish these responsibilities by subdividing their service areas into sub-units typically referred to as districts, regions, or divisions. SDOT projects are administratively managed through these geographic districts. Program and project engineering processes are managed by the responsible line managers in these districts that report to the top district administrator. SDOTs deliver their programs through the implementation of individual projects. These projects follow the engineering development cycle (Planning, PD&E, Construction, and Operations) as they are developed and implemented. SDOT district administrators are viewed as the best candidate for surveying purposes as they possess the best mix of decision-making proximity to the implementation of projects while being administratively responsible for the aggregate results of all projects in their districts. Additionally the role of these administrators in SDOT district programs remains relatively constant from district project to district project and over time. Individual project managers are viewed as too narrow in their span of management influence to be selected as the survey respondent for district-wide public participation programs. While these differences as stated in the role and span of control for district public participation projects are important for survey purposes, it remains important to assess the attitudes of both levels of these transportation managers for their affect on district public participation programs. As key decision-makers in these programs, both levels are able to have a determining impact on the design, implementation, and outcomes of district public participation programs.

delegation of decision-making authority to the operational or field units of an agency (World Bank Group, 2004; United Nations, 2003).

While SDOT central office/district decision-making arrangements operate on a continuum of centralized to decentralized in practice, the typical SDOT implementation adopts a more centralized or decentralized approach. This variation in decision-making models between States has the potential to influence public participation responses from district administrators because of the latitude—or lack of latitude—given by the state to the district to establish its own methods of making decisions.

Senior District Administrators as Respondents

As discussed, senior district administrators were surveyed to gain their assessment of district public involvement programs. Titles for these positions vary between SDOTs with the most prevalent titles being District Secretary, District Engineer, Division Engineer, District Administrator, or Director. While position titles vary between States, core functions for these positions are typically consistent between jurisdictions with common position responsibilities including planning, engineering, and operations. As bureaucratic and hierarchical governmental organizations, the senior administrator is the identified ranking decision-maker for transportation projects at the district level.

The subordinate relationship of the individual districts to the statewide SDOT can have influence over district individuals completing the survey and answering questions in a manner more acceptable to the larger organization. This condition may be common to those agencies that have adopted a more centralized decision-making structure. Because of these reporting relationships and their influence on respondents, survey responses may

not be a fully accurate depiction of the causes, processes, and predictors of public participation that occur in practice at the district level. While federal law establishes the intent for public involvement programs on federally funded projects, varying interpretations by individual States and SDOTs can impact the implementation of these programs at the project level and can also influence how district administrators perceive and report on them, For example, respondents from districts within a more centralized SDOT may be more likely to answer similarly having a tendency to answer in ways they feel the central State agency would want them to answer. Even still, there exists the possibility that even within a centralized State, different district administrators may have different perceptions of what they feel the state would want them to respond

Another limitation of the survey is the reliance on the response of the senior district administrator to represent the causes, processes, and predictors of the public participation activities of their respective district. While a question within the survey will seek to identify the position or title of the respondent, it cannot be confirmed with complete confidence that the responses received in the self-administered survey are in reality those of the senior district administrator. It will remain possible that the task of completing the survey was delegated to another district level individual. Further, it may be possible that despite the researcher's request for completion of the survey by a district level employee, preferably the senior district administrator, the survey may be assigned to an employee at the SDOT central office or to a non-agency employee who works for a consulting firm that has been hired by the district. It is assumed though that a survey that is completed and returned from the district is representative of the perceptions and

attitudes of the district leadership even if delegated to another individual. These completed surveys will be deemed acceptable for purposes of the dissertation.

It is appropriate to acknowledge that the findings of the survey will be based on the view of the senior district administrator as seen from their perspective with the inherent biases, experiences, education, and training that are resident with that individual. The perception of what is occurring at the district level is that of the individual and cannot be confirmed in this study. The assumption is made that as the senior administrator for the district this individual possesses sufficient leadership skills, experience, training, education, cognitive balance, and other skill sets necessary to fairly assess and respond to those questions that are forwarded in the self-administered survey.

CHAPTER TWO: LITERATURE REVIEW

Definition of Public Participation

The literature on public participation discusses definitions, models, barriers to, and predictors of public participation. Though numerous definitions exist for public participation, all contain similar inferences for the inclusion of citizens in government decision-making processes. The term "public participation" is generally defined as the inclusion of input or dialogue from any or all stakeholders affected by a public decision, process, or project into that public effort. The term public is used interchangeably throughout the literature with the terms, "community, citizen, consumer, and stakeholder" (Maloff, Bilan, and Thurston, 2000; Smith, 1983). When one thinks of public participation the first concept visualized is that of a public agency reaching out to an affected public for input into a government project. Thus, public participation involves individuals by themselves or affiliated with others in varying association as (Franklin, 2001):

- Individual persons
- Private or public groups
- Formal or informal groups
- Businesses
- Government entities

Public managers utilize three dominant methods to communicate and interact with the public. They are public involvement, public information, and public relations (Maloff, et al., 2000). Public involvement is the vehicle by which citizen input is acquired for the creation and implementation of agency programs, projects, and policies. Public information is the one-way process of disseminating data to the public as a means of

informing and educating the public about agency matters. Public relations are the activities whose primary goal is to favorably shape the public's perception of agency activities through dissemination of information, ideas, and/or concepts.

As defined, agency public information and public relations programs by themselves and for their specifically designed purposes do not constitute public involvement. As a vehicle for involving citizens in agency decision-making, public involvement is operationalized through the implementation of public involvement programs. Public involvement programs can and do utilize public information and public relations tools and tactics in their implementation.

These three concepts may overlap when exercised in practice. Public relations may serve a public information purpose because even though the information that is transmitted to the public is being used to influence the recipient, the information itself can serve to inform. Also, favorable public relations can have a positive impact on public involvement.

For the purposes of this research, public participation is specifically defined as: *"the outreach efforts of SDOT districts through the implementation of public involvement programs at the highway transportation project level for the purposes of involving all interested and affected stakeholders in relevant project matters and in project decision-making."*

Public Participation Tools

Public involvement programs can utilize many tools and tactics in their implementation. The planning literature provides broad discussion about the numerous

participation mechanisms that are available to agencies, classifying them as either passive or active in nature (REC, 2001). Passive participation mechanisms are described as those tools that provide for the "pushing" of information to the public, with little or no expectation that the public will respond or engage the agency. Examples of passive participation mechanisms include:

- Press Releases
- News Conferences
- Web Sites
- Printed Public Information Materials
    - Newsletters
    - Fact sheets
    - Brochures
    - Issue papers
- Advertisements –newspapers, magazines, radio, television

Passive participation tools are primarily used by agencies in situations where dissemination of large amounts of information to a broad audience is desirable. Agencies will often use passive participation tools:

- As part of public involvement programs and in support of required public hearings
- To educate the public on matters of importance to the agency
- To increase awareness of specific projects or efforts
- To create a favorable image of the agency

Active participation tools are those interactions with the public that require agency representatives to engage citizens in dialogue and information exchange. Examples of active participation tools include:

- Public Hearings
- Public Workshops and Open Houses
- Briefings to Social and Civic Groups
- Use of Field Offices
- Information Centers
- Panel Presentations
- Small and Large Group Meetings

Active participation tools are commonly utilized by agencies in public involvement programs as a requirement of federal laws It is in this federal oversight where intent is established for state agencies to engage the affected public in a two-way dialogue (23 U.S.C., 1998; ISTEA, 1991, TEA-21, 1998). Both active and passive participation tools are considered valid tools to achieve desirable public participation outcomes. Table 1 provides an overview of the key characteristics of both passive and active participation tools as utilized in current practice (REC, 2001).

Federal requirements relating to transportation planning and public participation apply to all States. The interpretation and implementation of these requirements varies by agency with many States and SDOTs adopting additional laws, policies, or guidelines that further define the transportation planning processes and participation requirements. Implementation of participation tools in SDOTs is typically the responsibility of project managers. The result of these varying laws relating to public participation programs has been varying degrees of guidance to project managers as they implement participation opportunities.

The various participation tools can be constituted in many different ways. The manner in which the participation tools are utilized can vary from very structured with an emphasis on the delivery of highly technical information from the project team to informal in design with a focus on engaging participants in a form most suitable to their needs and capabilities. How an agency designs the use of a participation tool can serve to maximize or minimize the desired characteristics and effectiveness of the tool which is implemented.

Table 1: Characteristics of Active and Passive Participation Tools

Active Public Participation Tools

Participation Tool	Description	Strengths	Weaknesses
- Public Hearings	- Formal meetings with scheduled presentations offered	- Provides public opportunity to speak without rebuttal - Meets legal federal requirements - Puts comments on record	- Does not foster dialogue - Creates us vs. them feeling - Many citizens dislike public speaking
- Public Workshops - Open Houses - Large Group Meetings	- Informal large group meetings that may include presentations and exhibits. - Typically includes interactive discussion.	- Maximizes input from participants - Excellent for discussion on criteria or analysis of alternatives - Fosters public owner-ship in solving problems - Builds credibility	- May be dominated by hostile or overly supportive stakeholders - Can require several small group facilitators
- Briefings - Panel Presentations	- Make presentations at regular meetings of social and civic clubs & organizations to provide project information.	- Able to maintain control of information & process - Opportunity to reach variety of individuals who normally do not participate - Can build community good will	- Project stakeholders may not be in audience - Topic may be too technical for general audiences
- Field Offices - Information Centers	- Offices established with prescribed hours to distribute information and meet with interested stakeholders	- Information is easily accessible to public - Provides opportunity for more responsive interaction with public	- Relatively expensive, especially for project specific use - Access is limited to those in vicinity of center unless transportation is available
- Small Group Meetings	- Small meetings at existing groups or in conjunction with another event	- Provides opportunity for in-depth information exchange in non-threatening forum	- My be too narrow in reach and can leave out important groups

Passive Participation Tools

Participation Tool	Description	Strengths	Weaknesses
- Press Releases	- Informational written releases to media	- Informs media of project details - Press release language is often used verbatim in media coverage	- Generally low media response rates - Frequent poor placement of press releases in newspapers
- News Conferences	- Schedule event for live dissemination of information to media	- Opportunity to reach all media in one setting	- Limited to newsworthy events as determined by media
- Web Sites	- World wide web sites which contain project information	- Capable of reaching very large audiences with enormous amounts of information - Can be a very low cost way of distributing larger documents	- Many people still cannot access the web - Information overload and poor design can prevent people from finding what they need
- Printed Public Information Materials	- Facts sheets - Newsletters - Brochures - Issue Papers	- Can reach large audiences - Encourages written responses if comment form enclosed - Facilitates documentation of public involvement process	- Only as good as mailing lists/ distribution networks - Limited capability to communicate complicate concepts - No guarantee materials will be read
- Advertisements	- Paid advertisements in newspapers, magazines, radio, television	- Potentially reaches broad public - May satisfy legal notification requirements	- Expensive, especially in urban areas - Allows for relatively limited amounts of information

Commitment to Authentic Public Participation

A key concern in the literature is that the public participation that occurs should be authentic. The literature suggests that authentic public participation should involve all parties affected by the proposed agency action and should stimulate interest and investment by both administrators and citizens. King et al. (1998) describe authentic participation as deep and continuous involvement in administrative processes with the potential for all involved to affect the situation. Authentic participation requires that administrators focus on organizational processes, structures, and implementations. It is through this integration that participation becomes an integral part of administration rather than an add-on or after thought to existing practices.

Authentic participation means that the public is part of the deliberation process from issue framing through decision-making (Roberts, 1997; King, 2001). It moves the administrator away from a reliance on bureaucratic models of administration [3]and toward meaningful and continuing participatory processes through the increased provision of participation opportunities. King, et al. (1998) in providing criteria for assessing the character of the public participation process identifies early citizen involvement in project processes as necessary to authentic participation. Stakeholder participation should go beyond tokenism toward a sustained and substantive input into project design. Project

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[3]   Bureaucracies as defined by Weber (1983) are organizations consisting of experts that are responsible for the formulation and execution of policies. They do so within a hierarchical division of labor according to prescribed rules and without favoritism. In the formal-legal approaches to governance, the emphasis falls on the strict obedience of individuals to the hierarchy, which includes the orders of superiors, laws, and other political authority (Burke, 1988). A framework is created for decision-making that excludes input from those individuals who are outside of the organization.

schedules should provide sufficient time for input so as to avoid a loss of public support in agency matters

It is important to identify the difference between public participation that is authentic and public participation that is effective. The authenticity of participation is concerned with the processes, implementation, and integrity of public involvement programs. Authenticity requires satisfaction of dimensional prerequisites to ensure an open, sustained, inclusive, and honest process that result in the formal consideration of participant inputs. The effectiveness of participation is a construct that is not concerned with the processes, implementation, and integrity of a public involvement program, rather with its outcomes. Though a degree of legitimacy is required so that program outcomes are acceptable to participants, effectiveness is a concept that has meaning and value to the participants themselves.

An agency could consider a public involvement program to be effective if desired outcomes were achieved (i.e., a project is approved for construction). While the public involvement program is considered effective by that measure, the process and implementation of the participation could at the same time be void of integrity and be considered non-authentic. Conversely, the desired agency outcome may not be realized as an outcome of the public involvement program, but the process itself is deemed to have met all of the dimensional requirements of authenticity and therefore is determined to be authentic.

This view of authenticity and effectiveness is applicable to all stakeholders affected by the proposed agency project whether they are actively participating in the public involvement program or not. It is most desirable when a condition exists whereby

authenticity and effectiveness are achieved simultaneously. This occurs when the dimensional requirements of authenticity are satisfied, while process outcomes are satisfactory to the broadest set of stakeholders possible.

While authenticity and effectiveness are concepts with different attributes, it is possible that degrees of each are satisfied as decision-making occurs in practice. The two constructs can co-exist in a continuum where degrees of each may be satisfied from one agency to another or from one participation program to another within the same agency.

An Aggregate Measure of Authentic Public Participation

As previously discussed, this research project seeks to determine the extent to which SDOT districts are achieving Authentic Public Participation through the implementation of public involvement programs. Four dimensions of authenticity are used in measuring the authenticity of public involvement programs. These dimensions are grounded in the literature on public participation. The dimensions include:

1. Representativeness of Public Participation Programs
2. Use of Public Input in Project Decision-making Processes
3. Interactiveness of Participation
4. Quality of Inputs Received from Participation Programs

These dimensions are used to create a new aggregate measurement for assessment of SDOT public involvement programs to determine the level of authenticity achieved at the district level of these agencies. A survey of the senior SDOT district administrators in the United States was utilized to gain their assessment of the commitment of their districts to authentic public involvement programs. Districts are ranked into four hierarchical categories of achievement of public participation:

1. Very High Authentic Public Participation
2. Authentic Public Participation
3. Acceptable Public Participation
4. Token Public Participation

The four levels of public participation are derived from a review of literature on public participation, citizen empowerment, agencies as technical organizations, agencies as learning organizations, and bureaucratic models of management. Many of the principles of these various bodies of knowledge, with their implications to the importance of citizen participation in governance processes, are also codified in civil rights and federal transportation laws (Appendix A).

Representativeness of Public Participation Programs

Representativeness of Public Participation addresses how the participation that occurs reflects the true demographic makeup of the public being served or affected by the government action. Existing literature in this area lacks quantitative data regarding this dimension of authentic public participation in SDOTs.

Criticisms and Concerns of the Representativeness of Public Participation
Gathered in District Highway Transportation Public Involvement Programs

The literature suggests that the public participation that is sought should be representative of the larger population of affected stakeholders (Rowe and Frewer, 2000). Recognizing the real world limitations of not being able to involve all of the people all of the time, efforts toward representative randomization are suggested. As with methods used in statistical surveying (Babbie, 1995), public involvement programs without randomization of participants to the target population lack validity. Without randomization and the resultant validity, these programs risk being dominated by those

individuals or groups that are the most motivated to participate and may not truly reflect the interests of the affected public (Carr and Halvorsen, 2001; Meier, 1993; Poisner, 1996).

Participants often represent themselves and other individuals or groups. Without true representation, the population being affected may fail to recognize those participants as speaking on their behalf. The end result can be an agency moving forward with project decision-making based on public participation that is not reflective of the community being served.

All public participation tools and programs, regardless of whether they are passive or active, are vulnerable to manipulation by agencies and other stakeholders (Arnstein, 1969; Rowe and Frewer, 2000; Wiedemann and Femers, 1993; Simon, 1998). Agency professionals can also dominate public hearings through their ability to establish meeting rules and to conduct the proceedings themselves. The formulation of a public involvement program to protect against manipulation involves both science and art to achieve authentic outcomes. Alty and Davle (1987) state, "that any program of public participation must include a range of techniques and approaches if it is to be more than tokenist."

Of particular concern in the literature is the widespread use of public hearings by agencies as the primary participation mechanism for soliciting public input in transportation project development. Established in federal laws as a minimum requirement for federally funded transportation projects (23 U.S.C., 134; 23 U.S.C., 135; ISTEA, 1991; TEA-21, 1998), the public hearing is criticized by numerous authors in the literature as insufficient to achievement of authentic participation when overly relied

upon in public involvement programs (Spady, 1995**;** Linstrom and Nie, 2000). Concern is expressed about the scheduling of public hearings and people's time availability to attend them. Public hearings are often dominated by interest groups, strong-willed individuals, or individuals with a particularly close association to the project under consideration. Individuals can be drawn to public hearings for numerous reasons, to include (Milbrath, 1981; Davis, 1982):

- Their living or working close to a highway that will be improved
- Their mobility and travel needs for the project
- Their interest in governance and the expenditure of public funding;
- Any other reason of interest by virtue of their membership in the community.

Adams (2004) argues that public meetings (of which public hearings are a subset) do provide an important democratic function by providing citizens with the opportunity to convey information to officials, influence public opinion, attract media attention, set future agendas, delay decisions, and communicate with other citizens. Even though public meetings themselves may not allow deliberative interaction with citizens, Adams (2004) suggests they can facilitate citizen participation and the development of good policy by assisting citizens in achieving their political goals through their involvement in the process. Moynihan (2003) asserts that the mode of participation by itself does not determine whether full and representative participation can occur. He suggests that the role of public managers in the process and a willingness on their part to innovate can help achievement of desirable participation outcomes.

The purpose of representative public participation is to provide equity for all participants and to ensure that decisions are broadly supported and that they achieve legitimacy (Trinder, Hay, Dignan, Else and Skorupski, 1991; IAPP, 1997; Hampton, 1999). Without this legitimacy, agencies risk not having sufficient public support to

implement desired programs and projects. Agencies can find themselves having to stop program implementation at varying stages to address the needs and concerns of an affected public that was not adequately represented in the public involvement process Center for Urban Transportation Research, 1996). These mid-to-late project stoppages can result in significant costs to the agency and/or the loss of the desired project itself (O'Connor, Schwartz, Schaad and Boyd, 2000).

Several criteria are suggested for ensuring the representation of individuals and stakeholder groups in public participation programs (Nelkin and Pollak, 1979; Crosby, Kelly and Schaefer, 1986; Kasperson, Golding, and Tuler, 1992; Rowe and Frewer, 2000):

- Is access to the decision-making process open for all individuals and groups?
- Have all affected individuals and groups been identified for inclusion?
- Are all appropriate individuals and groups represented?
- Do the groups acknowledge being represented?
- Are the groups adequately represented?

Legal Requirements for Representation in Transportation

A citizen's right to participate in American governance is grounded in the U.S. Constitution. Civil rights laws (42 U.S.C. 1981, 1866; 42 U.S.C. 1982, 1870; 42 U.S.C. 1982, 1871; 42 U.S.C. 2000d, 1964, 42, U.S.C. 3601-3619, 1968) have created the legal framework for modern day participatory laws in transportation planning. Modern day federal transportation legislation (ISTEA, 1991, TEA-21, 1998) provides guidance to agencies to provide public access to key decisions and to build support among the public into the transportation investments which impact their communities. State agencies are encouraged to identify the affected public and other stakeholder groups and to implement participation tools to solicit their involvement (FHWA, 2003).

During the mid 1990s President Bill Clinton signed Executive Orders 12898 and 12948 (1994; 1995) formalizing a federal framework of Environmental Justice for transportation planning (Appendix: A). Environmental Justice requires that each federal agency, to the greatest extent allowed by law, administer and implement programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations (RS&H, 2001). Accordingly, the United States Department of Transportation through the Federal Highway Administration adopted wide-ranging policies regarding the protection of the environment, both physical and social, when planning transportation projects that utilize federal funds (FHWA, 1994; USDOT, 1995a; USDOT, 1995b; FHWA, 1998a; USDOT, 1999; USDOT, 2000).

Environmental Justice has its roots in social justice theory that speaks to a citizen's right to have their needs satisfied by government. Rawls (1999) provides a framework of social justice that requires government to not only meet the needs of its citizens, but to provide individuals with the necessary liberties to participate in their own governance. The principle of equal liberty requires that all citizens have an equal right to take part in, and to determine the outcome of, the constitutional process that establishes the laws with which they are to comply. Democratic principles assert that all citizens should have equal access to decision-making. Olsen (1982) states "that all citizens should participate equally in public decision making and should exercise relatively equal amounts of influence in the political system."

Federal laws that drive public involvement programs and support a framework of environmental justice fail to effectively address the representativeness dimension of authentic public participation. Federal legislation provides intent language for SDOTs to be inclusive in their implementation of transportation projects, but they fail to provide standards for ensuring that all citizens are represented. Further they offer minimal guidance on the:

- Selection of participation tools to insure representativeness
- Use of participation tools in a manner consistent with their design
- Verification that the desired intent of the public involvement activity was achieved in the implementation of the participation tool.

As with other dimensions of authentic public participation, the intent of federal legislation is left primarily to the individual states and SDOTs for interpretation and implementation, albeit in cooperation with the Federal Highway Administration. The result at best has been an unbalanced implementation by individual States with some States unsuccessful in selecting and implementing participation tools that achieve the desired representation.

Use of Public Input by Transportation Agencies in Decision-making

The Use of Public Participation Input in Project Decision-making Processes by districts dimension is critical to authentic public participation and the notion of citizen empowerment. Failure by districts to effectively use public input in project decision-making can result in disempowerment of those citizens who participated in the public participation process (Lindstrom and Nie, 2000). Citizen disempowerment results when

participating individuals believe that their inputs have not been accepted or used by the agency, or that the participation opportunity occurs late in the project process, or is largely symbolic with no potential for impacting project decision-making (Zimmerman and Rappaport, 1988; Wandersman and Florin, 1990; Rich, et al., 1995; Lando, 1999). This disempowerment can lead to citizen frustration, dissatisfaction, or opposition to agency programs and projects.

Criticisms and Concerns Regarding the Use of Citizen Inputs in Highway Transportation Project Decision-making

While administrators may be willing to hold public meetings and engage in public debate, citizens attempting to affect government decision-making are often left frustrated because project decisions are made solely by agency decision-makers and are often void of input from affected stakeholders (Russell, Bye, Caplan, Deutsch, Gossarth, Lunn, Scott, and Stewart, 1990; Bens, 1994).

Theories of cynicism focus concern on a genuine distrust of government and officials by citizens (Lipset and Schneider, 1987; Cisneros and Parr, 1990; Greider, 1992; Gore, 1994; Dubnick and Rosenbloom, 1995). The literature on cynicism supports the argument that all human relations and exchanges (economic, political, and social) require trust that promises will be honored, and that individuals will not be exploited (Coleman, 1990; Mansbridge, 1990; Putnam, 1993). Citizens must believe that government exists to serve their needs, that as citizens they can genuinely affect agency decision-making, and that government is desirous and able to deliver needed products and services (Berman, 1997).

In a controlled study of public participation at United Way agencies where participants were assigned to high, moderate, or low levels of participation, Julian, Reischl, Carrick and Katrenich (1997) found that participation without any power to influence pertinent decisions was meaningless. The study team concluded that organizations desiring public participation to enhance planning practices should focus on the degree to which participants are empowered to make decisions.

<u>Legal Requirements Regarding the Use of Citizen Inputs in Transportation Project Decision-making</u>

The Federal Highway Administration's Interim Policy on Public Involvement for NEPA (FHWA, 1994) promotes "an active role for the public in the development of transportation plans, programs, and projects." FHWA guidance to SDOTs states that follow-through should occur by public agencies to demonstrate that decision-makers seriously considered public input. This federal guidance, while clearly articulated, has been interpreted and implemented in varying forms by the SDOTs.

For example, the Florida Department of Transportation in the PD&E guidelines, chapter 8 (Appendix B) as a project goal asks: "Is public input needed to make project decisions in the current project phase?" Further direction is given to project managers to incorporate all relevant comments into the overall project decision and to respond to all comments requiring feedback as soon as possible. In contrast, the South Carolina Department of Transportation guidelines support federal legislation and policy, but are silent in direction given to project managers regarding utilization of public input in project decision.

<u>Shortcomings of Legal Requirements for Use of Citizen Inputs</u>

Of the four dimensions of authentic public participation under investigation, the use of public participation inputs in decision-making processes by SDOTs receives the least support from federal legislation. Federal laws specifically require that the affected public be given opportunity to comment through a public hearing process. Federal intent encourages agencies to implement an inclusive public involvement program and to "do no harm" to disadvantaged populations. However, little federal direction, general or specific, is provided for how SDOT's utilize inputs that are collected beyond simply considering them in project decisions.

As with other dimensions of Authentic Public Participation, current practice for use of inputs lacks consistency of implementation. This often leaves citizens with minimal expectations that their input will be utilized by agencies, contributing to feelings of distrust towards government that exacerbate feelings of cynicism (Linstrom and Nie, 2000). In these situations, agency managers that fail to consider public inputs into project decisions and act with predetermination or without the participation of affected stakeholders risk the displeasure of a resistant public and the potential failure of transportation projects.

It is important to acknowledge however that limitations exist regarding the ability of agencies to implement all requests and comments received from the public. Often times funding restrictions, political, legal, and/or technical requirements make implementation of public requests infeasible. Communication must occur between project personnel and citizens regarding these limitations, so that an appropriate expectation level for project decision-making can be established among all affected and interested

stakeholders. With these limitations in mind, it becomes increasingly important that agency leadership and project personnel consciously and publicly commit to an honest consideration of citizen inquiry, requests, and recommendations.

Interactiveness of Public Participation

Authentic participation requires interactive dialogue between the agency and the public. The Interactiveness of Public Participation dimension addresses the degree to which the participation being utilized by SDOTs is achieving the interactive or two-way communication requirements of authenticity.

<u>Active and Passive Public Participation Tools in Highway Transportation Public Involvement Programs</u>

Passive participation mechanisms are described as those types of tools that provide for the "pushing" of information to the public. Passive tools can provide opportunities to disseminate small and large amounts of information quickly and to a broad audience. However since they are designed to be "one-way" communication from the agency to the public, it can be difficult for the agency to gauge how they are received and if the public understands the information that was conveyed.

Active participation tools provide interactions with the public that require agency representatives to engage citizens in dialogue and information exchange. While active participation tools are superior to passive tools in terms of ascertaining how agency communications are received, they require substantially more resources, coordination, and commitment in their execution.

Arnstein (1969) proposed a Ladder of Citizen Participation (Figure 1) that defined citizen participation in terms of a hierarchical ladder with eight rungs corresponding to degrees of power available to participants. The lower the rung the less participatory was the involvement.

The rungs are broken down into three levels of involvement. The bottom two rungs, or first level of involvement, represent non-participatory or passive public participation tools. Examples include "rubber stamping" advisory boards and programs that aim to control or persuade participants. The next three rungs, or second level of involvement, fall just short of empowered participation. They contain a mix of passive participation tools and active participation tools. However, the active participation tools in these rungs are not necessarily implemented to achieve full interactiveness. These include situations where participants either listen to or provide advice to traditional powerbrokers. The highest three rungs are defined as partnership, delegated power, and citizen control, enabling citizens to truly participate and directly influence policy decisions. The participation tools within this rung are active and are intended to fully empower the citizenry in their implementation.

More current models of public participation focus on development in the higher rungs of Arnstein's Ladder, where citizens gain a more equal footing and a continuing dialogue with government decision-makers (Briand, 1993; Bens, 1994; EPA, 1996; Bennett, 1997).

Citizen Participation	Mechanisms
Degrees of Citizen Power	
8. Citizen Control	Partnership/Community Boards
7. Delegated Power	Management Boards
6. Partnership	Advisory Committees
Degrees of Tokenism	
5. Placation	Public Hearings
	Public Workshops
	Open Houses
	Small/Large Group Meetings
4. Consultation	Briefings to Social/Civic Groups
	Panel Presentations
3. Informing	Information Centers
	Field Offices
Nonparticipation	
2. Therapy	Web Sites
	Newsletters
	Fact sheets
	Brochures
	Issue papers
	Technical reports
1. Manipulation	News Conferences
	Press Releases
	Bill Stuffers
	Advertisements:
	Newspapers
	Magazines
	Radio
	Television

Figure 1: Arnstein's Ladder of Citizen Input

The conditions or environment created by the agency in which these participation tools are implemented are critical to the successful use of the participation tool and to the successful engagement of citizens. Agencies that conduct active participation tools with a lack of enthusiasm or honesty undermine the effectiveness of the public engagement (Rosener, 1978; Wiedemann and Femers; 1993; Rowe and Fewer; 2000).   These encounters can serve to minimize the effectiveness of active participation tools, rendering them no more productive than passive participation tools. A commitment of interaction must exist on the part of the agency staff when utilizing these tools.

While participation tools are somewhat rigidly identified as being either active or passive, they can be utilized in a manner that affords them attributes of the opposite tool type. Specifically, distribution of a passive tool such as a project newsletter can result in a telephone conversation between an affected stakeholder who received the newsletter and the project engineer who prepared it.   Use of a citizen advisory committee can prove of little or no value if agency or citizen participants do not partake in meetings and fail to engage in discussions in an earnest manner.

As active participation tools, the processes and structures of a citizen board provide a setting and mechanisms to facilitate interaction by those involved. Alternatively, a newsletter unless acted upon does not result in interaction between participants. These two participation tools are located on the high and low ends of Arnstein's Ladder. Between these two positions are numerous participation tools that share both active and passive characteristics functioning on a continuum and serving varying purposes in practice. Depending on factors such as participant intent and other

competing agency and community issues, participation tools in this middle ground can be implemented in a passive or active method.

Limitations of the Respondent to Actively Participate

As discussed, an agency's need to reach out to the public for validation of its programs is substantially satisfied through implementation of public involvement programs. However, simply reaching out to the public does not necessarily address the individual's capacities to participate. Even the most educated person cannot be an effective citizen if not provided the knowledge, facts, and technical context to meaningfully engage into the process (Faulk, Hampton and Parker, 1993: Hampton, 1999).

A public involvement program that fails to utilize participation tools that provide an effective two-way communication risks not knowing if the individual is in fact a participant in the process or merely a recipient of information of which he is not able to act upon. The later can result in alienation of citizens and the systematic disempowered of the affected population by the formal planning process (Wandersman and Rappaport, 1988; Zimmerman and Florin, 1990; Rich, et al., 1995; IAPP, 1997). In many cases, and despite the legal charge given to public administrators to seek out and utilize public input, important decisions regarding major projects are made outside of public processes because of structural flaws in public involvement programs (O'Connor, 2000).

Zimmerman and Rappaport (1988) provide a connection between a sense of personal competence and a willingness to take action, between the notions that "I believe I am competent" and "I am able to exercise my competencies." Stiftel (1983) suggests

that those participation mechanisms that allow for two-way communication are superior to those that are limited to one-way communication. As interactive mechanisms, they provide opportunity for participants to engage the agency in a substantive dialogue resulting in actions that can affect project outcomes. Failure to adequately engage the public can result in disempowering individuals and/or groups (Rich et al., 1995).

A disempowering experience can have a disproportionate affect on the agency's relationship with the participant. The Prospect Theory of Decision Making (Kahneman, 2003; Kahneman and Tversky, 1979) states that an individual's value functions are steeper in the negative domain. A loss of a given size is weighted more heavily than a gain of an equivalent size in individual decision-making. This suggests that when citizens experience a negative or disempowering encounter with an agency where a real loss is incurred, citizen opposition to the project becomes more intense than would be the level of support for the agency if the citizen had gained from the encounter.

Prospect theory is based on the idea of the context of the individual. People make decisions depending on their prospect of gains or losses. As situations in which decisions are made change, individuals modify their willingness to risk what they already possess. These decisions, when considered in the aggregate, can result in changes in public attitudes. In the public opinion arena, this risk aversion often results in public support for status quo policies (Michaels, 2003; Bernstein, 1996).

An individual's degree of knowledge and experience regarding a situation has been demonstrated to have an impact on the willingness of that individual to engage the situation and be exposed to risk. List (2003) found that the more knowledge and experience held by an individual regarding a situation, the more willing that individual

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was to become engaged and risk what he possessed. A lack of understanding or familiarity caused individuals to become more risk averse and less likely to participate.

Harbaugh and Kornienko (2003) suggest a model of local status maximization whereby people are sometimes risk-averse in gains but risk aggressive in losses. This social explanation shares key feature with the psychological explanation offered by Kahneman and Tversky (1979), but broadens the contextual factors affecting individual decision-making to surrounding influences. Cumulative Prospect Theory with its various threads of research establishes reference points for decision-making that explore a range of risk attitudes based on individual preferences and tolerances for gains or losses (Gonzalez-Valleio, Reid, and Schiltz, 2003; Schmidt, 2003; Economist, 2003).

While demonstrating the complexities of understanding individual decision-making through the evaluation of varying criteria, Prospect Theory and its related research (Xiao-fei and Wang, 2003; Fennema and Wakker, 1997) offers applicable insights into the inherent skepticism with which the public perceives government initiatives and the challenges facing SDOT public involvement programs.

Numerous authors distinguish between consultation, shared decision-making, and delegation of decision-making to citizens (Thomas, 1995; Rich et al., 1995; Zimmerman and Rappaport, 1988; Stiftel, 1983). Consultation is viewed as the form of participation which is least authentic; shared decision-making is viewed as having a moderate authenticity value; and, full delegation of decision-making to citizens as potentially having the highest authenticity value. This literature suggests a mix of participation approaches is required that adequately engages the public while at the same time is both organizationally and politically acceptable to the agency.

Quality of Inputs Received from Public Participation Programs

This dimension addresses how the participation that occurs reflects the true interests of the public being served or affected by the government action. Existing literature in this area lacks quantitative data regarding this dimension of authentic public participation in SDOTs.

The use of public participation is mandated by federal law in State Department of Transportation (SDOT) projects that utilize federal funds. Little quantitative research has been done about the quality of inputs received from these programs. While numerous authors express dissatisfaction with public participation programs and the input that is gathered from them, very little empirical data has been presented on the topic.

<u>Quality of Inputs: Concerns Related to Transportation Planning and Project Development</u>

Federal laws that exist regarding public participation programs are specific to a narrow part of SDOT transportation projects. These laws are specific to public outreach occurring in the Planning and Project Development and Environment (PD&E) phases (Corridor Studies) of a transportation project. In these project phases, SDOTs are required to conduct certain public participation activities to include a formal public hearing.

Project must go through numerous phases as they are planned, developed, and implemented. The project phases include: Planning, (PD&E), Design, and Construction phases (Poteat & Jackson, 2001; Table 2).

Table 2: Transportation Project Development Process

Years	Project Phase	Key Activities
1 to 2+	**PLANNING**	- Coordinate projects with State, Local, regional agencies to establish need - Coordinate projects with MPOs for placement on MPO plans - Conduct planning level public involvement on short and long range transportation plans - Identify funding for project phases
1 to 2	**P D & E** (Corridor Studies)	- Identify and select project corridors - Delineate environmental and social impacts - Satisfy environmental and social impacts - Obtain approval of design concept to be implemented - Conduct public involvement program - Verify funding availability
1 to 2+	**DESIGN** (Permitting)	- Conduct detailed data collection - Establish project design - Prepare detailed construction plans - Secure federal, state, local permits for project - Secure environmental permits (Fed. & State) - Drainage and water runoff - Wetlands and wildlife - Verify funding availability
1 to 2	**RIGHT OF WAY**	- Right of way team involved in design phase - Identify affected land parcels for purchase - Solicit independent property appraisals - Make offer for purchase based on appraisals - Negotiate purchase - **OR -** - Condemn through eminent domain - Acquire all properties
2 to 4+	**CONSTRUCTION**	- Advertise and accept competitive bids - Award construction contracts - Construction

Total: 6 to 12+ years

The overall process to develop and construct a transportation project at a typical SDOT (concept to concrete) can last up to 20 years in length (GAO, 2003). This lengthy period for developing a project presents significant challenges to an agency in trying to correctly assess the views, concerns, and desires of the public it is attempting to serve.

Federal passage of ISTEA (1991) and TEA-21 (1998) attempted to broaden public involvement programs beyond the early project phases. Intent language contained within these laws (Appendix C) required SDOTs to establish continuing public involvement processes to occur from the earliest project planning stages up to and including the decision to implement specific project solutions (FHWA, 2003). However, the federal legislation did not mandate specific public involvement activities to occur beyond the formal public hearing requirement. Individual States and SDOTs maintain ultimate responsibility for development of public involvement programs in cooperation with the Federal Highway Administration. Despite the existence of increasing federal guidance to provide broad opportunities for public involvement, SDOTs remain under no specific federal direction to conduct specific supplemental project level public involvement activities outside of the Planning and PD&E phases (Appendix B).

Failure to provide an adequate public involvement program that addresses the lifecycle and long timeframes of transportation projects can result in an SDOT having a poor understanding of the often-changing needs and attitudes of the public. While the construct of authenticity requires that dimensional requirements of public participation be addressed in individual project phases, it is ultimately concerned with the sustained public outreach over the life of a project. With each project phase lasting many years

(GAO, 2003), public input that is gathered can become stale over a period of time and lose validity as to how it represents the actual views and needs of an affected citizenry.

As highly technical organizations, SDOTs have structured and linear processes for how projects are managed (Poteat & Jackson, 2001). Implementation and completion of project phases are often dependent on the availability of funding and routinely experience unanticipated delays between project phases. Additionally, SDOTs typically assign different project managers that often possess specialized skill sets (planning engineer vs. design engineer) to the different project phases. The use of multiple project managers over a lengthy period of time creates additional challenges to maintaining continuity and correctly assessing, interpreting, documenting, and responding to citizen and community attitudes and needs

Legal Requirements of Public Participation and Their Effect on the Quality of Inputs

Deciding what transportation projects will be constructed in a state, county, city or community is determined in the transportation planning process. State transportation agencies are responsible for the planning and delivery of highways and other transportation infrastructure and systems that generally serve a statewide or regional need. SDOTs can participate in a project of a local nature if the state agency is responsible for the functional operation of the transportation facility and funding for the improvement, or an SDOT can provide grant funds to local entities without having any substantive role in project development. The latter types of projects, those of a local nature, are not under consideration in this research. This investigation focuses on those

SDOT district highway projects where the agency is fully responsible for all aspects of the facility and of the proposed improvement.

Citizen consultation is prominent in federal transportation laws. All sections of law relating to transportation planning include specific requirements for citizen comment. Titled "Opportunity for Comment" all sections contain language requiring the agencies to provide citizens, affected public agencies, representatives of transportation agency employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of public transit, and other interested parties with a reasonable opportunity to comment on the proposed program (TEA-21, 1998).

Additionally, Title 23, Section 128 requires public hearings be held or the opportunity for public hearings be afforded to communities for federally funded projects. Without these hearings and subsequent federal approval, project funding can be denied to the SDOT. While federal laws use the term "public hearings" the actual number of hearings to be held is left to the discretion of the state or transportation agency developing the transportation project. Some states take a minimalist approach to public hearings requiring only one formal hearing, while others are more aggressive and require multiple public hearings for each project.

Sustaining Public Participation to Ensure Quality of Inputs

Authentic participation occurs when citizens have a meaningful role in issue definition and policy formation. The literature on planning discusses and supports early and ongoing public consultation and participation as a way of ensuring democracy (Hampton, 1999; Lando, 1999). Numerous authors (Fawcett, Paine-Andrews, Francisco, Schultz, Richter, Lewis, Williams, Harris, Berkley, Fisher, & Lopez, 1995; Rich, et al.,

1995, Julian, Reischl, Carrick and Katrenich, 1997) discuss a model of Community Empowerment where the public becomes an early participant in the planning process through dialogue and relationship building. Through this close and early involvement, the community acts on its own behalf realizing change in projects that ultimately affect the quality of life for the citizenry.

Briand (1993) advances the integration of decision maker and citizen in the public participation process by calling for a "Rolling" Community Convention to create an ethic of deliberation among all of the public. The Community Convention must be:

- Sustainable
- Open to a large number of people to carry on an informed discussion
- Create a truly public, neutral space
- Make room for serious consideration of all sincere parties
- Allay the suspicions and cynicism of the public

Through a continuous process the public is given the opportunity to not only participate in the process of public participation, but to help define and shape it from the early stages of the process to the end (IPP, 1981; Cvetkovich and Earle, 1994; IAPP, 1997). Several criteria are suggested in the literature for ensuring the quality of inputs received from (Nelkin and Pollak, 1979; Crosby, Kelly and Schaefer, 1986; Kasperson, Golding, and Tuler, 1992; Rowe and Frewer, 2000):

- Is the input being gathered correctly assessing the views of the participants?
- Is the input that is gathered documented in such a way to ensure that the true opinions of the participants are being represented?
- Will the population of affected stakeholders recognize the findings of the public participation program as validly representing their views

An Aggregate Measurement of Authentic Public Participation

This investigation creates a new methodology for assessment of SDOT public

involvement programs to determine the level of authenticity achieved at the district level of these agencies. A self-administered survey instrument was mailed to survey the senior district administrator to gain their assessment of the development and implementation of district public involvement programs. Based on these responses, districts are ranked into four categories of achievement of public participation:

1. Very High Authentic Participation
2. Authentic Public Participation
3. Acceptable Public Participation
4. Token Public Participation

The senior district administrator of all SDOT districts were asked to respond to series of Likert Scale questions that address the stated dimensions of public participation and seek to measure the administrator's view of the district's implementation of public involvement programs and the drivers of participation that result in authenticity within the overall framework of the SDOT district.

Standards for Authentic Public Participation

The implementation of public involvement programs across the nation has achieved inconsistent results. Existing federal laws encourage states to pursue broad public participation programs in transportation planning. These federal laws provide intent for a high level of participation, but fail to provide specific requirements for States to follow. Evidence exists in the literature of an imbalance in the application of public participation programs across levels of government, with the federal government being more consistent and aggressive in its use of the citizen input in policy decision-making. The federal government has taken the lead in promoting citizen participation in agency decisions, while the lower levels of government have been more resistant and slower to

accommodate citizen input (Gordon, 1996; Koonz, 1999a). This can be viewed as a natural occurrence of federal legislation adopted since the 1960s (Civil Rights Act, 1964; NEPA, 1970; ISTEA, 1991; TEA-21, 1998). Interpretation of federal intent is left to the states with the subsequent design and implementation of participation programs left to the individual SDOTs. Within this context, numerous states show evidence of not meeting the intent of federal law. A survey of states performance in meeting the requirements for public participation as set forth in ISTEA (1991) found that 58% were doing the minimum or less than the minimum in meeting federal requirements (Hoover, 1994).

Measuring what constitutes quality or authentic public participation is problematic in large measure due to the lack of benchmarks against which participation programs might be compared (Lowndes, Stoker and Pratchett., 1998). Numerous authors have offered performance measure, criteria, values, and other recommendations for what constitutes desirable public participation (Bens, 1994; O'Connor, et. al., 2000; Poisner, 1996; USEPA, 1996; Maloff, et at., 2000; Rowe and Frewer, 2000: Irvin and Stansbury, 2004). The dimensions of authentic public participation as offered in this investigation are supported by varying requirements suggested by numerous authors that have written on the need for criteria to measure the degree of success of public participation programs in government.

Further, NEPA (1970) and ISTEA (1991) also provide similar support to the construct of the authenticity of public participation. There is agreement in the literature that a more comprehensive set of criteria is necessary for both the development of "quality" or "authentic" public participation programs and for the determination of their successful implementation (Crosby, Kelly and Schaefer, 1986; Fiorino, 1990; Wiedeman

and Femers, 1993; Lynn and Busenberg, 1995; Smith, Nell and Prestupa, 1997; Lowndes, et al, 1998; Webler and Tuler, 2000; Rowe and Frewer, 2000).

Factors Affecting Public Participation

Support for desirable public participation programs within an agency requires consensus building and agreement among internal agency participants. To move beyond "store window" participation to meaningful interaction with the public requires support between individuals and organizational levels inside the bureaucracy (Milbrath, 1981; Davis, 1982; Hampton, 1999).   Organizational factors act as determinants of the intent with which public administrators pursue stated project goals and the implementation of public involvement programs. Variables such as the type of organization, the training of the individual, and the relationship between the agency and the community it serves establish the context in public involvement decision-making occurs.

Transportation Agencies as Technocratic Organizations and their Effects on Authentic Public Participation

Transportation agencies are highly technical organizations with silos of specialized knowledge operating within a traditional bureaucratic environment. As such they can be termed "Technocratic Organizations".   The process of delivering, maintaining, and operating transportation facilities requires the coming together of numerous disciplines and sciences in execution.

The prominent core discipline within SDOTs is engineering. The engineering discipline is supported by numerous other disciplines, each with their own knowledge base and methodology for evaluation of performance. The support disciplines can include planning, finance, operations, public relations, legal, and others. However, it is

the engineering discipline that is most grounded in the scientific and technical processes and bound by rigid rules and procedures in its execution. While the support disciplines can from time to time come in conflict with internal and external stakeholders, it is the engineering discipline that most often decides the course of action in project delivery and is the least able to bend to conflicting interests.

This adherence to technical specification occurs within the bureaucratic model of governance that is also bound by structure, rules, and well-defined processes (Weber, 1983). The interaction between technocracy and bureaucracy in the transportation setting, results in an over dependence on structure and compliance with established protocols. It is in the environment of the technocratic organization that transportation professionals seek to develop and implement projects that have resultant impacts on the citizenry. It is also within this environment where public involvement programs exist, often in competition and conflict with technocratic requirements. The integration of public participation into the lifecycle of a project is thus controlled and limited to those situations that are specified by technical processes.

Transportation Agencies and their Reluctance to use Different and Innovative Forms of Public Participation

The literature on technical organizations suggests that the structure of these organizations provides security and safety to employees. They use rules and procedures as defenses to prevent embarrassment and threats and align future actions with past experiences (Argyris, 1992; Busby, 2001). Project managers often face technical or bureaucratic limitations regarding decisions affecting safety and project design. When given flexibility to make project decisions, following technical standards or the norm is

often the desired course of action. However when encountering a new situation, simply doing what has been done before can be counterproductive or even be the wrong course of action resulting in project negative outcomes. (Lipshitz, 1989; Hershey and Baron, 1992, Lipshitz, 1995).

Much of what the organization has already learned and accepted as correct resides within the organization's membership. As the repository of an organization's awareness, Mahler (1997) describes organizational culture as providing a reservoir of organizational meanings against which results, experiences, and performance data are interpreted and inquiries about change in procedures and program technology can move forward. The literature suggests a strategy of organizational learning and innovation is needed which seizes on an organization's capacity to change itself in response to new experiences. Mahler (1997) states that learning is concerned with how organizations monitor their operations, their results, their environments, and their clients for clues to the adequacy of their performance.

There is support in the literature for organizations to embrace error and try to understand its sources (Korten, 1980; King, 2001, Cook and Yanow, 1996). This often requires the painful experience for the organization of failing. Organizations must be willing to fail, learn from the failure, and try again if they are to learn and better meet their mission and purpose (Johnson, 1996).

King (2001) suggests six strategy options for organizations to follow as they move towards becoming learning organizations. The strategies, while each distinct and different, address an organization's information systems, intellectual properties, learning strategies for individuals and the organization, management systems for its knowledge,

and strategies for innovation. The strategies suggest the creation of a culture of learning supported by information technology infrastructures that serve the aggressive inquiries of the organization. The strategies include: (King, 2001),

1. The Information Systems Infrastructure (ISI) Strategy: pursuit of an ISI strategy by creating databases, inquiry capabilities, communications capacities, and other infrastructures that enable and facilitate collective learning, information sharing, collaborative problem solving and innovation. The organization must then pursue an aggressive program to motivate employees to utilize the ISI tools that are available through enhanced training and management.

2. The Intellectual Property Management Strategy: represents the formal codification of intellectual assets in the form of patents, brands, product formulas, research reports, trademarks, etc., to create additional value. The organization does this by creating repositories of knowledge, refining them, and providing distribution to members of the organization. Through this shared knowledge, employees can leverage the intellectual assets of the organization resulting in new learning.

3. The Individual Learning Strategy: emphasizes the training and education of individuals focusing on the enhancement of the value of the organization's human capital. The objective is the creation of higher-valued human capital through the transfer of both explicit and tacit knowledge.

4. The Organizational Learning Strategy: focuses on "learning by social systems" within the organization that results in changes in shared knowledge, values, normative standards, and behavioral patterns. The conceptual basis of the organizational learning strategy is that social capital, in the form of various groups and organizational capacities, can be developed, refined, and enhanced to enable the organization to adapt to changing circumstances and demands.

5. The Knowledge Management Strategy: focuses on the acquisition, explication, and communication of mission-specific professional expertise that is largely tacit in nature to organizational participants in a manner that is focused, relevant, and timely. This strategy assumes that tacit knowledge can be made explicit. Knowledge management translates to knowledge sharing and requires organizational acceptance of the assumption that knowledge is power.

6. The Innovation Strategy: is described as a proactive process that has the purpose of generating, evaluating, developing, and implementing new products, processes, and techniques. Innovation is related to change and often

involves direct human interactions. The conceptual basis for innovation is that organizational creativity, the generation of new ideas by organizational participants, can be enhanced. The objective of this strategy is to maximize organizational innovation through creativity-enhancing activities.

King (2001) suggests a mix of strategies is best suited since no two organizations are identical with the same needs. Implementation of the various strategies is acknowledged to be resource intensive and as such prioritization for the implementation of the strategies is recommended.

Conflict can result between affected project stakeholders and the agency when the organization fails to recognize the emergence of a new project or community issue that the organization incorrectly interprets based on previous experiences. Starbuck (1996) suggests that organizations must be able to unlearn whatever they find to be outdated, since relying solely on what is already known can result in the incorrect interpretation of new events. For technical transportation agencies the conflict between what is already known and accepted by the organization and new inputs received from non-technical stakeholders through public involvement programs, can result in internal resistance to public participation programs. In the learning organization public involvement programs can represent a valid input channel to the organization where new and different ideas can arise and challenge the established structures and decision-making processes of the technical transportation organization.

Internal Agency Support for Public Participation within the Technocratic Organization

Internal support for citizen input into agency programs is an important condition that must be present for public participation to satisfy the dimensions authenticity. As technocratic organizations, SDOTs often experience tensions and disagreements between

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organizational units, core and other technical disciplines, and legal requirements for the inclusion of public participation programs. Competing priorities frequently arise between technical levels of the organization that are charged with achieving organizational objectives and with compliance to rigid technical requirements. These conflicts can position the agency at odds with political, legal and other mandates to engage an affected citizenry.

Agency leadership that is successful in creating an environment within the organization that encourages flexibility, creativity, and learning is desirable for creating conditions favorable to authentic public participation. Void of these conditions, internal stakeholders can adversely influence both the development of public participation programs and their implementation. Internal stakeholders opposed to involving the public in project processes and decision-making can cause participation programs to become minimal in scope, reach, and effectiveness. The result is a public involvement program that may meet the minimum federal requirements for citizen input, but fails to satisfy the dimensions of an authentic public participation.

Johnson (1996) states that innovation and creativity can only occur in the technical organization when upper management has the desire for it and it is typically only upper management than can most quickly influence, neutralize, or change an organization. Within highly technical organizations elected officials and executives are increasingly willing to delegate responsibilities to professionals and technical experts due to the increasingly complex and technologically demanding programs (Kearney and Sinha, 1988). Additionally, time constraints and the demand for executive's time leave increasing project control in the care of technical staff.

While upper management support is critical for the success of technical agencies as learning organizations, support from the organizational culture is also deemed a requirement (Johnson, 1996). With a willingness to accept and learn from failure and with the support from upper management in place, organizations can learn and cultures can be affected through the experiences of individuals.   Mahler (1997) asserts that lessons learned by individuals become organizational learning when those experiences are institutionalized in formal and informal ways (i.e., rules, routines, standards, technologies, norms, or tacit communities of practice). Schein (1992) and Argyris (1991) suggest that while organizational cultures are most often seen as defensive and resistive, they can also be viewed with potential as a place where interpretation of new experiences can prompt learning thus having a profound impact on organizational beliefs and norms.

While disagreement exists in the literature regarding whether organizational learning can result from each individual's experiences (Mahler, 1997) or from experiences of the organization taken as whole with other influences from the organizational entity (Cook and Yanow, 1996), it is clear that learning must touch significant numbers of individuals within an organization in order to have an impact on culture and decision-making. Franklin (2001) states that a value of public participation can result from the organization's contact with outsiders, hence public participation programs can be beneficial to helping an agency adjust to new situations. In addition to gathering input from affected stakeholders, this contact can result in changes to the organization so that consultation becomes a part of its operational activities.

Community Influences on Agency Public Participation Programs

SDOTs operate in an open environment where a myriad of external influences and stakeholders seek to maximize their influence on the agency and its programs. Numerous researchers have explored the complex and changing relationships between public agencies and the external institutions that seek influence or control over them (Moe, 1985; Kaufman 1981; Mitnick, 1991; Krause 1994 and 1996). These relationships are complex and intricate, often involving layered negotiations, compromises, shifting alliances, and shifting lines of conflict.

At the SDOT district level, these external influences are typically community based and are centered on local governments and their elected leadership. A nexus of community focus occurs at the district level due to the proximity (or the appearance of proximity) of the SDOT decision-making processes to deliver needed transportation infrastructure. Local political leadership, and those individuals or groups that have access to them, are highly active in influencing public decisions and government programs (Verba, Schlozman, Brady and Nie, 1993).

This necessary relationship between State and local agencies in the delivery of public goals and services heightens the responsiveness, or lack of responsiveness, of administrators and political leadership on both sides. Public Participation programs exist within this context with citizens often feeling that they facing insurmountable conflict from competing political and governmental sources. These agencies can affect local decision-making in numerous ways due to the complex power relationships that exist between varying levels of government. Each level of government can have: shared, independent, or competing priorities with other agencies; individual budgets to

administer which sometimes can be dependent on approvals or matching funds from other agencies; and, varying abilities to both influence and impact local decision-making based on the jurisdiction in which the local issue resides.

The result can be a sense of citizen disempowerment and a belief that advocacy has evolved into adversarialism (Bourne, 1998). A cyclical reaction occurs when citizens respond with intensity and confrontation because they view relationships between agency managers and community leaders as suspect and self-serving (Kettering Foundation, 1989). Further complicating the ability of the SDOT district to engage in public participation programs are the tensions within the community that are outside of the ability of the district to influence.

Open community collaboration is suggested as a viable mechanism for helping to overcome the community cynicism. Benefits of this approach to citizens include a resultant sense of ownership, increased political literacy, and an improved sense of efficacy and empowerment (Butler 2003). The major benefits of collaborations with the community are described by Thompson, et al. (2003) as policies and programs that are more sensitive to the community and more congruent with community priorities.

Ethics in Governance and Transportation

Ethics is the branch of philosophy that seeks to determine how human actions may be judged right or wrong, considering the nature of a profession and the condition under which that profession operates (Garret, et. al.,2000). Ethics is also concerned with the obligations of individuals to themselves, others, and to society.

Ethics, as a social science and for benefit in practice, are important because of their use to refine and perfect a society's legal system (Ruggiero, 1997). Ruggiero (1997)

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points out that while some argue that ethics are not needed because of the existence of laws and religious beliefs, it is precisely because of ethics that these laws and religious beliefs were possible in the first place. Ethics allows us to interpret our everyday human condition and decide what actions we approve of and what actions we want to emulate ourselves.

Garrett, et al (2000) discusses three theories of ethics to include: Consequentialism, Deontologism, and Virtue Ethics. Consequentialism involves seeing the rightness or wrongness of an action in terms of the consequences brought about by that action. Utilitarianism is the most common form of consequentialism where the individual should do the greatest good for the greatest number of others.   Deontologism is concerned with determining the rightness or wrongness of an action based upon formal rules. The deontological position emphasizes the moral significance of the individual. Virtue Ethics integrates virtues with practical wisdom and right reasoning. Practical wisdom is the ability to make choices based on informed reasoning. In situations where cultural traditions influence common understanding of what is good, it is important to critically question the cultural premise of wisdom and reason.

Hosmer (1996a) examines three alternative means of arriving at a decision when faced with an ethical conflict:

- Economic Analysis – relying on impersonal market forces
- Legal Analysis – relying on impersonal social rules
- Ethical Analysis – relying on personal moral values and ethical principles

Hosmer (1996a) states that none of these means of analysis are satisfactory by themselves, but that together they serve to form a means of moral reasoning that can help a manager arrive at a decision that can feel "right, proper, and just". He suggests that

there is a balance of "right, proper, and just" between economic performance and social performance. The challenge is management comes in finding that balance. Hosmer (1996a) identifies the characteristics of moral problems in management as having: uncertain consequences, extended consequences, multiple alternatives, mixed outcomes, and personal implications.

Denhardt (1988) seeks to develop a framework for ethic public administration by building on existing theoretical frameworks with a particular focus on the practice of administration. Three major aspects are addressed:

- Independent Critique – ethical action as a process of examining accepted decision-making standards
- Changing Standards – ethical standards should reflect evolving core values of the society
- Organizational context – administrators act in the organizational context they reside and must consider organizational goals in decision-making

Denhardt (1988) suggests that the ethical responsibilities of public administrators are broad. Administrators are viewed as involved in policy making which requires ethical decision making and as such administrative discretion must be accompanied by the necessary skills to guide decision-making.

Further, in order for the individual to engage in ethical decision-making, the organization must recognize and encourage ethical behavior. Denhardt (1988) suggests that the organization must create an atmosphere in which individual ethical behavior is accepted and encouraged. Authority must be decentralized to the lowest possible level to enhance individual responsibility with the concurrent adoption of accountability measures to protect the individual.

Scholars on ethics in public administration suggest that many people headed for public sector employment are lacking in effective skills to navigate the precarious

challenges of ethics in the public sector (Menzel, 1997). Menzel (1997) notes that while

public administration schools have long neglected courses in ethics, graduate programs

have made progress during the past decade in offering ethics courses within their

programs.   The focus of these courses, however, is often more about the philosophical

roots of ethics providing only limited practical integration.

Piper, Gentille and Parks (1993) observe that both business and government often

fail to provide adequate technical skills and theory to practitioners suggesting this

emanates from an absence of vision, a failure of leadership, and inconsistency or

insufficiency of values that undermines all sense of individual or organizational purpose

and responsibility.   Piper, et al (1993) suggests that successful ethics education must be

built on a foundation that recognizes the obstacles and the conflicting views of its

content. Piper suggests that:

- Ethics are as much an attitude as a set of beliefs
- Immediate ethics training intervention is required
- A broad integrative educational program is needed
- Commitment to ethics training at the academic and other levels should emanate from the top

Richardson (1995) suggests the need for a discipline of transportation ethics that

would allow for the discussion of a range of topics dealing with the ethical underpinnings

of transportation decisions and policies and the ethical implications of developments in

transportation system deployments. The purpose of this field of study is to recognize the

impact of proposed changes in the transportation system upon elements within our

society, and to ensure equity in the distribution of the benefits and the allocation of the

harms that together make up that impact. Hosmer (1996b) in responding to Richardson

suggests that it will take a joint effort and extensive thought to combine the rights and

duties of ethics with the benefits and harms of transportation policy choice and system

design in a readily workable decision format.

CHAPTER THREE: METHODOLOGY

Central to this dissertation are two research questions and ten supporting hypotheses that seek to determine the existence of structures and attitudes supportive of authenticity and predictors of Authentic Public Participation in SDOT Districts.   This project examines the existence of these constructs.

Conceptualization and Operationalization of Authentic Public Participation

Conceptualization and operationalization are key procedures to the definition and measurement of the construct of Authentic Public Participation. Conceptualization is the process through which researchers specify what is meant by the use of particular terms and constructs that will be operationalized for measurement. Operationalization is the development of specific research procedures that can be measured for purposes of the study (Babbie, 1995).

Conceptualization of Authentic Public Participation

The concept to be examined is public participation at SDOT districts. Specifically, it is public participation that is observable through the implementation of public involvement programs in support of transportation highway projects being undertaken by the district within their geographical jurisdictions.

The occurrence of public participation and the degree to which it satisfies requirements of authenticity are conceptualized for subsequent measurement through the consideration of four stated dimensions. The dimensions, when satisfied, suggest the fulfillment of conditions necessary for public participation to achieve desirable outcomes

of authenticity.   Thirty-five measurement variables were developed to comprise index

variables for the dimensions of authenticity.   The four dimensions of an authentic public

participation are conceptualized as follows:

1. Representativeness of Public Participation Programs – refers to the degree to which public involvement programs that are implemented are successful in attracting and engaging stakeholders that are representative of the populations being impacted by the transportation project under consideration.

2. Use of Public Participation Input in Project Decision-making Processes – refers to the use of stakeholder inputs obtained from project level public involvement programs in the project decision-making. A further requirement of this dimension is that feedback be given to stakeholder participants regarding the use or status of their input and that a process for appeal exist if public concern continues beyond this notification.

3. Interactiveness of Participation Tools – refers to the use of participation tools in the implementation of public involvement programs that achieve two-way communication and information exchange between agency personnel and the public. A desirable outcome of this dimension is that districts utilize multiple and varied active participation tools to provide stakeholders with optimum opportunities for interaction with district and project staff.

4. Quality of Inputs from Public Participation – refers to districts correctly assessing the inputs received from stakeholders in participation programs so that inputs received are reflecting the true interests of those who participated. As highway transportation projects often extend numerous years in length, an additional requirement is that districts ensure that inputs gathered early in a project continue to be correct as time passes when the potential exists for changes in stakeholder attitudes and needs.

Operationalization of Public Participation Variables

The operationalization of public participation draws from the literatures on public

participation, planning, organizational theory, and on the legal frameworks that exist at

the federal and state levels regarding citizen involvement in governance and in

transportation. Measurement of the dimensions of authenticity is accomplished through

the identification of variables that can be tested in the Model of Authentic Public

Participation (Figure 2).

Index variables were created for testing of the four dimensions of authenticity:

representativeness of participants, interactiveness of participation processes, quality of

citizen inputs, and use of citizen inputs in decision-making. Cronbach's Alpha was

calculated for each index variable to determine which combination of corresponding

measurement variables can be identified to create a single index variable. Cronbach's

Alpha is used as a diagnostic tool to assess internal consistency for a set of variables to

represent a construct.

An index variable was created for the construct Authentic Public Participation

utilizing the newly created dimensional index variables. Cronbach's Alpha was used in

the creation of the new dependent variable Authentic Public Participation (app1inde).

Creation of the Dependent Variable

Eight survey questions were developed to measure the Representativeness Index

Variable (Table 3). The survey items were designed to: assess the concern and

effectiveness of district staff in identifying and attracting participants to public

participation programs that are representative of populations being impacted; measure the

willingness of district staff to take supplemental actions to ensure that a sufficiently

representative turnout occurs in these programs; and, to measure the respondents belief

that the community recognizes SDOT district public participation programs as

representing them accurately.

Dependent Variable Model

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                          ┌─────────────────────────┐
                          │   Index Measurement      │
                          │       Variables          │
                          └─────────────────────────┘
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Representativeness irepres

-Attracts Representative
- Representative Concern
- Engages Representative
- PM Participants
- PM Additional PI
- PM Concerned
- Population Recognize
- District Success

Interactiveness iinterac
- Active Select
- Appeal Process
- District Explains
- Face/Face Tools
- District Feedback
- Info Exchange Tools
- PI Openness
- PM Active
- Project Status
- Refresh PI

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┌─────────────────────────┐
│                          │
│   Dependent Variable     │
│                          │
└─────────────────────────┘
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Authentic
Public
Participation
iappinde (Index)

Use of Public Inputs iutiliz
- Federal PI Review
- District Input Use
- Project Life
- PM Learns
- SM Review PI
- District Review
- SDOT Reviews

Quality iquality
- Accurate PI
- Citizens Believe
- Correctly Assess
- Document PI
- District Accuracy

Figure 2: Model of Authentic Public Participation

Table 3: Representativeness Index Variable Operationalization (irepres)

Variable	**Operational Definition**
Attracts Representative (attracts)	Degree to which district successfully attracts representative stakeholders to project public involvement programs.
Representative Concern (concern)	Degree to which district is concerned about engaging representative stakeholders in public involvement programs.
Engages Representative (engages)	Degree to which district successfully engages representative stakeholders in project public involvement programs.
PM Participants (particip)	Degree to which project managers are concerned that participants in public involvement programs are representative of the community.
PM Additional PI (pmaction)	Degree to which project managers take action to implement additional public involvement outreach efforts when turnout or response is weak to planned public involvement efforts.
PM Concerned (pmconcer)	Degree to which project managers are concerned when few stakeholders participate in public involvement opportunities.
Population Recognize (poprecog)	Degree to which citizens perceive that public participation programs in the district allow participants in public involvement process to accurately represent them.
Dist. Success (success)	Degree to which district is successful indentifying representative stakeholders when conducting public involvement programs.

Table 4: Interactiveness Index Variable Operationalization (iinterac)

Variable	**Operational Definition**
Active Select (active)	Degree to which district staff select participation tools that facilitate district staff meeting project stakeholders in person.
Appeal Process (appeal)	Degree to which district provides processes for stakeholders to appeal project decisions.
Dist. Explains (explains)	Degree to which district explains project decisions that are made to stakeholders.
Face/Face Tools (facetool)	Degree to which district staff selects participation tools that strengthen face-to-face interactions with the public.
Dist. Feedback (feedback)	Degree to which district provides feedback to stakeholders about the status of their input.
Info Exchange Tools (infoexch)	Degree to which district selects public involvement tools that increase information exchange between the agency and stakeholders.
PI Openness (openess)	Degree to which citizens perceive that public participation programs in the district is an open process in which they are welcomed to participate.
PM Active (pmactive)	Degree to which project managers actively work with individuals that respond to public involvement outreach
Project Status (prostat)	Degree to which district provides updates to stakeholders regarding project decisions.
Refresh PI (refresh)	Degree to which district does a good job of keeping the public involved in projects that take many years to complete.

Ten survey questions were developed to measure the Interactiveness Index

Variable (Table 4). The survey items were designed to measure the existence of

opportunities for community interaction in district participation opportunities,

organizational and communication processes, and with district staff.

Table 5: Use of Public Inputs Index Variable Operationalization (iutiliz)

Variable	**Operational Definition**
Dist. Input Use (inputuse)	Degree to which district uses stakeholder input in project decision making.
District Review (revdist)	Degree to which district senior managers review project decisions to ensure public input has been considered.
Federal PI Review (fedrev)	Degree to which federal highway administrators review district project decisions to ensure public input was considered in decision-making.
PM Learns (pmlearns)	Degree to which project managers are willing to adopt new ideas based on what is learned during public involvement programs.
Project Life (projlife)	Degree to which district requires that issues raised during public involvement are fully dealt with during the life of projects.
SDOT Review (revsdot)	Degree to which SDOT central office managers review district public involvement programs to ensure federal compliance.
SM Review PI (smreview)	Degree to which district senior managers review public input that is received during public involvement programs.

Seven survey questions were developed to measure the Use of Public Inputs Index

Variable (Table 5). The survey items were designed to determine the degree to which

inputs received from participation programs are integrated into the review and decision-making processes of the district. Further, the items seek to measure if inputs received are fully considered and utilized in project decisions.

Five survey questions were developed to measure the Quality of Inputs Index Variable (Table 6). The survey items were designed to: assess the accuracy of the inputs that are received from public participation programs; the accuracy with which they are documented; and, the degree to which participants in the process recognize them as being accurate.

Table 6: Quality of Inputs Index Variable Operationalization (quality)

Variable	**Operational Definition**
Accurate PI (accurate)	Degree to which district accurately assesses public needs.
Citizens Believe (believe)	Degree to which citizens perceive district public participation to provide sufficient opportunities for the district to correctly assess public needs.
Correctly Assess (correct)	Degree to which district accurately assesses the views of participants in public involvement programs.
Document PI (document)	Degree to which district requires documentation of public involvement programs.
Dist. Accuracy (dsaccura)	Degree to which citizens perceive that public participation programs in the district ensure that agency managers accurately assess citizen needs.

An Aggregate Construct of Authentic Public Participation

The study creates a new four-tiered methodology for assessment of SDOT public involvement programs to assist in determining the level of authenticity achieved at the

district level of these agencies. By assigning point values to responses in the survey that demonstrate the existence of desirable conditions for authentic participation each district can be evaluated using the new methodology for the level of authentic public participation that their programs achieve. Based on these findings, districts are ranked into four categories of achievement of authentic public participation:

1. Very High Authentic Public Participation
2. Authentic Public Participation
3. Acceptable Public Participation
4. Token Public Participation

Through the survey, the senior district administrators of all SDOT districts responded to a series of survey questions. The questions addressed one of the four dimensions of authentic public participation and sought to measure the administrator's view of the commitment of the district to the processes necessary for the implementation of authenticity in public participation programs.

The methodology for calculation of Authenticity Score is as follows:

- Develop index variable for each of the dimensions of authentic public participation
- Perform Cronbach-Alpha test to identify index variables that explain >.7 of the dependent variable
- Calculate percentage of the index variables where condition exists in SDOT District for that dimension
- Condition exists when on the survey the SDOT Districts respond that they Agree or Strongly Agree (on Likert Scale questions) that the condition is satisfied by their District
- Any other response to the Likert questions means that the condition does not exist in the district

Conceptualization and Operationalization of the Independent Variables

The dissertation utilizes numerous independent variables to determine changes to the dependent variable caused by the independent variables. For this research, independent variables are defined as those factors within and outside of the organization that affect the development and implementation of public participation in district highway transportation projects. These independent variables are grounded in theory (Chapter Two: Literature Review) and relate to the:

- Degree to which district senior and project managers are willing to seek exemptions from technical and bureaucratic rules in public participation programs and project decision-making
- Organization's ability to learn from public involvement programs and implement new ideas and innovation
- Existence of good relationships with the communities they serve
- Lack of rivalries between community leadership
- Existence of ethics training on a broad scale within the district to further staff professionalism and an ethic of Authentic Public Participation
- Existence of district guidelines, SDOT policies, or State laws affecting District public participation programs

Control variables are assigned into the analysis as a means of identifying other internal or external factors that have explanatory power for any change in the dependent variable not caused by selected independent variables. The research incorporates selected organizational and environmental variables that provide description of the organization and the individual survey respondents.

The Multiple Regression Model

A multivariate multiple regression model (Figure 3) was created using selected independent variables and control variables to identify predictors of the dependent variable Authentic Public Participation. Index variables representing specific groupings of predictors of Authentic Public Participation (app1inde) were

identified. These index variables include: Innovation (innova), Bureaucracy (bureau), Ethics (ethics), Community Collaboration (comcollab), Community Rivalry (comrival) are all grounded in the literature. Three individual variables State Laws (stlaws), SDOT Policies (sdotpoli), and District Guidelines (dsguide) were selected to test for potential associations with the dependent variable. In all, thirty-five questions were included in the survey to measure the existence of these variables in SDOT Districts. Cronbach's Alpha statistical tests were used in the creation of the independent index variables for use in the multiple regression model.

Four control variables were selected for use in the model to include: respondent's sex (sex), number of years respondent has worked for the SDOT (sdotyrs), district population (populate), and whether the district operates in a centralized SDOT (centrali). Control variables are assigned into the analysis as a means of identifying other internal or external factors that have explanatory power for any change in the dependent index variable not caused by the independent index variables.

The multiple regression equation is expressed as $Y = a + b1X1 + b2X2... + bnXn + u$; where Y= dependent variable, a=constant, b1=regression coefficient of variable 1, X1=variable 1, u=unexplained residual variation. Stated in its entirety the multiple regression equation is as follows:

"Y = b1(Innovation) + b2(Bureaucracy) + b3(Ethics) + b4(Community Collaboration) + b5(Community Rivalry) + b6(State Laws) + b7(SDOT Policies) + b8(District Guidelines) + b9(Centralized) + b10(District Population) + b11(Sex) + b12(SDOT Years) + e"

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Predictors of Public Participation
Multiple Regression Model

Independent
Index Variables

Innovation (innova)	Bureaucracy (bureau)	Community Collaboration (comcollab)
SM Big Picture	District Bureaucratic	Business Relations
SM Box	PM Bureaucratic	Collaboration
Sm Empowered	PM Decides	Highway - Media
SM Learns	PM Modify PI	Media Fair
SM Positive Relations	PM Technical	
SM Supports PI	SM Bureaucratic	Community Rivalry (comrival)
District Learns	SM Decides	Local Competition
District Technical	SM Modify PI	Jurisdic Compete
PM Big Picture	SM Technical	Leaders Share
PM Box		Rivalry
PM Empowered		
PM Supports PI		

Dependent
Variables

Authentic
Public Participation
app1inde (Index)

Ethics (ethics)	(Individual Variables)	(Control Variables)
Ethics - District	SDOT Policies	Centralized
Ethics - PM	State Laws	District Population
Ethics - SM	District Guidelines	Sex
		SDOT Years

Figure 3: Multiple Regression Predictor Model for Authentic Public Participation

Nine survey questions were developed to measure the Bureaucracy Index Variable (Table 7). The survey items were designed to measure the degree to which district staff: adhere to bureaucratic rules and regulations; are willing to consider technical changes to projects; and are willing to make changes to public involvement programs.

Table 7:   Bureaucracy Index Variable Operationalization (iorgbure)

Variable	**Operational Definition**
Dist. Bureaucracy (dsbureau)	Degree to which district seeks exemptions from agency rules and regulations.
PM Bureaucratic (pmbureau)	Degree to which project managers seek exemptions from agency rules and regulations
PM Decide (pmdecide)	Degree to which project managers decide how project level public involvement programs are implemented.
PM Modify PI (pmmodify)	Degree to which project managers are willing to modify public involvement programs.
PM Technical (pmtech)	Degree to which project managers are willing to consider changes to technical project decisions when requested.
SM Bureaucratic (smbureau)	Degree to which district senior managers seek exemptions from agency rules and regulations.
SM Decides (smdecide)	Degree to which district senior managers decide how project level public involvement programs are implemented.
SM Modify PI (smmodify)	Degree to which district senior managers are willing to modify public involvement programs.
SM Technical (smtech)	Degree to which district senior managers are willing to consider changes to technical project decisions when requested.

Ten survey questions were developed to measure the Innovation Index Variable (Table 8). The survey items were designed to measure the existence specific attributes of the district environment that result in innovation. The survey questions measured the degree to which district staff learn from new situations, understand the larger picture of their efforts, are empowered to make decisions, and support district public involvement programs.

Table 8: Innovation Index Variable Operationalization (innova)

Variable	**Operational Definition**
Dist. Learns (dslearns)	Degree to which district learns from new situations.
Dist. Technical (dstech)	Degree to which district is willing to consider changes to technical project decisions when requested.
PM Big Picture (pmbigpic)	Degree to which project managers fully understand the "larger" picture of their efforts.
PM Empowered (pmempow)	Degree to which project managers are empowered to make important decisions.
PM Support PI (pmsuppor)	Degree to which project managers support public involvement programs.
SM Big Picture (smbigpic)	Degree to which senior district managers understand the "larger" picture of their efforts.
SM Box (smbox)	Degree to which senior district managers are encouraged to "think outside the box."
SM Empowered (smempow)	Degree to which senior district managers are empowered to make important decisions
SM Learns (smlearns)	Degree to which district senior managers are willing to adopt new ideas based on what is learned during public involvement programs.
SM Positive Relation (smposrel)	Degree to which senior district managers have a positive relationship with local officials.

SM Support PI (smsuppor)   Degree to which district senior managers
                                            support public involvement programs.

Three survey questions were developed to measure the Ethics Index Variable

(Table 9). The survey items were designed to determine if professional ethics training is

provided to employees that can affect the design and implementation of public

participation programs.

Table 9: Ethics Index Variable Operationalization (ethics)

Variable	**Operational Definition**
Ethics-Distwide (ethicsds)	Degree to which district requires ethics training for employees other than senior managers or project managers.
Ethics-PM (ethicspm)	Degree to which district requires ethics training for project managers.
Ethics-SM (ethicssm)	Degree to which district requires ethics training for senior managers.

Four survey questions were developed to measure the Community Collaboration

Index Variable (Table 10). The survey items were designed to measure the collaborative

relationships that may exist between the district and the community it serves.

Relationships with the media, businesses, and the overall community were examined.

Table 10:   Community Collaboration Index Variable Operationalization (comcollab)

Variable	**Operational Definition**
Business Relations (bizrelat)	Degree to which relations between the district and the business community are positive.
Collaboration (collabor)	Degree to which collaboration between the district and community leaders are good.
Highway - Media (hwymedia)	Degree to which the media supports new district highway projects.
Media Fair (medfair)	Degree to which the media portrays the district fairly.

Four survey questions were developed to measure the Community Rivalry Index Variable (Table 11). The survey items were designed to measure the degree to which rivalries exist between key stakeholders within in the community served by the district. These are relationships that do not include the district itself, but can have an impact on district programs and projects. Key relationships examined include those between local officials and local jurisdictions.

Table 11:   Community Rivalry Index Variable Operationalization (comrival)

Variable	**Operational Definition**
Local Competition (compete)	Degree to which elected officials within the district are competitive with each other.
Jurisdic Compete (jurisdic)	Degree to which competition exists among jurisdictions within the district.
Leaders Share (leadersh)	Degree to which elected officials within the district resist sharing leadership with others.
Local Rivalry (rivalry)	Degree to which there are rivalries among elected officials in the district.

Three additional survey questions were developed to measure the various types of legal and policy controls that may exist to regulate the development and implementation of public participation programs (Table 12). The survey items measured for the existence of State Laws, SDOT Policies, and/or District Guidelines that can affect participation programs at the SDOT district level.

Table 12: Additional Independent Variables Operationalization

Variable	**Operational Definition**
District Guidelines (dsguide)	Existence of project guidelines that affect district public involvement programs.
State PI Laws (stlaws)	Existence of state laws that affect district public involvement programs.
SDOT PI Policy (sdotpoli)	Existence of SDOT Policy that affects district public involvement programs.

Four survey questions were developed to measure the control variables used in the model (Table 13). The control variables were selected for use as follows:

- Centralization – was selected as a control variable due to its importance as a determinant for the degree of SDOT agency control over a district. The more centralized an agency operates, the less latitude a district has to develop its own programs. All districts are affected by the degree of centralization adopted by their SDOT.
- District Population – was chosen as a control variable due to the impacts that the size of a district's population can have on the district's ability to: resource its programs and provide focus on individual public participation programs and subsequent project issues that are raised.
- Sex – was chosen as a control variable to identify any differences in responses that may be attributable to a respondent's sex. The gender of a person has often served to influence responses in numerous academic research projects. Males have been shown to participate at higher rates than females in the general population when provided public participation opportunities (Verba & Nie, 1972). This study will seek to determine whether this same tendency affects the transportation administrator's inclination to provide for participation opportunities.

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- SDOT Years – was chosen as a control variable to identify any differences in responses that may be attributable to the length of service of a respondent with the agency. Length of service within an organization and an individual's familiarity with bureaucratic processes and rules can have an impact on the responses of individuals. As discussed in Chapter Two: Theoretical Framework, the individual operates within the larger organizational framework where adherence to rules and processes is required. The degree to which the organization requires adherence to these rules and the amount of flexibility that it allows the individual to make independent decisions can serve to shape the attitudes, expectations, and performance of the individual over a period of time.

Table 13: Control Variables Operationalization

Variable	**Operational Definition**
Centralization (centrali)	Whether the SDOT is a centralized or decentralized agency.
Dist. Population (populate)	Population of district.
Sex (sex)	Sex of respondent.
SDOT Years (sdotyrs)	Number of year's respondent has worked for SDOT

Submittal of Survey Instrument for Approval

The dissertation survey was created by the researcher for this project and is grounded in the literature previously covered in Chapter Two: Literature Review. The survey questions were presented in draft form during the dissertation prospectus defense on February 12, 2004. Following review and comment by the dissertation committee the researcher prepared a final survey instrument.

Survey Population

Senior district administrators were surveyed to gain their assessment of district development and implementation of public participation programs, and their causes. A

comprehensive list of the District Administrators for SDOTs was not found to exist or be available from any transportation agency, transportation association, or government office. The researcher through telephonic communication and from sources on the World Wide Web compiled the list of these individuals and the subsequent population for surveying.

Survey Data Collection Implementation

A single survey instrument was developed to survey the senior district administrator at State Departments of Transportation (SDOT) districts in the United States. Survey distribution conformed to the Dillman (2000) method. This method of surveying follows a five step contact approach to include:

1. Sending of a pre-notice letter to district administrators
2. Mailing of survey questionnaire a few days following the pre-notice letter
3. Thank you card sent a few days after questionnaire
4. Replacement survey sent to non-respondents after 2-4 weeks
5. Final contact by telephone to encourage survey completion.

While Dillman (2000) suggests the giving of a small financial incentive to respondents as being helpful to increasing response rates, this project did not offer such incentives due to surveys being done of public agencies and the potential conflicts with State ethics laws and policies.

Following approval from the Committee Chair and the University of Central Florida Institutional Review Board (Appendix E) a pilot survey was implemented.

<u>Pilot Survey</u>

A final draft pilot survey was prepared and distributed to sixteen professionals in the transportation industry who were employed, or had previously in their career been employed, at an SDOT district. The individuals chosen to participate in the pilot survey represented the varied aspects of disciplines that are involved in district public involvement programs to include: engineering, planning, communication, and administration. Included in the sample were a former District Secretary, current district public involvement coordinator, current district public information officer, several district project mangers, and several consultant project managers. Eight of the targeted individuals were registered professional engineers and four individuals were women.

The purpose of the pilot survey was to:

- Identify any problems with the survey instrument that could interfere with a respondent's ability to answer questions
- Identify any incorrect assumptions on which the survey questions were constructed
- Solicit suggestions for improvement of questions and presentation from respondents
- Assess the length of time it would take respondents to complete the survey instrument.

Involvement of public involvement practitioners in the pilot survey was viewed as key to maximizing survey response rates.

Within two weeks of distribution of the pilot survey, eight of the sixteen pilot surveys were returned. Following multiple contacts with pilot survey respondents, an additional four surveys were returned. In total twelve of sixteen pilot surveys were returned during a four week period, for a response rate of 75 percent.

Respondents found no major issues with the survey instrument. Wording changes were suggested in three survey questions. Modifications to these questions were

subsequently made   The researcher's estimated time for respondent completion of the survey was adjust upward by five minutes (15 upward to 20 minutes) to suggest a more realistic completion expectation to survey respondents.

Survey Implementation

A pre-notice letter (Appendix F) was sent by first class U.S. Mail on July 27, 2004 to all SDOT senior district administrators.   The pre-notice letter informed the recipient of the forthcoming survey, stated the purpose of the project, and asked for the respondent's assistance.   Eleven days later, on August 6, 2004, the survey instrument with an accompanying cover letter (Appendix G) was sent by first class U.S. Mail to the same distribution list that received the pre-notice letter.   The survey packet contained a stamped return address envelope for the respondent's use in returning the completed survey.   The cover letter provided details of the project, contact information for the principal researcher, and relevant research information as required by the University of Central Florida Institutional Review Board

Four weeks time was given for completion and returning of the survey.   During this period 191 surveys were returned as requested, providing a 50.2 percent response rate from the first survey mailing.   An additional three surveys were returned with information stating that another individual within the agency was responsible for the public participation function and that a new survey instrument should be sent to their attention.   Additionally, the researcher received five e-mails communicating the similar information and responded to eight telephone calls from respondents with questions regarding the survey. Most questions dealt with delays in responding and concern among respondents about getting the survey in within stated deadlines.

After approximately two weeks of mailing the first survey packet, a thank you card/reminder letter (Appendix H) was sent to189 SDOT districts who had not returned a completed survey. Two weeks following the issuance of the thank you card/reminder letters a second survey packet was mailed to those districts that had still not responded. Within two weeks another 29 completed surveys had been returned for a running total of 220 completed surveys, or a 57.9 percent response rate.

Approximately two weeks after the second survey mailing, the researcher began making personal telephone calls to those districts that had not yet responded. In all 160 districts were contacted telephonically netting another 13 completed surveys. Following this effort, on about October 15, 2004 communication efforts ceased.

In conclusion, surveys were distributed to 380 SDOT districts with a total of 233 completed surveys returned for a response ration of 61.3 percent (Table 14).

Table 14: Survey Responses by State

State Name	Surveys Sent	Surveys Returned
Alabama	8	3
Alaska	3	2
Arizona	9	8
Arkansas	10	6
California	12	6
Colorado	6	3
Connecticut	4	2
Delaware	4	1
Dist. of Columbia	1	1
Florida	7	4
Georgia	7	6
Hawaii	4	3
Idaho	6	6
Illinois	9	7
Indiana	6	4
Iowa	6	3
Kansas	6	6
Kentucky	12	8
Louisiana	9	6
Maine	7	4
Maryland	7	7

Massachusetts	5	3
Michigan	7	6
Minnesota	14	8
Nebraska	8	4
Nevada	3	2
New Hampshire	6	4
New Jersey	3	1
New Mexico	6	5
New York	11	9
North Carolina	39	12
North Dakota	8	6
Ohio	12	8
Oklahoma	8	5
Oregon	5	4
Pennsylvania	12	7
Rhode Island	1	1
South Carolina	7	2
South Dakota	4	3
Tennessee	4	2
Texas	25	16
Utah	4	3
Vermont	9	3
Virginia	9	6
Washington	6	4
West Virginia	10	5
Wisconsin	6	4
Wyoming	5	4
Total	**380**	**233**	**Return Rate: 61.3%**

Limitations of the Survey Sample and the Impact to Response Rates

A limitation of the survey sample and the effect on the resultant survey response rate relates to the varying number of districts within individual States and the varying reasons for their creation. There is a wide range of the number and geographic size of districts within individual States. There is no recognized set of criteria for the establishment of a district within an SDOT. Criteria for establishment of districts vary broadly by State and can include:

- Geographic considerations in which natural topography (the existence of rivers or mountains) creates boundaries of separation
- Population considerations where the location of large cities within a State serve as the basis of drawing geographic boundaries

- Logistical considerations related to the availability of SDOT resources such as agency maintenance yards or other facilities
- Existing political boundaries such as Congressional or State legislative districts that provide political convenience to the agency

Examples of the divergent implementation of SDOT districts is observed by comparing several States based on geography, population, and the number of SDOT districts. Florida, with a population of 17,397,161, has seven SDOT districts, which is the same number of districts as the State of Georgia. Georgia's population of 8,829,383 is about half that of Florida (U.S. Census, 2003). By comparison, South Dakota with less than one-tenth of the population and but similar in geographic size to Georgia has only four SDOT districts. These differences in population, geographic size, and number of SDOT districts are recognized as limitations of the survey population and the nature of State transportation agencies.

A non-response analysis of the survey further highlights the difficulties presented by the wide variances in the number of SDOT districts in each State. Data on the demographics and characteristics of SDOT districts is not available from the federal government or other known sources. Therefore, reliable and/or accurate information regarding those districts that did not respond is not available. To evaluate a difference between those districts that responded and those that did not is not possible. However, it is possible to evaluate whether variances occurred in the response rates from different regions of the country. This was accomplished by breaking the United States into five geographic regions (Table 15).

Table 15: Survey Response Rates by Region

Region	Population	Response Rate by Region
Southeast		
Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia	72,989,445	49.2% **57.8%** (North Carolina deleted)
Northeast		
Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont	60,959,569	60.1%
Midwest		
Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin	59,841,887	66.7%
Central		
Colorado, Kansas, Nebraska, New Mexico, North Dakota, Montana, Oklahoma, South Dakota, Texas, Wyoming	39,838,626	68.4%
West		
Alaska, Arizona, California, Hawaii, Idaho, Nevada, New Mexico, Oregon, Utah, Washington	56,286,244	69.1%

The State of North Carolina with a population of 8,541,221 has a total of 39 districts in their State transportation department. Twelve districts responded to the project survey resulting in a response rate of 30.8. The overly large number of districts in North Carolina had a disproportionate affect on the overall response rate for the Southeast Region. When North Carolina's districts were excluded in the response calculation, the response rate for the region increased 8.6% and the overall project response rate increased by 3.5%. The overall project response rate increased to 64.8%.

From this analysis of response rates by region, it appears that a reasonable response rate was achieved across the five regions representing the States and citizens

within those areas. While North Carolina's districts and their responses will remain and be considered in the statistical analysis and project findings, it is important to note that the variances in both the definition of what constitutes a transportation district and in total numbers of districts should be further evaluated and considered when conducting future research in subject area.

Qualitative Case Interviews

The self-administered surveys were complimented with eight qualitative in-depth telephone interviews among those who indicate public participation at their agency consistent with the four levels of the aggregate measure. These interviews provide further insight and understanding into attitudes concerning public participation in SDOT districts; provide cross validation of results from the mail survey; and, expand on the singular focus problem that often occurs with mono-method research (Faulkner, 1982).

CHAPTER FOUR: FINDINGS

This chapter provides an analysis of the existence of Authentic Public

Participation (APP) in the public participation programs of State Department of

Transportation Districts (SDOT) throughout the United States. This analysis:

- Creates an aggregate measure for Authentic Public Participation that is used to determine the level of Authenticity in public participation that occurs within SDOT districts
- Identifies predictors of Authentic Public Participation within district organizations and in the communities they serve

In addition, the results of the statistical analysis for each of the study hypotheses

are examined.

The Aggregate Measure of Authentic Public Participation

The literature establishes that the: representativeness of the public participation

that is gathered; the interactiveness of the participation processes and tools that are

utilized by an SDOT; the use of public inputs received from public participation into

project decision-making processes; and, the quality of the stakeholder inputs received

from participation programs are important indicators of public participation programs that

achieve authenticity.

Creation of the dependent variable Authentic Public Participation (app1inde) was

achieved through creation of index variables to represent the four dimensions of

authenticity.

<u>Dimension 1: Representativeness</u>

Eight survey questions were developed to measure the respondent's assessment of the representativeness of their district public participation program. Possible responses to the questions were strongly agree, agree, somewhat agree, don't know, somewhat disagree, disagree, and strongly disagree (Table 16).

Whereas 89.1% of SDOT districts responded strongly agree or agree to being concerned about engaging representative stakeholders to public involvement programs, only 60% of districts responded strongly agree or agree to successfully engaging these stakeholders in project discussions. 70% of districts responded strongly agree or agree that project managers are concerned when few stakeholders participate in public involvement opportunities and only 41.4% of project managers of districts responded strongly agree or agree that project managers take action to implement additional public involvement outreach when turnout or response is weak. Slightly more than half (50.9%) of districts responded strongly agree or agree that public participation in their district is perceived by citizens to allow participants in public involvement processes to accurately represent them.

Grounded in the theoretical framework, Cronbach's Alpha was utilized to assess the internal consistency of the index variable repres1. A Cronbach's Alpha score of .700 or higher is deemed acceptable to indicate strong internal consistency of the construct index variable. The Representativeness Index Variable (irepres) was found to have an acceptable Cronbach's Alpha (a = .838).

Table 16: Representativeness Index Variable Distribution (irepres)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Attracts Representative	228	2.47	25.0%	53.5%	19.7	.9%	-	.4%	.4%
Representative Concern	230	1.64	51.7%	37.4%	8.7%	.9%	.4%	.4%	.4%
Engages Representative	230	2.37	13.0%	47.0%	34.8%	4.3%	.4%	-	.4%
PM Participants	230	2.02	32.2%	45.7%	16.1%	3.5%	1.3%	-	1.3%
PM Additional PI	230	2.99	11.3%	30.4%	35.7%	15.7%	4.8%	1.3%	.9%
PM Concerned Population	230	2.22	28.3%	41.7%	20.9%	5.2%	3.0%	-	.9%
Recognize District	230	2.60	9.6%	41.3%	38.7%	6.1%	1.7%	-	2.6%
Success	230	2.03	26.5%	47.4%	24.3%	1.3%	-	-	.4%

Cronbach's Alpha = .838

Dimension 2: Interactiveness

Ten survey questions were developed as indicators of the interactiveness of district public participation programs. Possible responses to the questions were strongly agree, agree, somewhat agree, don't know, somewhat disagree, disagree, and strongly disagree (Table 17).

87% of districts responded strongly agree or agree that project managers in their districts select public involvement tools that strengthen face-to-face interactions with the public, and 71.1% of districts responded strongly agree or agree that the tools selected increase information exchange between their agency and stakeholders.

Whereas 72.2% of districts responded strongly agree or agree that their district explains project decisions that are made to stakeholders, only 56.9% (12.6% strongly agree and 44.3% agree) that citizens perceive district public involvement programs as an open process in which they are welcome to participate (PI Openness). Fewer than half (45.6%) of districts responded strongly agree or agree that their district provides processes for stakeholders to appeal project decisions (13.6% strongly agree and 32.0% agree).

The ten questions were used to create an index variable for the interactiveness of public participation (iinteract). The Cronbach's Alpha of the Interactiveness Index Variable (iinteract) was found to have an acceptable Cronbach's Alpha (a = .861).

Table 17: Interactiveness Index Variable Distribution (iinterac)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Active Select	230	2.05	22.2%	56.5%	18.3%	1.7%	-	.4%	.9%
Appeal Process	228	2.87	13.6%	32.0%	34.2%	12.7%	5.3%	.9%	1.3%
District Explains	227	2.19	20.7%	51.5%	22.0%	4.8%	.4%	-	.4%
Face/Face Tools	230	2.04	24.8%	52.2%	20.4%	1.3%	.4%	.4%	.4%
District Feedback	229	2.24	22.7%	44.1%	27.1%	4.4%	1.3%	-	.4%
Info. Exchange Tools	229	2.14	21.0%	51.1%	24.5%	2.2%	.4%	-	.9%
PI Openness	230	2.47	12.6%	44.3%	34.8%	4.8%	1.7%	-	1.7%
PM Active	230	1.96	30.4%	52.6%	12.2%	2.6%	.9%	-	1.3%
Project Status	228	2.32	20.6%	40.4%	32.5%	4.8%	1.3%	-	.4%
Refresh PI	230	2.14	23.5%	47.0%	25.2%	3.5%	-	-	.9%

Cronbach's Alpha = .861

Dimension 3: Use of Public Inputs

Seven survey questions were developed to measure the dimension of the utilization of inputs received from district public participation programs in project decision-making. Possible responses to the questions were strongly agree, agree, somewhat agree, don't know, somewhat disagree, disagree, and strongly disagree (Table 18).

Nearly all districts (99.6%) responded with some form of agreement that they require issues raised during public involvement be fully dealt with during the life of projects (45.0% strongly agree, 41.5% agree, and 13.1% somewhat agree). Nearly all districts (98.7%) also responded with some form of agreement that they use stakeholder input in project decision-making (29.3% strongly agree, 50.2% agree, and 19.2% agree).

Where as 62.3% of districts responded strongly agree or agree that federal highway administrators review district project decisions to ensure public input was considered in decision-making, 51.3% of districts responded strongly agree or agree that SDOT central office managers conduct similar reviews, and 78.4% of districts responded strongly agree or agree that senior district managers also conduct similar reviews of project decisions.

The seven questions were used to create an index variable for the utilization of public participation (iutiliz). Cronbach's Alpha was of the Utilization Index Variable (iutiliz) was found to have an acceptable Cronbach's Alpha (a = .769).

Table 18: Use of Public Inputs Index Variable Distribution (iutiliz)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
District Input Use	229	1.93	29.3%	50.2%	19.2%	.9%	-	-	.4%
District Review	228	2.03	28.1%	50.4%	16.2%	2.6%	-	.4%	2.2%
Federal PI Review	228	2.44	21.5%	40.8%	21.9%	5.7%	1.8%	.9%	7.5%
PM Learns	232	2.23	19.0%	49.1%	25.9%	2.6%	.9%	-	2.6%
Project Life	229	1.69	45.0%	41.5%	13.1%	-	-	-	.4%
SDOT Review	228	2.81	15.8%	35.5%	26.3%	11.4%	5.3%	1.3%	4.4%
SM Review PI	229	2.14	24.9%	48.0%	20.5%	3.9%	.4%	-	2.2%

Cronbach's Alpha = .769

Five survey questions were developed to measure the quality dimension of the inputs received from district public participation programs. Possible responses to the questions were strongly agree, agree, somewhat agree, don't know, somewhat disagree, disagree, and strongly disagree (Table 19).

Whereas districts responded 78.5% strongly agree or agree that they do a good job of accurately assessing public needs and 69.2% strongly agree or agree that they accurately assess the views of participants, only 48.4% of districts responded strongly agree or agree that citizens view district public participation as accurately assessing their needs (7.4% strongly agree and 41.0% agree).

The five questions were used to create an index variable for the quality of public participation (iqual). The Quality Index Variable (iqual) was found to have an acceptable Cronbach's Alpha (a = .758).

Table 19: Quality of Inputs Index Variable Distribution (quality)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Accurate PI	228	2.00	25.0%	53.5%	19.7%	.9%	-	.4%	.4%
Citizens Believe	230	2.60	8.3%	42.6%	39.1%	7.8%	.9%	-	1.3%
Correctly Assess	229	2.10	17.9%	56.3%	24.5%	.9%	-	-	.4%
Document PI	230	1.83	39.1%	44.8%	13.0%	1.7%	.4%	-	.9%
District Accuracy	229	2.68	7.4%	41.0%	38.9%	7.9%	1.7%	-	3.1%

Cronbach's Alpha = .758

<u>The Construct of Authentic Public Participation</u>

A construct dependent variable Authentic Public Participation (app1inde) was

created which combined the four dimensions of authenticity (representativeness,

interactiveness, utilization, and quality). Cronbach's Alpha was used to assess the

internal consistency of the four index variables: Representativeness, Interactiveness,

Utilization, and Quality. Cronbach's Alpha of the construct variable Authentic Public

Participation (app1inde) was found to be acceptable (a = .889)[4].

A New Methodology for Authentic Public Participation

In testing Hypothesis 1, an aggregate measure of Authentic Public Participation

was created utilizing a new methodology to assess the level of commitment of SDOT

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[4] A Factor Analysis was performed on the thirty dimensional variables to identify the patterns of relationship among the variables used to create the previously discussed dimension index variables of Authentic Public Participation. The desired result of the Factor Analysis was to confirm the existence of the dimensional index variables as calculated by the series of Cronbach's Alpha tests previously discussed. The Factor Analysis was not successful in confirming the dimensional index variables of authenticity as calculated by Cronbach's Alpha. The variables that were previously assembled to represent the different dimensions of authenticity were constructed based on theoretical frameworks, which at face value and analysis are consistent with the literature on public participation. A review of the Factor Analysis results found that the groupings of variables identified by the test were aligned by the "actor" within the environment of the district and not by the requisite criteria for authenticity that are present in the dimensional constructs previously identified. Factor analysis may have proved problematic in this study because this type of research has not been done previously in SDOTs. This research attempts to quantify the concept of Authentic Public Participation which previously has not been done in the literature. Factor Analysis, while a statistically powerful tool, has limitations in its use which are applicable in this analysis. Factor Analysis is used to identify the mathematical association of variables to identify variable groupings. Factor Analysis does not take into consideration other conditions which may affect the groupings and cause them to unite in another way. In this situation, Factor Analysis is not capable of relating the mathematical associations to the theoretical frameworks identified in the literature and constructed in this dissertation. Factor Analysis must be viewed as only one tool that can be utilized to identify the dimensions of the dependent variable. Therefore, for this research Factor Analysis is not viewed as an appropriate tool for identification of the variable groupings of the dependent variable.

districts toward Authentic Public Participation. District responses to each of the four

index variables (which represent the four dimensions of authenticity) were evaluated to

assess district satisfaction of each dimension of authenticity.   Four categorical variables

of the continuous variable Authentic Public Participation (app1inde) were created to

categorize the numeric differences in responses for each index variable. Criteria were

established for assessing responses to the four categories that demonstrate decreasing

commitments to the processes necessary to achieve authenticity in public participation.

Aggregate responses were then ranked into four types of participation to include:

1. Very High Authentic Public Participation
2. Authentic Public Participation
3. Acceptable Public Participation
4. Token Public Participation

A Degree of Participation Measurement Scale (Table 20) was established for

categorizing SDOT districts by their commitment to authenticity. Numerical cutoff

Table 20: Degree of Participation Measurement Scale

Degree of Authenticity	Number of Districts	Percentage of Districts
Very High Authentic Participation	7	3.2%
Authentic Participation	36	16.4%
Acceptable Participation	126	57.5%
Token Participation	50	22.8%

points were selected and operationalized utilizing the seven point likert scale used in the

survey. The numerical cutoffs were selected based on the reasonable expectation of the

existence of desirable processes to support degrees of authentic and non-authentic public

participation in district programs.

A Medium Standard

A standard of 1.5 as a cutoff point for achieving very high authentic participation in a medium standard is reasonable because it only requires a district to respond strongly agree in two of four dimensions.

A standard of between 1.5 and 2.0 as a cutoff for achieving authentic participation is reasonable because it allows districts to demonstrate a lesser degree of agreement, but does not accept any single dimension response to be lower than full agreement.

A standard of between 2.0 and just above 3.0 as a cutoff for achieving acceptable participation is reasonable because it requires a degree of agreement in all dimensions and does not allow for minimal disagreement. Minimal disagreement is viewed as being void of authenticity and indicates that minimum legal requirements of participation are not satisfied.

A standard of greater than 3.0 in any one dimension as a cutoff for token participation is reasonable because it indicates a negative response to at least one dimension of authenticity. All dimensions of authenticity must be satisfied for authenticity to occur.

3.2% or seven districts responded with answers categorizing them as achieving very high authentic participation programs; 16.4% or 36 districts had responses that categorized them as having high authentic participation; 57.5% or 126 districts had responses that categorized them as having acceptable participation; and, 22.8% or 50 districts had responses that categorized them as having token participation programs.

Further analysis was conducted on the Degree of Authenticity Measurement Scale to test the robustness of the tool for evaluation of district public participation programs.

How would adjustment of numerical cutoff points to create a more stringent standard or lower standard affect the results of the measurement scale? Further, what are the appropriate numerical cutoff points and how should they be selected?

Two new standards were selected to exercise the measurement scale. Numerical cutoffs were identified for a more stringent standard and for a lower standard to create three standards for measurement of district programs (Table 21).

A More Stringent Standard

The previously discussed standard was determined as appropriate to serve as a middle standard for measurement of authenticity. In setting a higher standard, the criteria for Very High Authentic Participation of responses to the seven point likert scale was increased from a midpoint between agree and strongly agree to a distance closer to

Table 21: Degree of Authenticity - Three Tiered Standards

Likert Scale:	Strongly Agree	Agree	Somewhat Agree	Don't Know	Somewhat Disagree	Disagree	Strongly Disagree
	1	2	3	4	5	6	7

High Standard for Authenticity

Degree of Authenticity	Numerical Cutoffs	Operationalization
Very High Authentic Public Participation	**1.2** or less in all four dimensions	A minimum response from a point closer to strongly agree than to agree in all dimensions
Authentic Public Participation	From just above **1.2** to **2.0** in all four dimensions	A minimum response of agree to a point just above strongly agree in all dimensions
Acceptable Public Participation	From just above **2.0** to less than **3.0** in all four dimensions	A response that is not quite agree to at least better than somewhat agree in all dimensions
Token Public Participation	**3.0** or greater in any one dimension	At least one dimension where the response is somewhat agree

Medium Standard for Authenticity

Degree of Authenticity	Numerical Cutoffs	Operationalization
Very High Authentic Public Participation	Less than **1.5** in all four dimensions	A minimum response from less than a midpoint between strongly agree and agree in all dimensions
Authentic Public Participation	From **1.5** to **2.0** in all four dimensions	A minimum response of agree to a midpoint between agree and somewhat agree in all dimensions
Acceptable Public Participation	From just above **2.0 to 3.0** in all four dimensions	A response that is not quite agree to at least somewhat agree in all dimensions
Token Public Participation	Greater than **3.0** in any one dimension	At least one dimension where the response is not even somewhat agree

Low Standard for Authenticity

Degree of Authenticity	Numerical Cutoffs	Operationalization
Very High Authentic Public Participation	Less than **2.0** in all four dimensions	A minimum response that is better than agree in all dimensions
Authentic Public Participation	From **2.0** to less than **2.5** in all four dimensions	A minimum response from agree to less than a midpoint between somewhat agree and agree in all dimensions
Acceptable Public Participation	From **2.5 to 3.5** in all four dimensions	A response that is from a midpoint between agree and somewhat agree to a midpoint between somewhat agree and don't know in all dimensions
Token Public Participation	Greater than **3.5** in any one dimension	At least one dimension where the response is higher than a midpoint between somewhat agree and don't know

strongly agree (1.5 to 1.2). This would require districts to respond "strongly agree" in all four dimensions. Moving the standard all the way to strongly agree appeared unreasonable on face value. Subsequent frequency distribution analysis of district responses revealed that no districts responded with strongly agree in all cases. Therefore, more reasonable 1.2 measure was selected.

The criteria for High Authentic Participation was not increased as it was viewed as already sufficiently stringent to require a minimum district response of agree to all questions. The criteria for Acceptable Participation was increased to a response better than somewhat agree from a response equal to somewhat agree, and the criteria for Token

Participation was increased to include districts who had at least one dimension with a response of somewhat agree.

A Lower Standard

In setting a lower standard (using the middle standard as a reference point), the criteria for Very High Authentic Participation of responses to the seven point likert scale was decreased from a midpoint between agree and strongly agree to agree (1.5 to 2.0). While clearly less stringent, on face value it appears reasonable to accept full agreement with the existence of certain processes and attitudes in the district as meeting a standard for Very High Authentic Participation. It is important to note that the purpose of establishing three standards is to exercise the robustness of the measurement tool and to ultimately identify the appropriate numerical cutoff points for use.

The criteria for High Authentic Participation was decreased from agree to a midpoint between agree and somewhat agree. This was viewed as acceptable because a degree of agreement continued to exist in district responses. The criteria for Acceptable Participation was lowered to include responses at a midpoint between somewhat agree and don't know. This was deemed as appropriate as there still was a positive direction in district responses and no negative responses were permitted. The criteria for Token Participation was decreased from a response of somewhat agree to a response of less than a midpoint from somewhat agree to don't know. This measure indicated a weak and unacceptable response to achieving Acceptable Public Participation.

A Comparison of the Standards

When comparing the high and medium standards, nearly all districts fall out of the

Very High Authentic Participation category (.5% vs. 3.2%) with only one district meeting

the highest standard (Table 22). Minimal movement (6.4%) is noted of districts moving

from Acceptable to Token between the high and medium standard (51.1% vs. 57.5%). It

appears that adopting a higher standard does not diminish the medium standard and may

not be necessary.

Table 22: Standards Comparison

Degree of Authenticity	High Standard Percentage of Districts	Medium Standard Percentage of Districts	Low Standard Percentage of Districts
Very High Authentic Participation	.5%	3.2%	12.8%
Authentic	19.2%	16.4%	29.7%
Acceptable	51.1%	57.5%	45.7%
Token	29.2%	22.8%	11.9%

A Large upward shift is noted from use of the medium standard to the low

standard. In the low standard, Very High and Authentic Participation increase a combined

22.9% (Very High: 3.2% to 12.8%, Authentic: 16.4% to 29.7%), Acceptable Participation

decreases 11.8% (57.5% to 45.7%), and Token Participation decreases 10.9% (22.8% to

11.9%). It appears that adopting a lower standard has a greater impact on the shift upward

in authenticity. The literature on public participation does not support the notion that

42.5 percent of districts in the United States are achieving Very High Authentic or

Authentic Public Participation in their programs. It appears from the data and the

literature that a lower standard for measurement of authenticity would be an inappropriate

measure. As discussed in Chapter Two: Literature Review, a survey of states

performance in meeting the requirements for public participation as set forth in ISTEA (1991) found that 58% were doing the minimum or less than the minimum in meeting federal requirements (Hoover, 1994). This supports the conclusion that if nearly 60% of states are doing the minimum, or less than the minimum, the remaining 40% of states would be intuitively would not be performing at a very high level of authenticity. There would naturally be some statistical split between the remaining three categories of participation. The conclusion of the analysis is that the Medium Standard is the most appropriate for use in testing Hypothesis 1.

Practices of Districts with High Levels of Public Participation

<u>Analysis of the Use of Participation Tools</u>

A table was created to show district use of active and passive participation tools by authentic, acceptable, and token categories of participation. The categories of very high and authentic participation were combined due to the small number of districts present in the very high authenticity category. The middle standard was utilized for determining the number and percentages of districts that responded always or very frequently to a seven point likert scale where possible responses included: always, very frequently, often, don't know, rarely, very rarely, and never.

Results of the analysis demonstrated a greater use of all participation tools by districts that achieve higher levels of authenticity (Table 23). Districts in the combined authentic category used all types of participation tools more frequently than did those districts in the acceptable and token categories. Districts in the acceptable category used all types of participation tools more frequently than those districts in the token category

with one exception. Token districts stated using legal notices slightly more than did districts in the acceptable category (76.0% to 75.2%).

Districts in the authentic category utilized interactive tools more frequently than districts in the acceptable and token categories (Table 24). The differences in the use of interactive tools were significant (.246, p < .01). The importance of the use of interactive tools by authentic districts becomes clearer when the Very High Authentic Districts are isolated in the analysis. The mean frequency for this group increases to 3.8571 from 3.2558 when separated from all other districts in the authentic category.

Table 23: Use of Participation Tools by Level of Authenticity (Medium Standard)

Districts Responding Always or Very Frequently

Participation Tool	Authentic Participation	Acceptable Participation	Token Participation
Interactive Tools			
Briefings to Social Groups **	60.5%	50.0%	31.2%
Citizen Advisory Boards ***	42.5%	33.1%	14.9%
Project Information Centers *	28.5%	12.7%	10.6%
Public Hearings - Formal **	71.4%	60.0%	47.0%
Public Workshops - Informal *	65.1%	64.5%	44.9%
Project Open Houses **	70.7%	49.2%	46.9%
Passive Tools			
Advertisements *	88.1%	77.4%	67.4%
Legal Notices	83.7%	75.2%	76.0%
Press Conferences	21.0%	16.3%	12.2%
Press Releases	90.5%	80.2%	79.6%
Project Newsletters *	38.1%	25.2%	18.8%
Printed Public Info Materials **	69.1%	60.0%	50.0%
Surveys ***	20.0%	14.8%	12.2%
Internet E-mail **	52.4%	38.3%	26.6%
Websites **	71.4%	46.8%	40.0%

(***p < .001 level, ** p < .01 level, * p < .05 level)

Table 24: District Mean Use of Six Interactive Participation Tools (Medium Standard)

Degree of Authenticity	Number of Districts	Percentage of Districts	Mean Use of Index Variable
Authentic	43	19.6%	3.2258
Acceptable	126	57.5%	2.6429
Token	50	22.8%	1.9000
			All: 2.5936

Kendall's tau c = .246, (p < .01)

Univariate Analysis of the Use of Active Tools

Briefings to Social Groups decreased 10.5% (Table 23) from authentic to acceptable participation and decreased a total of 18.8% from authentic to token participation. The token participation category used this participation tool about half as much as the authentic category.   The use of Citizen Advisory Boards decreased 9.4% from the authentic to the acceptable category and a total 27.6% to the token category.

Five of the six interactive tools show a decrease in use greater than 20% from the authentic to the token category, with a mean decrease of 23.87%. Three of the nine passive tools show a decrease in use of greater than 20% from the authentic to the token category, with a mean decrease of 16.83%.

A percentage drop of similar magnitude is observed for the use of both interactive and passive tools from authentic to acceptable, 11.37% and 11.12% respectively. The use of interactive tools decreases at a greater magnitude (12.5%) than the use of passive tools (5.71%) when comparing the acceptable and token categories.

The largest decreases in use of active participation tools between the authentic and acceptable categories occurred in Project Open Houses (21.5%) and Project Information Centers (15.8%). The largest decrease in the use of passive participation tools between these categories occurred in Websites (24.6%) and Internet E-mail (14.1%).

The largest decreases in use of active participation tools between the acceptable and token categories occurred in Briefings to Social Groups (19.8%), Public Workshops – Informal (19.6%), and Citizen Advisory Boards (18.2%). The largest decrease in the use of passive participation tools between these categories occurred in Internet E-mail (11.7%), Printed Public Information Materials (10.0%), and Advertisements (10.0).

A limitation of the data is that it does not tell us how these tools are being used by the districts, only that they are being used. Interviews with selected districts in each category will help give insights into how districts implement participation tools.

Independent Predictor Variables Used in the Study

Independent index variables were created to identify the possible predictors of Authentic Public Participation. The index variables were derived from discussions in the literature and are supported by theoretical grounds as presented in the theoretical framework chapter of the dissertation (Chapter Two: Literature Review). Survey questions were developed using a seven point Likert Scale. Responses included strongly agree, agree, somewhat agree, don't know, somewhat disagree, disagree, and strongly disagree. Cronbach's Alpha was utilized to assess the internal consistency of the index

variables.   A Cronbach's Alpha score of .700 or higher is deemed acceptable to indicate strong internal consistency of the construct index variable.

The multiple regression equation is expressed as $Y = a + b1X1 + b2X2... + bnXn + u$; where Y= dependent variable, a=constant, b1=regression coefficient of variable 1, X1=variable 1, u=unexplained residual variation.   Stated in its entirety the multiple regression equation is as follows:

"$Y = b1$ (Bureaucracy) $+ b2$(Innovation) $+ b3$(Ethics) $+ b4$(Community Collaboration) $+ b5$(Community Rivalry) $+ b6$(State Laws) $+ b7$(SDOT Policies) $+ b8$(District Guidelines) $+ b9$(Centralized) $+ b10$(District Population) $+ b11$(Sex) $+ b12$(SDOT Years) $+ e$"

Bureaucracy Index Variable

Nine survey questions were developed to measure the respondent's assessment of the adherence by senior managers and project managers to bureaucratic controls within the district.

District senior managers and project managers are generally willing to consider changes to technical project decisions when requested (Table 25). 78.4% of districts responded strongly agree or agree that senior managers are willing to make these technical changes and 76.7% of districts responded strongly agree or agree that project managers are also willing. Whereas 64.9% of districts responded strongly agree or agree that senior managers are willing to modify public involvement programs, only 52.1% of districts responded strongly agree or agree that project managers are willing to modify public involvement programs. More than half of districts responded some form of disagree (57.6%) about their willingness to seek exemptions from agency rules and

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regulations. When evaluated for senior managers and project managers, district responses were consistent with 56.5% of senior managers and 54.6% viewed as not being willing to seek exemptions from agency rules and regulations. The nine variables discussed above were used to create an index variable for the adherence to bureaucratic controls within a district. The Bureaucracy Index variable (bureau) was found to have an acceptable Cronbach's Alpha (a = .807).

Table 25: Bureaucracy Index Variable Distribution (iorgbure)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
District Bureaucracy	231	4.30	2.6%	13.0%	25.5%	33.3%	16.5%	7.8%	1.3%
PM Bureaucratic	232	4.27	2.6%	15.9%	23.7%	30.2%	15.9%	9.5%	2.2%
PM Decides	232	3.22	3.9%	33.6%	34.5%	17.7%	7.3%	.9%	2.2%
PM Modify PI	232	2.73	8.6%	43.5%	31.0%	11.2%	2.2%	.4%	3.0%
PM Technical	232	2.20	13.8%	62.9%	18.1%	4.3%	.4%	-	.4%
SM Bureaucratic	232	4.34	2.2%	12.9%	26.7%	28.9%	19.0%	8.6%	1.7%
SM Decides	231	2.91	6.5%	39.4%	33.8%	14.7%	3.5%	.4%	1.7%
SM Modify PI	231	2.37	13.0%	51.9%	27.7%	4.3%	.9%	.4%	1.7%
SM Technical	232	2.07	18.5%	59.9%	19.4%	1.7%	-	-	.4%

Cronbach's Alpha = .807

Table 26: Innovation Index Variable Distribution (innova)

Variable	N	Mean	Strongly Agree	Somewhat Agree	Somewhat Agree	Disagree	Strongly Disagree	Disagree	Don't Know
District Learns	231	2.22	15.6%	52.8%	28.6%	2.6%	-	-	.4%
District Technical	232	2.03	22.3%	58.6%	14.2%	3.0%	.4%	-	.4%
PM Big Picture	232	2.52	10.8%	47.4%	31.0%	8.6%	.9%	-	1.3%
PM Box	232	2.03	28.0%	50.0%	17.7%	3.0%	.4%	-	.9%
PM Empowered	232	2.56	15.1%	39.7%	32.8%	6.9%	3.4%	-	2.2%
PM Support PI	232	2.16	22.8%	47.0%	25.4%	2.2%	.9%	-	1.7%
SM Big Picture	232	2.06	23.3%	54.3%	19.0%	3.0%	-	-	.4%
SM Box	232	2.00	28.4%	53.0%	15.1%	1.7%	.9%	.9%	-
SM Empowered	232	2.24	24.1%	44.8%	23.3%	3.9%	2.2%	.4%	1.3%
SM Learns	232	2.07	22.0%	53.9%	21.1%	1.3%	.4%	-	1.3%
SM Positive Relations	232	1.79	33.2%	54.3%	12.5%	-	-	-	-
SM Support PI	232	1.88	33.6%	49.1%	15.1%	.9%	.4%	-	.9%

Cronbach's Alpha = .864

<u>Innovation Index Variable</u>

Twelve survey questions were developed to measure the respondent's assessment of the existence of innovation in agency processes and the ability of senior managers and project managers to cause innovation in district public participation programs.

Whereas 77.6% of districts responded strongly agree or agree that senior managers understand the "larger" picture of their efforts, only 58.2% of districts responded similarly that project managers understand the "larger" picture of their efforts (Table 26). A similar difference is found regarding district staff empowerment, with 78.9% of districts responding strongly agree or agree that senior managers are empowered to make important decisions and only 54.8% of districts responding strongly agree or agree that project managers are empowered to make important decisions. 68.4% of districts responded strongly agree or agree that their district does a good job of learning from new situations, with 28.6% of districts responding that they somewhat agree with this form of district learning.

The twelve questions discussed above were used to create an index variable for the innovation of districts (innova). The Innovation Index Variable (innova) was found to have an acceptable Cronbach's Alpha (a = .864).

<u>Ethics Index Variable</u>

Three survey questions were developed to measure the respondent's assessment of the degree of ethics training available to district personnel and the impacts of enhanced professionalism on Authentic Public Participation.

Whereas 53% of districts responded strongly agree or agree that their districts require ethics training for senior managers, 47.9% of districts responded strongly agree or

agree that this training is required for project managers and only 35.4% of districts responded similarly that all other district employees are required to take ethics training (Table 27).

The Ethics Index Variable (ethics) was found to have an acceptable Cronbach's Alpha (a = .946).

Community Collaboration Index Variable

Four survey questions were utilized to measure the respondent's assessment of the degree of community collaboration existing within the geographical jurisdiction of districts and the impact collaboration has on Authentic Public Participation.

More than three-quarters (75.6%) of districts responded strongly agree or agree they have positive relations with the business community in their districts and slightly more (77%) responded strongly agree or agree that collaborations between their district and community leaders is good (Table 27).

Relationships with the media are not as strong, however. Only 50.6% of districts responded strongly agree or agree that the local media support new highway projects. More than one-third (37.4%) of districts responded some form of disagreement that the media portray them fairly (17% somewhat disagree, 6.5% disagree, and 3.9% strongly disagree).

The Community Collaboration Index Variable (comcollab) was found to have an acceptable Cronbach's Alpha (a = .701).

Table 27: Ethics Index Variable Distribution (ethics)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Ethics Distwide	229	3.54	16.2%	19.2%	21.8%	17.5%	14.0%	5.7%	5.7%
Ethics PM	228	3.07	21.1%	26.8%	21.1%	10.5%	11.4%	3.9%	5.3%
Ethics SM	228	2.91	25.4%	27.6%	17.5%	10.0%	10.5%	3.1%	5.7%

Cronbach's Alpha = .946

Table 28:   Community Collaboration Index Variable Distribution (comcollab)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Business Relations	230	2.26	11.7%	63.9%	32.6%	1.3%	-	-	.4%
Collaboration	230	2.07	18.7%	58.3%	21.7%	.9%	-	-	.4%
Highway - Media	229	2.72	8.7%	41.9%	33.6%	11.8%	2.2%	-	1.7%
Media Fair	230	3.27	3.9%	33.9%	34.8%	17.0%	6.5%	3.9%	-

Cronbach's Alpha = .701

<u>Community Rivalry Index Variable</u>

Four survey questions were utilized to measure the respondent's assessment of the existence of political or other rivalry within the communities served by the district and the impact of rivalries on Authentic Public Participation.

Whereas more than half (54.1%) of districts responded some form of agreement that elected officials in their district are competitive with each other (Table 29), less than half (47.3%) of districts responded some form of agreement that there is much rivalry among elected officials in their district, and 41.9% of districts responded some form of agreement that elected officials in their district often resist sharing leadership with other. 57.1% of districts responded some form of agreement that there is much competition among jurisdictions in their districts. The Community Rivalry Index Variable (comrival) was found to have an acceptable Cronbach's Alpha (a = .895).

<u>Additional Independent Variables</u>

Three survey questions were utilized to determine whether districts have state laws, agency policies, or district guidelines in addition to federal requirements for public participation. 88.0% responded yes that their agency has a public involvement policy that affects their district public involvement programs and 67.8% of districts responded yes that their district has project guidelines that affect district public involvement programs (Table 30).

Table 29:   Community Rivalry Index Variable Distribution (comrival)

Variable	N	Mean	Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know
Local competition	230	3.81	3.0%	21.7%	30.4%	20.9%	15.7%	3.9%	4.3%
Jurisdic Compete	230	3.82	2.2%	20.0%	33.9%	23.9%	14.8%	3.0%	2.2%
Leaders Share	229	4.16	1.7%	15.3%	24.9%	30.1%	17.5%	3.9%	6.6%
Local Rivalry	230	1.10	3.0%	20.0%	24.3%	23.5%	19.1%	7.4%	2.6%

Cronbach's Alpha = .895

Four other control variables were selected to provide statistical control for rival influences on the predictors of Authentic Public Participation in SDOT districts. The control variables were selected because of their potential to cause change in the predictive capabilities of the independent variables. Two control variables were specific to the district and two were specific to the survey respondent (Table 30).

Control variables in the study include: Centralization, District Population, SDOT Years, and sex.

68.9% of districts responded that their SDOT operates in a centralized manner (Table 31). Whereas less than half (48.5%) of districts responded that they serve a population fewer than 500,000, only 8.8% of districts responded that they serve a population greater than 2.5 million.

The vast majority of respondents were male (85.7%), with more than three-quarters of respondents (76.9%) having worked at the SDOT between 11 and 30 years. The mean years of employment at the SDOT were 22.23 years.

Table 30: Additional Independent Variables Distribution

Variable	N		Percentage	Variable	N		Percentage
dsguide	225	Yes	67.8%	Sdotpoli	230	Yes	88.0%
		No	32.2%			No	12.0%
			100.0%				100.0%
stlaws	230	Yes	68.2%				
		No	31.8%				
			100.0%				

Table 31: Control Variable Distribution

Variable	N	Centralization	Percentage	Variable	N	Sex	Percentage
centrali	225	Centralized	68.9%	sex	230	Female	14.3%
		Decentralized	31.1%			Male	85.7%
			100.0%				100.0%

Variable	N	District Population	Percentage	Variable Percentage	N	SDOT Yrs	
populate	227	less than 500,000	48.5%				
		500,000 – 1 million	17.6%	sdotyrs	229	1 – 10	13.1%
		1.0 – 1.5 million	10.6%			11 – 20	33.2%
		1.5 – 2.0 million	7.4%			21 – 30	43.7%
		2.0 – 2.5 million	3.1%			31 – 40	21.4%
		more than 2.5 million	8.8%			41 – 47	1.7%
		Don't Know	4.0%				100.0%
			100.0%	Mean 22.23			
				Std. Dev. 9.99			

Bivariate Analysis of Predictors of Authentic Public Participation

Bivariate Analysis

A bivariate analysis was performed of the eight independent variables and the four control variables to identify any statistical relationships with the dependent index variable Authentic Public Participation (app1inde). This analysis is important to provide a view of the independent variables before they are entered into the multivariate analysis. Once the multivariate analysis begins, the true relationship between the independent variables and the dependent variables is affected as each of the independent variables influences the entire model.

A review of the correlation table reveals that four of the eight independent index variables are all positively and significantly correlated with the dependent index variable Authentic Public Participation at $p < .001$ (Table 32). The index variable Community Rivalry (comrival) is the only variable that is not significant with the dependent variable with a Pearson Correlation Statistic of $-.030$, $p > .05$.   The strongest association was the variable Innovation ($.733$, $p<.001$) followed by: Community Collaboration ($.389$, $p<.001$), Bureaucracy ($.338$, $p<.001$), and Ethics ($.333$, $p<.001$).

Both of the other independent variables are negatively and significantly correlated with the dependent index variable Authentic Public Participation. The independent variables District Guidelines ($-.288$, $p<001$) and SDOT Policies ($-.171$, $p<.05$) are negatively correlated. A review of the four control variables reveals that only Centralized is positively associated and statistically significant with the dependent variable ($.205$, $p < .01$).

The bivariate scatterplots (Figure 4) for the independent variables show apparent

normality and does not suggest the need for data transformation.
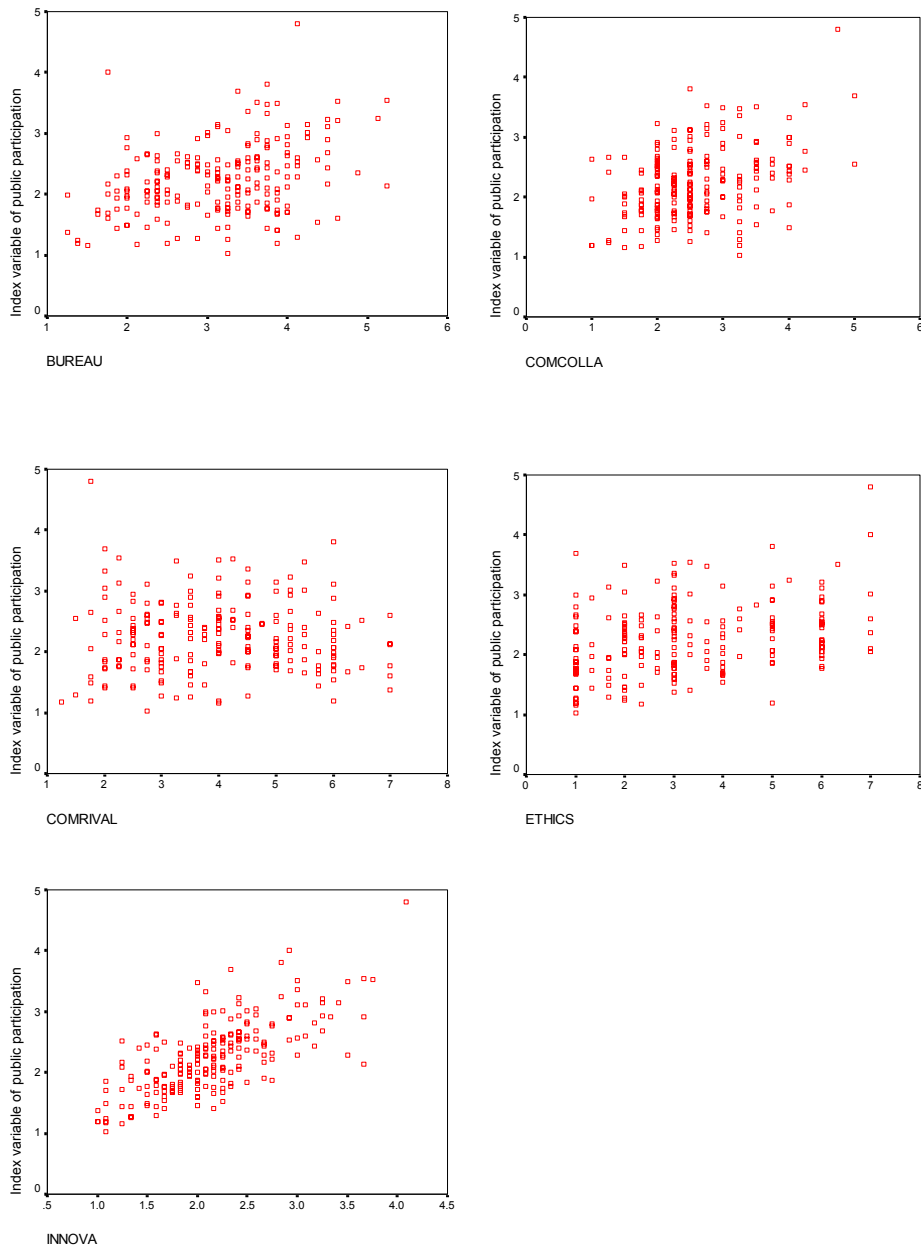
n = 226

Figure 4: Bivariate Scatterplots for Independent Variables

Table 32: Correlations between Authentic Public Participation and Predictor Variables

	app1inde	bureau	comcollab	comrival	ethics	dsquide
app1inde	1.000					
bureau	.338***	1.000				
comcollab	.389***	.115	1.000			
comrival	-.030	.039	-.217***	1.000		
ethics	.333***	.260***	.039	.224***	1.000	
dsguide	-.288***	-.199**	.052	-.112	-.305***	1.000
sdotpoli	-.171*	-.054	-.047	.127	-.137*	.169**
stlaws	-.112	-.118	.086	-.067	-.145*	.260***
centrali	.205**	.184**	.176**	-.070	.009	-.122
populate	-.009	-.014	.196**	-.174	-.203**	.182**
sdotyrs	.062	-.009	.088	-.055	.100	-.140*
sex	-.035	-.019	.075	-.068	.141*	-.073
innova	.733***	.470***	.364***	-.042	.337***	-.308***

	sdotpoli	stlaws	centrali	populate	sdotyrs	sex	innova
sdotpoli	1.000						
stlaws	.173**	1.000					
centrali	-.147*	-.033	1.000				
populate	-.032	.076	-.027	1.000			
sdotyrs	-.069	-.036	.068	-.084	1.000		
sex	-.039	-.013	.077	-.163	.201**	1.000	
innova	-.147*	-.083	-.206	-.088	.086	-.027	1.000

*p < .05   **p < .01   ***p < .001

A multiple regression model was prepared for this research to test the hypothesis

that Authentic Public Participation (appe1inde) in SDOT districts occurs when:

- District senior and program managers are willing to seek exemption from bureaucratic frameworks (Bureaucracy)
- Ethics training is provided to the district staff that enhances professionalism (Ethics)
- District senior and program managers are willing to adopt new ideas and innovation (Innovation)
- Good relations and collaboration exists with, and within, the community served by the district (Community Collaboration)
- There are few rivalries, competition, or disagreements between community leaders (Community Rivalry)
- Guidelines exist at the district level that affect district public involvement programs (District Guidelines)
- Policies exist at the SDOT level that affect district public involvement programs (SDOT Policies)
- Laws exist at the State level that affect district public involvement programs (State Laws)

Multivariate analysis is used to enable the primary hypothesis to be tested as rival

affects are used for control. As previously discussed, the rival affects that are used in for

control in the model include:

- Whether a district operates within an SDOT that is centralized (Centralized)
- The resident population of the district (District Population)
- The number of years that the respondent to the survey has worked at the SDOT (SDOT Years)
- The sex of the respondent to the survey (Sex)

Multivariate Results

The overall Model Fit and Statistical Results:

app1inde = (Bureaucracy + Ethics + Innovation + Community Collaboration + Community Rivalry + District Guidelines + SDOT Policies + State Laws + Centralized + District Population + SDOT Years + Sex + e)

Multiple regression analysis revealed that the model significantly predicted the existence

of at least one of the independent variables as a predictor of Authentic Public

Participation in SDOT districts, F = 18.985 (p<.001). R-squared for the model was .552,

and adjusted R-squared was .523. The model accounts for 52.3 percent of change in the

dependent variable Authentic Public Participation (iapp1inde). However, only three of

the five independent variables tested in the model are positively associated and

significant with the dependent variable when controlled for all other variables in the

model (Table 33).

Table 33: Multivariate Results with Authentic Public Participation as Dependent Variable

Variable:	**Coeff.**	**Beta**	**T**	**Sig.**	**VIF**
Constant	.642				
Innovation	.592	.587	8.849	**.000**	1.819
Community					
Collaboration	.127	.165	2.887	**.004**	1.349
Ethics	4.152	.120	2.078	**.039**	1.386
Bureaucracy	-4.78	-.007	-.113	.910	1.430
Centralized	4.181	.033	.626	.532	1.113
Community					
Rivalry	-4.36	-.001	-.019	.985	1.182
District					
Guidelines	-.102	-.082	-1.456	.147	1.307
Population	9.566	.030	.551	.582	1.188
SDOT Policy	-6.97	-.004	-.073	.942	1.127
SDOT Years	-9.49	-.016	-.310	.757	1.089
Sex	-6.10	-.035	-.664	.508	1.128
State Laws	2.309	.000	.003	.997	1.116

R2 = .552, Adjusted R2 = .523, F statistic = 18.985 (p<.001)

n = 198

Table 34: Tests of Normality

Kolmogorov-Smirnov	Kurtosis	Skewness
.088	.481	.338

Tests of Normality

Multiple regression requires that certain data assumptions not be violated if the model is to be validated. Specific normality tests include:

- Normality – The error terms must be normally distributed
- Collinearity – There should be no linear relationships between or among the independent variables in the regression
- Homoscedasticity – The variance must be constant across the error term. The data should be heteroscadistic.

Two primary methods are used to test for the normal distribution of error terms. First, a visual inspection of a histogram of the error terms reveals that the error terms are normally distributed with only minor deviation from normality. The Kolmogorov-Smirnov statistic is also used to test that the distribution of the error terms. This test is extremely sensitive to variations from normal distribution and a desirable statistic is set at a .05 threshold. The Kolmogorov-Smirnov statistic is less than the desired threshold (Table 34). This means that we fail to reject the null hypothesis that the residuals are normally distributed. Further, Kurtosis and Skewness statistics of less than 1.0 indicate acceptable values for the distribution.

The Variance Inflation Factors (VIF) statistic is used to identify issues of multicollinearity with the independent variables in the regression model. A VIF score greater than 5.0 suggests threshold concerns about multicollinearity between independent variables (Hair, Tatham, Anderson, and Black, 1998). All reported values are far less

than the acceptable threshold. This means that there are no issues of multicollinearity among the independent variables.

A visual inspection of the frequency distribution of the dependent and independent variables confirms an acceptable distribution of model variables. Issues of homoscedasticity or the equal variance of the error term across the different values of the independent variables must be satisfied. Any presence of heteroscedastic data, or non homoscedasticity data, casts doubt on the validity of the F test and the overall model. The presence of heteroscedastic data can be identified using a residual plot comparing the standardized residuals (ZRESID) against the standardized predicted value (ZPRED). The analysis of the plot indicates none of the patterns that would result in problems to the model.

The results of the data analysis suggest that no data transformation is necessary for the multiple regression model.

It can be seen from Table 33 that Innovation provides the most influence and the highest level of significance (Beta = .587, p<.001) in the overall model. Community Collaboration provides the next level of influence (Beta = .165, p<.01) on Authentic Public Participation, though that influence is relatively weak when compared to Innovation. Ethics provides the third and final level of influence (Beta = .120, p<.05) on Authentic Public Participation.

It is interesting to note that in the bivariate analysis variables Bureaucracy and Centralized are positively and significantly correlated with Authentic Public Participation, however when controlled for the other independent variables in the model, both variables fail to be correlated with the dependent variable (p>.05).

Histogram

Dependent Variable: Index variable of public pa

Scatterplot

Dependent Variable: Index variable of public pa

Partial Regression Plot

Dependent Variable: Index variable of public p

Partial Regression Plot

Dependent Variable: Index variable of public p

Partial Regression Plot

Dependent Variable: Index variable of public p
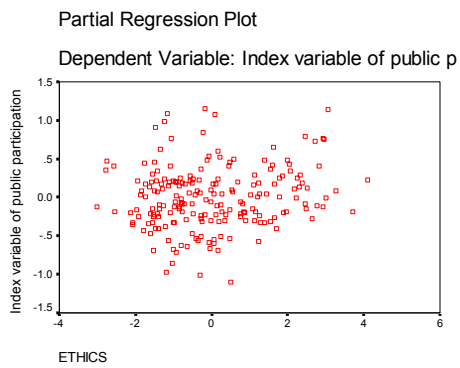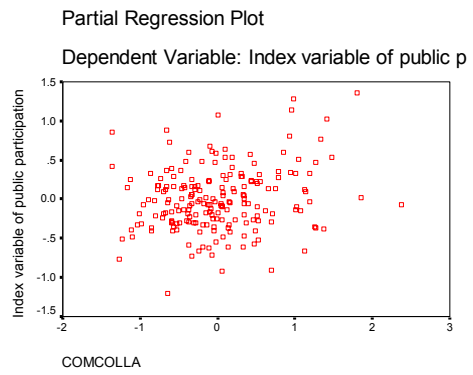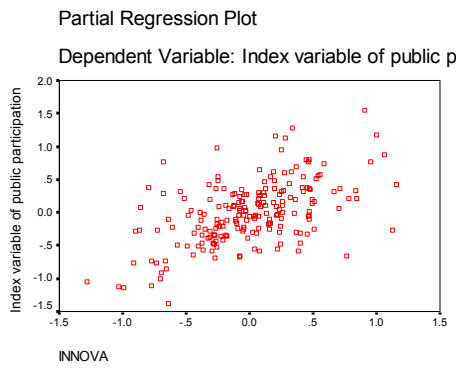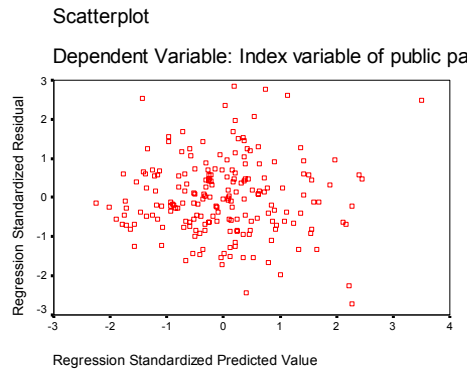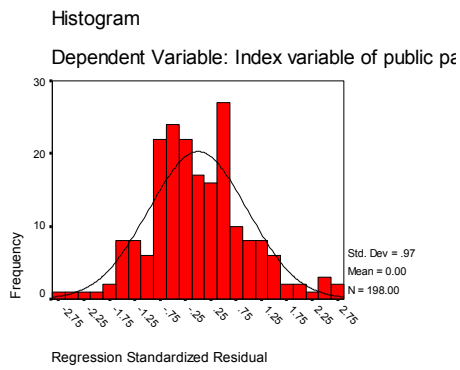
n = 198

Figure 5: Distribution of Regression Residuals

Hypotheses Test Results

The research questions are supported by ten project hypotheses. Statistical results

for the hypotheses are summarized in Table 35 and are stated as follows:

Table 35: Hypothesis Results

Hypothesis	Bivariate Result	Multivariate Result
H1	N/A	N/A
H2	**Accepted**	Rejected
H3	**Accepted**	Rejected
H4	**Accepted**	**Accepted**
H5	**Accepted**	**Accepted**
H6	**Accepted**	**Accepted**
H7	Rejected	Rejected
H8	**Accepted**	Rejected
H9	**Accepted**	Rejected
H10	**Accepted**	Rejected

Research Question # 1: To what extent do State Departments of Transportation district public involvement programs achieve authentic public participation?

H1

It was hypothesized that fewer than twenty five percent of SDOT districts achieve Authentic Public Participation. The analysis utilizing the Aggregate Measure of Public Participation, Medium Standard, found that 19.6% of districts Achieve Authentic Public Participation (3.2% Very High Authentic Participation and 16.4% Authentic Public Participation).

Research Question # 2: What are the predictors of Authentic Public Participation in State Departments of Transportation Districts?

H2

It was hypothesized that the broader use of public participation tools increases the authenticity of public participation that occurs in SDOT districts. The analysis utilizing the Aggregate Measure of Public Participation, Medium Standard found a greater use of all participation tools by districts that achieve higher levels of authenticity. Districts in the combined authentic category used all types of participation tools more frequently than did those districts in the acceptable and token categories. Districts in the combined authentic category utilized interactive tools more frequently than districts in the acceptable and token categories. The differences in the use of interactive tools were significant (.246, p < .01).

H3

It was hypothesized that the willingness of district senior and project managers to seek exemptions from bureaucratic rules is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that the willingness of district senior and project managers to seek exemptions from bureaucratic rules is associated with Authentic Public Participation (.388, p<.001). However, when included in the multiple regression model and controlled for other independent variables, the willingness of district senior and project managers to seek exemptions from bureaucratic rules was not longer associated with Authentic Public Participation (p>.05).

H4

It was hypothesized that the willingness of district senior and project managers to adopt new ideas and innovation is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that the willingness of district and project managers to adopt new ideas and innovation is associated with Authentic Public Participation (.733, p<.001). When included in the multiple regression model and controlled for other independent variables, the willingness of district senior and project managers to adopt new ideas and innovation continued to be associated with Authentic Public Participation (p<.001).

H5

It was hypothesized that ethics training for district staff is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that ethics training for district staff is a predictor of Authentic Public Participation (.333, p<.001). When included the multiple regression model and controlled for other independent variables, ethics training for district staff continued to be associated with Authentic Public Participation (p<.05).

H6

It was hypothesized that Community Collaboration or the good relations between the district and the community it serves is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that Community Collaboration is a predictor of Authentic Public Participation (.389, $p<.001$). When included in the multiple regression model and controlled for other independent variables, good relations between the district and the community it serves continued to be associated with Authentic Public Participation ($p<.01$).

H7

It was hypothesized that reduced conflict between community leaders served by the district is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that reduced conflict between community leaders served by the district is not a predictor of Authentic Public Participation ($p>.05$). The multiple regression model also found no association between the two constructs ($p>.05$).

H8

It was hypothesized that the existence of SDOT policies regarding public participation is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that the existence of SDOT policies regarding public participation is negatively associated with Authentic Public Participation (-.171, $p<.05$). When included in the multiple regression model and controlled for other independent variables, the existence of SDOT polices regarding public participation was no longer negatively (or positively) associated with Authentic Public Participation ($p>.05$)

H9

It was hypothesized that the existence of District guidelines regarding public participation is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that the existence of District guidelines regarding public participation is negatively associated with Authentic Public Participation (-.288, $p<.001$). When included in the multiple regression model and controlled for other independent variables, the existence of District guidelines regarding public participation was no longer negatively (or positively) associated with Authentic Public Participation ($p>.05$).

H10

It was hypothesized that the existence of State laws regarding public participation is a predictor of Authentic Public Participation. The Pearson correlation coefficient indicated that the existence of State Laws regarding public participation is positively associated with Authentic Public Participation (.173, p<.01). When included in the multiple regression model and controlled for other independent variables, the existence of State Laws was no longer associated with Authentic Public Participation (p >.05).

Results of Qualitative Case Interviews

The self-administered surveys were followed by qualitative telephone interviews with eight districts representing the four categories of participation identified in Aggregate Measure of Public Participation. Two districts were selected randomly from the highest performers in each of the four categories which included: Very High Authentic Public Participation; High Public Participation, Acceptable Public Participation; and, Token Public Participation. The districts that were interviewed provided relevant comments in the areas of the: types of participation tools utilized; interactiveness of the participation tools that are implemented; effects of bureaucratic control and innovation to public participation programs; and, role of community relations to the success of public participation programs.

Districts in each of the four categories of achievement of Authentic Public Participation were asked to describe the most effective participation tools used by their district. The two districts in the Very High categories placed a strong emphasis on public meetings that focus on one-one-one interactions with attendees:

> We use "round-robin" displays (project stations) at meetings to make certain that folks have numerous locations that focus on specific parts of the project. We make sure that every display is staffed and the expert on that topic is the person assigned. This way the person can go right to what area of concern they have and

we have as many answers as possible for them on the spot. If we don't, then we document it and get back to every single concern that was raised. This is a much better way to hold the public meeting, instead of us (the district) getting up in front of a crowd and lecturing for an hour. We can connect with people better this way.

And,

The times we are most successful is when we have provided a lot of opportunities for contact between us and the public, and when we have given a lot of notice about upcoming meetings. Many times at our public meetings we anticipate their questions, as difficult as they may be to answer, and provide written answers for the meeting. We follow up in the meeting with open discussion in an open house format, with lots of district personnel on hand to create a one-on-one dialogue with them.

While districts in the other categories did not identify the importance of one-on-one interactions in their public hearings, one of the districts in the High category did see these meetings as an excellent opportunity to draw out opposition to projects and attempt to sufficiently address concerns by project opponents:

What seems to happen is that folks that oppose projects tend to show up and we think that is a good thing. This takes the mystery out of who is opposing your project and what their concerns are. We try and do what we can to resolve points of conflict with these people. We are a centralized state so at the formal public hearing we are bound by the headquarters, but when we deal with these issues locally we can try to find a work-around.

The qualitative interviews suggest in Table 36 an across the board irritation with bureaucratic requirements and a desire for increased flexibility for consideration of innovative ideas.

Table 36: District Qualitative Responses to Bureaucracy and Innovation

Category Type	Adherence to Bureaucracy	Support for Innovation
Very High District	Without bureaucracy we could move forward to implement projects faster. Of course we would need to ensure checks and balances in what we do so that we would not have to re-do work. But, we sure could get things done quicker.	We are not bound by any linear process. Our goal is to sell the project to the public in a way that they can understand. We want to find the right way to communicate with people.
High District	Being a centralized agency we are drastically impacted by bureaucracy. I am very frustrated with not being able to respond to the public at formal hearings because of our rules.	I don't think there is a lot of opportunity to innovate at the formal level, but we can and should do a lot at the local level.
Acceptable District	We're government. We have to have rules even though we can't get as much done as we would like because of them.	There is discretion in every project depending on the type of work at hand. They all work through the head designer.
Token District	A lot of our bureaucratic limitations before I started in this job (as district administrator) were put on us by my predecessor. I am working to undo that. We should be better able to do public involvement moving forward.	The tight reins on our public involvement implementations are gone now. I expect innovation now.

The qualitative interview with one district in the high category revealed a strong belief in

community task forces for large projects. This preference was gained from the formation

of a task force which turned around public opinion and support for a very high profile and

controversial district project:

We had a very controversial and important project on our hands…several public meetings had been held and not only did we not have public buy-in, but with each meeting the public was becoming more unified against the project. The Mayor set up a ten person task force regarding the project, so DOT met with them to address concerns. It was an eye-opener. Meeting with the task force and being able to have calm discussions about the project made a huge difference. Even though decisions made by the DOT were the same as before, the public felt that it had been heard. The project was saved.

CHAPTER FIVE: CONCLUSION

A review of the results of the bivariate and multivariate analysis reveals differences in the correlation of several independent variables with the dependent variable from one test type to the other. By its design, the multivariate analysis is a more stringent test of the possible correlation of independent variables with a dependent variable. In a bivariate analysis, relationships between variables are tested between only two variables at a time. In multivariate analysis all independent variables are controlled for each other as they are tested individually for their relationship with the dependent variable.

The difference in results for the two models and their consideration within the theoretical framework discussed in the dissertation suggests that the bivariate analysis is an important analytical tool for this study. The existence of a relationship is a threshold for the causation. Although we cannot say that the existence of a relationship leads to a causation, the absence of a relationship precludes causation. Second, although multivariate models are certainly preferred in testing a complex concept such as public participation, numerous variables could play a role in the model development, which leads to possibility of model misspecification and lack of model robustness. 47.5 percent unexplained variation of the participation in the model points out such a possibility.

Summary of Findings

Hypothesis 1 suggested that a majority of SDOT districts do not achieve authentic public participation programs. This was supported in the literature on public participation and planning by Hoover (1994) who found that a majority of States were

doing the minimum or less than the minimum in meeting federal requirements for public participation as set forth in ISTEA (1991). The findings of the study supported this concern and identified numerous predictors of authenticity in these programs. Further, the study created a new methodology for assessing the level of commitment of SDOT districts toward Authentic Public Participation. The study demonstrated the utility of the Aggregate Measure of Authentic Public Participation and concluded that 19.6% of districts achieve desirable levels of authenticity in their programs.

Hypothesis 2 suggested that the broader use of public participation tools increases the authenticity of public participation programs. The study confirmed this hypothesis and supported the calls in the literature on planning and public participation (Arnstein, 1969; Bens, 1994; Bennett, 1997) for sustained interactive public participation programs with increased opportunity for citizen interaction. This "more is better" approach to public participation programs is consistent with Briand's (1993) call for a rolling community convention. The type of participation opportunities that are provided to the citizenry is also important with results from the study also suggesting that the increased use of active participation tools is particularly important to achieving authenticity in public participation programs. In the qualitative interviews that were conducted, the two districts in the Very High categories discussed a strong emphasis on public meetings that focus on one-one-one interactions with attendees while districts in the other categories did not identify the importance of one-on-one interactions in their public hearings.

Hypotheses 3 and 4 address the literature on Organizational Learning and Innovation. While these are two different constructs of organizational management theory, they both deal with the ability or desire of the individual to adapt to his or her

environment. Hypothesis 3 deals with the inclination of the individual senior or project manager to be bound by bureaucratic processes, while hypothesis 4 deals with the willingness of these individuals to adopt new ideas and/or innovations in their projects which may or may not fall under the regulation of bureaucratic controls.

When analyzed in the bivariate model, individually each hypothesis was significant with the dependent variable Authentic Public Participation. However, when included in the multiple regression model, hypothesis #3 (Willingness to Seek Exemptions from Bureaucratic Rule) was no longer significant. This may be due to the individuals who would have to seek the exemptions typically not asking for relief from an adopted rule or policy that is part of the accepted and official decision-making process. The simple existence of these rules alone suggests that they have demonstrated resilience to challenges for their need. As professionals in their field, transportation engineers have undergone extensive training in the engineering sciences and have a strong adherence to technical specification and organizational processes and rules. It is unlikely that, when controlled for other predictors of authenticity in the multiple regression model, that these individuals seek exception to bureaucratic rules frequently enough to positively affect the authenticity of district public participation programs.

The willingness of these individuals to adopt new ideas or innovations remained significant in the multiple regression model. Being innovative does not necessarily require that exemptions be requested and/or granted from bureaucratic rules. Adopting new ideas and innovation can occur within established organizational and technical frameworks. This finding suggests that even when working within the established bureaucratic framework, the willingness of individuals to accept new ways of conducting

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their business has a positive affect on the authenticity of district public participation programs. The qualitative interviews also suggested (Table 35) an across the board irritation with bureaucratic requirements and a desire for increased flexibility for consideration of innovative ideas.

Ethics training for district staff (Hypothesis 5) was found significant in both the bivariate analysis and in the multiple regression model. This appears to be a natural extension of the finding discussed previously where the individual's willingness to learn from public participation programs and to adopt new ideas from these programs that has a significantly associated with the authenticity of these programs. Ethics training deals with the individual and their understanding of the right and wrong of their actions and the noble purpose of public service. The data suggests that those individuals who receive this type of training may be more receptive to inputs from outside the agency and thus more successful at implementing public participation programs that achieve higher levels of authenticity.

The local geographic environment in which districts operate was hypothesized (Hypotheses 6 and 7) as having an impact on the level of authenticity achieved by public participation programs. Two constructs were hypothesized, 1) the effect of conflict within the community served by the district on public participation programs, and 2) the quality of the relationship between the district and the community and its effect on public participation programs. These two hypotheses aim to measure two different aspects of the community environment in which the district operates. The first aspect deals with rivalries within the community which are external relationships to the district in which

the district is not directly involved. The other aspect deals with the direct relationships that the district has with members of the community it serves.

The results from the data suggest that in those aspects of community relations where the district has no direct role (i.e. conflict between community leaders), the public participation programs of the district are not affected. In those aspects of community relations where the district has direct involvement and influence with their relationships with members of the community, the existence of good relations is a predictor of Authentic Public Participation.

It is suggested that in the first situation the district is merely a bystander in the community and is not held accountable for conflicts that exist around it. In the second scenario, the district has participated in creation of the relationship that exists between itself and the community and can therefore be held accountable for that relationship by the public when the relationship becomes negative. In these situations the public becomes increasingly cynical of SDOT programs and resistant to public participation programs, viewing these programs as token in nature and void of authenticity (Lipset and Schneider, 1987; Cisneros and Parr, 1990; Greider, 1992; Gore, 1994; Dubnick and Rosenbloom, 1995). The qualitative interview with one district in the high category revealed a strong belief in community task forces for large projects.

Hypotheses 8, 9, and 10 deal with the existence of state laws, SDOT policies, and district guidelines for development and implementation of district public participation programs. The literature on Planning and Public Participation speaks to the need for increased guidance and oversight from legal sources for public participation programs in transportation (Bens, 1994; O'Connor, et. al., 2000; Poisner, 1996; Maloff, Bilan and

Thurston., 2000; Rowe and Frewer, 2000: Irvin and Stansbury, 2004). The findings of the study only partially support this view.

The existence of state laws is not significantly associated in the bivariate analysis (p>.05) with the dependent variable Authentic Public Participation and is not significant in the multiple regression model (p>.05). The existence of SDOT policies is negatively significant in the bivariate analysis (-.171, p<.05) and becomes not significant in the multiple regression model (p>.05). The existence of district guidelines is strongly and negatively significant in the bivariate analysis (-.288, p<.001) and also loses significance in the multiple regression model (p>.05).

An interpretation of the data suggests that the existence of State Laws, SDOT Policies, and District Guidelines for public participation programs does not have a positive impact on the degree of authenticity of district public participation programs. As the policies or guidelines get closer from a project decision-making perspective to the district decision-makers (senior managers and project managers), these policies and guidelines have an increasingly negative impact on district public participation programs and their ability to achieve authenticity.

The bivariate finding that centralization of an SDOT is associated with Authentic Public Participation appears consistent with the other findings of the research. This is consistent with the notion that the existence of agency controls which are removed some distance from the actual public participation programs is sufficient to provide structure for these programs and appear sufficiently flexible for their implementation in a manner consistent with more desirable participation.

These finding appears consistent with the earlier discussion regarding the individual's willingness to seek exemptions from bureaucratic rules and adopt new ideas and innovation. The existence of laws, policies, and guidelines represent an additional layering of rules that can control the actions of senior and project managers and inhibit their desire to challenge bureaucratic rules and/or adopt new ideas and innovation. These rules thus serve as barriers to individual action by public administrators and work to prevent authenticity from occurring in public participation programs.

Summary Conclusion

The results of the study suggest that most SDOT districts struggle to implement public participation programs that achieve high levels of authenticity. The increased use of public participation tools, specifically those active tools that allow for increased interaction between district staff and the public, can assist districts in achieving higher levels of authenticity in their programs.

Of key importance to achievement of authenticity is the willingness of district staff to adopt new ideas and innovation learned from dealings with the public. District public participation programs benefit from training that increases the individual's acceptance of public participation as a valid mechanism for serving the public.

Further, the adoption of State laws, agency policies or guidelines does not appear to increase the opportunity for districts to increase the degree of authenticity achieved by their public participation programs.

Implications of Study Conclusions for Practice

The implications of the study for practice in SDOTs are discussed in three areas

of practice. These areas include:

- The creation of opportunity for the occurrence of Authentic Public Participation
- The creation of individual ownership of authenticity in public participation
- The creation of a community partnerships to foster authenticity in public participation

The Creation of Opportunity for Authentic Public Participation

The study results identified an association between the increased use of public

participation tools and the existence of authenticity in district public participation

programs. This "more is better" finding has clear implications for the state of current

transportation practice. It is recommended from the finding that SDOT administrators

place a heightened emphasis on increasing the number of public participation tools

utilized in district highway projects. Further, it is recommended that an emphasis be

placed by administrators on utilizing active participation tools to the fullest extent

possible.

The study demonstrated that the use of active tools is associated with authenticity.

These tools provide increased opportunity for the exchange of ideas between project staff

and the public, and thus provide the district with the opportunity to better engage the

public. This closer contact can lead to a better understanding of the true needs, concerns,

and ideas of the public.

It must be cautioned however, that when implementing these active tools

administrators must be careful to deliver on the remaining three dimensional

requirements of authenticity. Every reasonable effort should be made to ensure:

- The representativeness of those that participate
- That the input that is gathered meets the quality requirements and accurately assess the input being given
- That once input is gathered that proper care and attention be given to its use in project decision-making with appropriate feedback provided to the public

Failure to deliver on the dimensional requirements of authenticity can result in negative and undesirable outcomes to the district.

<u>The Creation of Individual Ownership of Authenticity in Public Participation</u>

The study results identified an association between the existence of ethics training for district staff and authenticity in public participation. The study also found an association between the willingness of district senior and project managers to adopt new ideas and innovation and authenticity in public participation programs. Additionally, a negative association was found between the existence of state laws, SDOT policies and district guidelines, and the dependent variable authenticity.

The implications of these findings suggest that SDOT administrators should strive to create an ownership within the agency individual of authenticity. This can be accomplished through:

- Increased professional training in the areas of ethics and public involvement programs
- Modifications to the organizational and legal structures that place bureaucratic controls on the processes of public participation programs and the individuals who work within them
- Enhanced leadership on the part of the SDOT administrators to support an ethic of authenticity in the agency

Increased professional training in the areas of ethics and public involvement programs can assist employees in better understanding the link between participation programs and the rights of citizens to participate in their own governance. It is suggested

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that SDOT administrators review established training programs and curriculums within their agencies and work to introduce concepts of authenticity into materials that are taught. Further if there are few opportunities for this type of training to occur, it is suggested that SDOT administrators encourage agency leadership to add courses on this topic and/or modify course curriculums to include relevant information. Providing increased exposure to this type of training will result in a better trained and more aware workforce which is more likely to achieve authenticity in public participation programs.

It is suggested that SDOT administrators review organizational structures and processes that serve to either allow new ideas/innovations into decision-making processes or inhibit their introduction. Modifications should be considered to these structures and processes to create a decision-making environment within the district that is recognized by staff and the public as welcoming new ideas and innovation to district programs.

It is also suggested that SDOT administrators review existing state laws, SDOT policies, and district guidelines relating to public participation programs to assess:

- The purpose of each law, policy, or rule
- Their benefit to public participation programs in the context of authenticity
- The effect each has on the ability of district staff successfully implement public participation programs that are customized to the individual projects

SDOT administrators should review these laws, policies, and rules searching for obstacles to innovation in public participation. Consideration should be given to modification of these directives when they are found to be repetitious, onerous, or unjustified in their reasoning or logic.

<u>The Creation of Community Partnerships</u>

The study findings suggest that the existence of good relations between the

district and the community it serves is associated with Authentic Public Participation. It

is suggested that district administrators undertake an inventory of the status of

relationships that exist between the district and members of the community they serve.

While not every relationship can be characterized or even identified, the inventory should

be broad enough to include those agencies, groups, or individuals who are affected by

district programs or that can affect the district's ability to carry out its mission. The

inventory should identify the status of the relationships and suggest a plan for improving

those relationships that may be strained.

While it is also recognized that not all relationships can be positive all the time,

the benefits of working toward good community relationships was demonstrated by the

findings of the study.

Implications of Study for Future Research

A criticism of the literature on public participation is the lack of benchmarks and

tools to measure the effectiveness or the even the state of public participation programs.

As previously discussed there exists concern that most efforts at implementation of public

participations program lack effectiveness and true engagement of affected stakeholders.

While there is no single dominant theory on public participation, this study attempted to

build upon the work of numerous researchers by introducing a more comprehensive

framework for citizen involvement in governmental public participation programs. The

construct of Authentic Public Participation in SDOT transportation programs is defined

as consisting of four dimensions to include: Representativeness, Interactiveness, Use of Public Inputs, and Quality. This study provides new insights into the public participation programs of SDOT districts and serves to quantify numerous predictive aspects of existing programs nationwide. The study also provides implications for future research to expand on the new knowledge gained.

Future Research Utilizing the Aggregate Measure of Authentic Public Participation

The current study created a new tool for assessing the authenticity of SDOT public participation programs called the Aggregate Measure of Authentic Public Participation. This tool provides a robust methodology for categorizing the performance of SDOT districts regarding public participation programs. Utilizing the current study results as a baseline for the state of practice in SDOT districts, future research can be conducted to monitor the progress of SDOT districts in implementation of public participation programs to identify changes that may be occurring relative to the achievement of authenticity and to reveal the causes of those changes. Additionally, future research can be done to conduct case studies of districts that fall into each of the categories of public participation to better understand the key differences between districts that cause them to achieve different levels of authenticity. Additional insights and understanding can be gained from more detailed qualitative analysis of these district case studies to identify attitudinal, process, and program differences that may impact implementation of public participation programs.

<u>Research Implications Regarding the Use of Public Participation Tools</u>

While the current study provided new insights into the utilization of participation

tools and their relationship to the existence of authenticity in SDOT district programs,

detailed information about differences in how these tools are implemented remain not

known. The study revealed that the use of participation tools and especially active tools

is associated with authenticity. However, we do not know from the study:

- How these participation tools are implemented in practice
- What differences exist in the manner in which SDOTs utilize key features of the participation tools
- Why SDOTs select some tools for use and not others
- The degree of contribution that each type of participation tool makes toward achievement of authenticity when utilized
- What the optimum combination of participation tools for implementation should be for SDOT districts

These items are suggested as areas for future research inquiry.

<u>Research Implications Regarding Professional Training for District Staff</u>

The current study identified a relationship between the existence of ethics training

for district staff and authenticity in public participation programs. While we now know

that this relationship exists, we do not know what key elements in this training are

beneficial to SDOT public participation programs. Future research could focus on the

ethics training that does occur to better understand the elements of this training that

resonate with Authentic Public Participation. This research could also strive to identify

other types of professional/academic training that share these elements and would be

beneficial to SDOT programs.

Research Implications Regarding External District Relationships

The study identified an association between district and community relationships

and the authenticity of public participation programs. While the importance of these

relationships is now known, numerous implications for future research exist:

- Are all relationships equal in their importance, or are some more vital than others?
- What is the degree of marginal or poor relationships that can exist before SDOT programs are negatively impacted?
- What impact do shared relationships between districts that are in close geographic proximity have on each district's public participation programs?

Additional research questions arise that deal more specifically with relationships

of the district as part of a statewide organization:

- How does the relationship of the district and SDOT impact district public participation programs?
- How does the relationship between the district and the SDOT impact relationships between the district and the community it serves?

Research Implications Regarding the Existence of Bureaucratic Rules

The current study identified a negative relationship between the existence of

SDOT Polices and District Guidelines, and Authentic Public Participation. While this

new knowledge provides insights into the predictors of authenticity, it is theorized but not

precisely known why these forms of bureaucratic rules have the identified impact on

authenticity. Future research questions include:

- Why specifically do individuals within the SDOT districts react to these forms of bureaucratic rule as indicated in the current study?
- What aspects of SDOT Policies and District Guidelines have the most negative impacts on district public participation programs?
- What is the compliance profile with each of the types of bureaucratic rules that are utilized by districts?
- What would individuals in SDOT districts find to be the most acceptable and useful combination of bureaucratic rules for use in district public participation programs?

Limitations of the Study

This research project evaluated the public participation programs of SDOT districts throughout the United States. Previous studies into these types of programs have dealt with varying individual aspects of public participation, with little previous research which ties together multiple aspects of participation. The construct of authenticity is discussed in the literature on public participation and planning, though the elements of what constitutes authentic participation are not all inclusive in any one location. This study draws together these elements and presents a holistic construct of authenticity. The study utilizes the new construct to evaluate SDOT district performance and to identify the predictors of authenticity.

This research is best described as explanatory because it seeks to utilize multiple research techniques to advance knowledge regarding the existence of desirable public participation at SDOT districts. The project seeks to measure public participation programs in a new way with the creation of a new methodology to assess SDOT district performance and is based on a construct of authenticity which has been expanded for this project. Additionally the research also seeks to identify factors or predictors of authenticity that explain levels of variation in the existence of authenticity in public participation programs.

The unit of analysis for this study is the district, which is a subset of the SDOT. Districts are subject to controls from the SDOT. The district was chosen as the unit of analysis because it is the organizational unit responsible for project implementation and public participation programs. SDOTs were eliminated from consideration as the unit of analysis due to the broad nature of organizational decision-making regarding public

involvement programs from a statewide perspective and the limited number of survey points.

A limitation of the research relates to the bureaucratic relationship that exists between state and district level officials. The degree of centralization or decentralization that is delegated from the SDOT central office to the district across States can affect the perceptions of public participation programs at the individual district level. While SDOT/district decision-making arrangements operate on a continuum of centralized to decentralized in practice, the typical SDOT implementation adopts a more centralized or decentralized approach. This variation in decision-making models between States has the ability to influence public participation responses from district administrators because of the latitude - or lack of latitude - given by the state to the district to establish its own methods of making decisions.

Senior district administrators were surveyed to gain their assessment of district public involvement programs. The subordinate relationship of the individual districts to the statewide SDOT can have influence over district individuals completing the survey causing them to answer questions in a manner more acceptable to the larger organization. Because of these reporting relationships and their influence on respondents, survey responses may not be a fully accurate depiction of the causes, processes, and outcomes of public participation that occur in practice at the district level.

Another limitation of the survey is the reliance on the response of the senior district administrator to represent the causes, processes, and outcomes of the public participation activities of their respective district. While a question within the survey sought to identify the position or title of the respondent, it cannot be confirmed with

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complete confidence that the responses received in the self-administered survey are in reality those of the senior district administrator. It remains possible that the task of completing the survey was delegated to another district level individual.

Additionally, it is recognized that the responses are those of the senior district administrator as seen from their perspective with the inherent biases, experiences, education, and training that are resident with that individual. The perception of what is occurring at the district level is that of the individual and cannot be confirmed in this study. The assumption is made that as the senior administrator for the district this individual possesses sufficient leadership skills, experience, training, education, cognitive balance, and other skill sets necessary to fairly assess and respond to those questions that are forwarded in the self-administered survey.

It was also not possible in this research to identify the full range of organizational and environmental influences that are predictors of authenticity in SDOT districts. Those influences that were included in the research project were identified based on the theoretical framework. The results of the multivariate regression model revealed evidence of the existence of additional variables that serve as predictors of authenticity. While the model explained 52.5 percent of authenticity as defined by the independent variables in the model, 47.5 of the predictors of authenticity are explained by variables or influences that were not considered in the model.

Finally, limitations exist regarding the generalization of the research findings to other public participation programs. While the current project methodology ensures generalization to the population of SDOTs in the United States, the same is not true to all other forms of government bodies. It is possible to generalize many of the findings of

this research to other highly technical transportation agencies that do have direct citizen oversight, such as special districts in and out of transportation.

These special districts could include other transportation agencies such as expressway authorities and transit agencies that are transportation providers and are provided oversight by appointed boards where citizens do not have direct elective oversight and influence. Further, other special governmental districts such as public utility providers which also have appointed boards and are based on a highly technical field could also share many of the characteristics of SDOT districts in the challenges of implementing public participation programs. However even with these similarities, further research regarding the public participation programs in these entities should carefully consider differences to SDOT districts in formulation of the research construct.

Generalization of the current research findings to agencies directly reporting to elected bodies such as county public works departments reporting to an elected county commission is not advised due to the differences in agency accountability and factors of increased political controls on the agency.

APPENDIX A
A HISTORY OF FEDERAL LAWS RELATING TO PUBLIC PARTICIPATION

The practice of public involvement in transportation planning has been an evolutionary process with roots dating back to the creation of the Dwight D. Eisenhower National System of Interstate Highways in the Federal-Aid Highway Act of 1944. Congressional passage of this landmark legislation in 1944 marked the beginning of the modern day network of Interstate highways across the United States. The result has been the planning, development and implementation of more than 44,000 miles of limited access roadway in all 50 states. From 1950 until 1969, planning and development of the Interstate system was heavily controlled by state road building agencies, with limited Federal or State legislative guidance regarding citizen participation.

Environmental Justice in Transportation: A Legal Framework

A citizen's right to participate in American governance is grounded in the Constitution of the United States. However, not all citizens were truly equal in the new democracy. Early citizenship in the United States was predicated on the individual being a white male landowner with realization of true equality among citizens not beginning to evolve until after the civil war. The Civil Rights Act of 1866 (42 U.S.C. 1981) attempted to address the interpretive shortcomings of the U.S. Constitution regarding individual rights by expanded those rights to all include lawful residents, stating:

> "All persons within the jurisdiction of the United States shall have the same right…to make and enforce contracts, to sue, be parties, give evidence, and to the full and equal benefit of all laws and proceedings, for the security of their persons and property as is enjoyed by white citizens…"

While the Civil Rights Act of 1866 predated the modern transportation era, it did serve as a foundation of the Environmental Justice framework that guides modern State transportation planning and public involvement programs. The one hundred years

following passage of the 1866 law, witnessed the federal government continuing to add limited civil protections to non-white populations. Protections for numerous areas of commerce to including real estate transactions were granted to minority populations during this period (42 U.S.C. 1982).

Despite the existence of new federal laws granting non-white populations new rights, the century following passage of the 1866 civil rights law witnessed widespread violations of these new protections. Civil unrest and protests among minority populations peaked in the early 1960s and resulted in passage of the Civil Rights Act of 1964 (42 U.S.C. 36010-3619). The 1964 Act specifically addressed a person's race, color, and national origin and further prohibited discrimination against any individual involved with or benefiting from, or affected by any federal program, stating:

> "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

With the 1964 civil rights legislation as its foundation, passage of "The National Environmental Policy Act of 1969" (NEPA, 1970) served to establish a national policy for environmental protection and citizen participation in major federal initiatives such as the Interstate highway program. NEPA created a framework for Environmental Justice whereby federal, state, and local governments were directed to work with public and private organizations in a manner, "to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." NEPA also created the Council on Environmental Quality (CEQ). The

CEQ adopted regulations for implementing NEPA requiring agencies to make diligent effort to involve the public in preparing and implementing federal transportation projects.

The Federal-aid Highway Act of 1970 (23 U.S.C. 109h) established additional requirements for the equitable treatment of communities being affected by transportation projects. Impacts to residences, farms, businesses, and other community resources were now required to be considered in transportation planning.

In 1994, President Bill Clinton signed Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations into law. The Executive Order required that each federal agency, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations.

Accordingly, the United States Department of Transportation (USDOT) through the Federal Highway Administration and the Federal Transit Administration adopted wide ranging policies regarding protection of both the physical and social environment when planning and implementing federal, state and local projects that utilized federal funds (FHWA, 1994; USDOT, 1995a; USDOT, 1995b; FHWA, 1998a; USDOT, 1999; USDOT, 2000). These policies controlled the outflow of federal funds to local and state governments and were the driving regulations regarding public involvement until the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA, 1991) and the Transportation Efficiency Act for the 21st Century (TEA-21, 1998).

ISTEA further supported Environmental Justice and sought to take a more proactive approach to citizen participation by expanding public involvement within the

transportation planning process. Federal intent on the reliance of agencies on a formal public hearing as the centerpiece of public involvement activities was considerably broadened. ISTEA encouraged states to look to a continuous citizen engagement by setting forth that "public involvement is more than just a hearing, or one meeting near the end of the process. It needs to be an early and continuing part of the process."

With public involvement in transportation investment decision-making now central to the vision of ISTEA, six key elements were identified in planning for effective public involvement:

- Clearly-defined purpose and objectives for initiating a public dialogue on transportation projects
- Identification of specifically who the affected public and other stakeholder groups are with respect to the projects
- Identification of techniques for engaging the public in the process
- Notification procedures which effectively target affected groups
- Education and assistance techniques which result in an accurate and full public understanding of the transportation problem, potential solutions, and obstacles and opportunities within various solutions to the problem
- Follow through by public agencies demonstrating that decision-makers seriously considered public input.

APPENDIX B
THE FLORIDA PUBLIC PARTICIPATION MODEL

State Departments of Transportation (SDOTs) are defined as the broad purpose state agencies responsible for the planning, development, construction, and operation of transportation infrastructure and services in each of the 50 States. The SDOTs typically employ a large in-house workforce (FDOT, 2003a). Since a large portion of their annual funding comes from the federal government (FHWA, 1998b), state agencies are required to comply with federal laws, policies, standards, requirements, and guidelines on how those funds are expended.

The Florida Department of Transportation (FDOT) is a State agency reporting to the Governor of Florida. The department is headed by a Secretary of Transportation who serves as the Chief Administrative Officer. The FDOT Central Office is primarily responsible for establishing policy and monitoring agency performance. The FDOT is a decentralized agency where operational decisions are made at the district level. FDOT is made up of eight districts and Florida's Turnpike Enterprise. Although a part of the FDOT, the Turnpike Enterprise manages 443 miles of tolled limited access highways statewide and operates independently from the day-to-day functions of the department.

Each of the eight districts is managed by a District Secretary and has major organizational divisions for administration, planning, production, and operations. Each district also has a public information office and general counsel office that report to the District Secretary. The FDOT employs over 8,500 full time employees statewide and is supported by thousands of additional consultants, contractors, and vendors in the delivery of transportation infrastructure to the State.

The FDOT has an annual budget of $4.6 billion in fiscal year 2000/2001 and a $25.4 billion five-year work program. The State Highway System is comprised of

39,703 lane miles and 6,253 bridges. The department also is involved in the oversight of (FDOT, 2003a):

- 828 aviation facilities (131 are public of which 20 have scheduled service)
- 23 Fixed-route Transit Systems
- 14 seaports
- 2,888 railway miles

The FDOT is provided citizen oversight by the Florida Transportation Commission. Created in 1987 by the Florida Legislature, the nine-member commission is independent of the FDOT.

Florida law requires that the Transportation Commission membership be "equitably representative" of all geographic areas of the state. Commissioners meet monthly, serve four-year terms, and are prohibited from involvement in the day–to-day activities of the department.

While federal requirements relating to transportation planning and public participation apply to all States and MPOs, the interpretation and implementation of these requirements varies by agency. Florida, like all States, uses Federal laws as a beginning point for its planning processes and participation requirements. Florida Statutes (F.S. 339.155; F.S.339.175) describe the SDOT and MPO planning processes, respectively. Though a bit expanded, the Statutes contain nearly identical language to Federal laws. Florida law requires completion of The Florida Transportation Plan by the SDOT. This plan contains both a long-range component covering a 20-year period and a short-range component covering a one-year period. The Florida Transportation Plan meets all federal requirements.

However in a significant enhancement to public participation requirements, Florida law requires that public hearings be held at key project decision-making points in the engineering process. These decision points occur in the Project Development & Environment and Engineering Design phases of the project when specific decisions about how an existing project may be improved or where a new roadway alignment may go. These project decisions occur after the project planning phases and are supplemental to Federal public hearing requirements. Florida Statutes 339.155 (6)(b) states:

> "During development of major transportation improvements, such as those increasing the capacity of a facility through the addition of new lanes or providing new access to a limited or controlled access facility or construction of a facility in a new location, the department shall hold one or more hearings prior to the selection of the facility to be provided; prior to the selection of the site or corridor of the proposed facility; and prior to the selection of and commitment to a specific design proposal for the proposed facility. Such public hearings shall be conducted so as to provide an opportunity for effective participation by interested persons in the process of transportation planning and site and route selection and in the specific and design of transportation facilities."

The Florida requirement of three additional public hearings during project engineering provides significant opportunities for citizen input into the specifics of a project. Combined with the development of the annual short-range component of the Florida Transportation Plan, affected stakeholders are provided a minimum four opportunities to comment on a project prior to it going to construction.

Chapter 8: Public Involvement

The Florida Department of Transportation (FDOT) has developed the Project Development and Environment Guidelines (FDOT, 2003b) to provide guidance to project engineers as they work a project through the PD&E phase. It is in this project phase that

roadway corridors and alignments are selected and that State mandates for public hearings first occur in the engineering of a project.

"Chapter 8: Public Involvement" provides general and specific guidance and rules for conducting public involvement at the individual project level. In addition to providing guidance in the PD&E phase, Chapter 8 is also frequently utilized by other SDOT engineers working on projects in subsequent engineering phases to guide their public involvement programs. Chapter 8 is 74 pages in length and provides narrative, exhibits, forms, and other materials related to public involvement for use by project managers.

As articulated in Chapter 8, the intent of public involvement at FDOT is to fully inform and involve all interested public officials and special interest groups in the development of transportation projects. FDOT policy supports the notion of an engaged citizenry in transportation decision-making calling for the use of various techniques adapted to local area conditions and project requirements in public involvement.

The purpose of the FDOT public involvement program is to develop and document the methods used to reach the affected people in the community. Public involvement programs are required to be continuous from the planning to construction and are to be consistent from one project to another.

Project engineers are encouraged to utilize a variety of public involvement methods with their projects. Chapter 8 suggests that the methods used should be chosen after the audience is identified and the messages determined. Consistent with frameworks of environmental justice, nontraditional approaches are encouraged to ensure the involvement of all parties, including the traditionally underserved.

Periodic evaluation of the public involvement program is suggested as a way to determine the effectiveness of involvement tactics and strategies. Consistent throughout Chapter 8 are specific and detailed questions to guide the project engineer in implementation of the public involvement guidelines. The engineer is further instructed to record in detail each and every public comment that is received for a project and is encouraged to consider all relevant comments for incorporation into the overall project decision. Lastly, direction is given so that all comments received are provided with detailed responses in a timely manner complete with explanations to all issues raised by individuals or groups.

The guidelines discuss optional participation methods for use by the project engineer. They include active participation tools such as citizen advisory committees for use with highly controversial or sensitive projects and optional informational meetings to promote information sharing between the SDOT and the affected public. Numerous other optional participation tools are discussed in detail including the use of citizen surveys, web pages, and project newsletters.

APPENDIX C
FEDERAL REQUIREMENTS FOR TRANSPORTATION PLANNING AT THE STATE LEVEL

As recipients of federal funding, SDOTs are subject to federal laws relating to transportation planning. Title 23 of the United States Code establishes the laws by which SDOTs conduct statewide transportation planning. Section 135 establishes requirements for development of transportation plans and programs for all parts of a state. These State plans and programs are required to:

> "…provides for the development and integrated management and operation of transportation systems and facilities (including pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system for the United States."

States are directed to carry out a planning process that provides for consideration of projects and strategies that will:

- Support the economic vitality of the United States, the States, and metropolitan areas especially enabling global competitiveness, productivity, and efficiency
- Increase the safety and security of the transportation system for motorized and non-motorized users
- Increase the accessibility and mobility options available to people and for freight
- Protect and enhance the environment, promote energy conservation, and improve quality of life
- Enhance the integration and connectivity of the transportation system, across and between modes of transportation throughout the state, for people and freight
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system.

SDOTs are required to prepare two transportation plans as part of the federally mandated process. The first plan is known as the Long Range Transportation Plan. It provides for the development and implementation of the transportation system for a minimum 20-year period. It should be a financially feasible plan, but can include optional projects that could be implemented if additional funding sources were made available at the state level. The second plan called the State Transportation Improvement

Program (STIP) is required to be submitted at least every two years and is to include those projects within the state that receive federal funding. The (STIP) must be consistent with the Long Range Transportation Plan and can only include projects or project phases of that are funded.

Public Participation in the Federal Process

Citizen consultation is prominent in the federal laws. All sections of law relating to transportation planning include specific requirements for citizen comment (Title 23, U.S.C., Sec. 135). Titled "Opportunity For Comment" all sections contain language stating:

> "In developing the program, the…(agency)…shall provide citizens, affected public agencies, representatives of transportation agency employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of public transit, and other interested parties with a reasonable opportunity to comment on the proposed program."

Additionally, Title 23, Section 128 requires a public hearing(s) be held or the opportunity for a public hearing(s) be afforded to communities for federally funded projects. Without this hearing(s), federal approval is denied. This requirement applies to Federal-aid highway projects involving the bypassing of or, going through any city, town, or village, either incorporated or unincorporated and any Interstate System project. Any public hearing(s) that is conducted must be held at a convenient location and must indicate that consideration was given to the economic, social, environmental and other effects of the plan or highway improvement.

APPENDIX D
OPERATIONAL DEFINITIONS OF RESEARCH VARIABLES

Variable	Operational Definition	Type of Variable
Dependent Variable		
Authentic Public Participation	Construct variable of public participation where the dimensional aspects of Representativeness, Utilization, Interactiveness, and Quality are satisfied	Ordinal
Independent Variables		
Accurate PI (accurate)	Degree to which district accurately assesses public needs. Measured by response to seven point likert scale	Ordinal
Active Select (active)	Degree to which district staff select participation tools that facilitate district staff meeting project stakeholders in person. Measured by response to seven point likert scale	Ordinal
Appeal Process (appeal)	Degree to which district provides processes for stakeholders to appeal project decisions. Measured by response to seven point likert scale	Ordinal
Attracts Representative (attracts)	Degree to which district successfully attracts representative stakeholders to project public involvement programs. Measured by response to seven point likert scale	Ordinal
Business Relations (bizrelat)	Degree to which relations between the district and the business community are positive. Measured by response to seven point likert scale	Ordinal

Centralization (centrali)	Degree to which the SDOT is a centralized or decentralized agency. Measured where:
	  1 = centralized agency
	  2 = decentralized agency
	  3 = balance of both
	  4 = don't know/can't say
		Nominal

Citizens Believe (believe)	Degree to which citizens perceive district public participation to provide sufficient opportunities for the district to correctly assess public needs. Measured by response to seven point likert scale	Ordinal
Collaboration (collabor)	Degree to which collaboration between the district and community leaders is good. Measured by response to seven point likert scale	Ordinal
Correctly Assess (correct)	Degree to which district accurately assesses the views of participants in public involvement programs. Measured by response to seven point likert scale	Ordinal
Dist. Accuracy (dsaccura)	Degree to which citizens perceive that public participation programs in the district ensure that agency managers accurately assess citizen needs. Measured by response to seven point likert scale	Ordinal
Dist. Bureaucracy (dsbureau)	Degree to which district seeks exemptions from agency rules and regulations. Measured by response to seven point likert scale	Ordinal
Dist. Explains (explains)	Degree to which district explains project decisions that are made to stakeholders. Measured by response to seven point likert scale	Ordinal

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Dist. Feedback (feedback)	Degree to which district provides feedback to stakeholders about the status of their input. Measured by response to seven point likert scale	Ordinal
Dist. Guidelines (dsguide)	Existence of project guidelines that affect district public involvement programs. Where: Yes = 1; No = 0	Nominal
Dist. Input Use (inputuse)	Degree to which district uses stakeholder input in project decision making. Measured by response to seven point likert scale	Ordinal
Dist. Learns (dslearns)	Degree to which district learns from new situations. Measured by response to seven point likert scale	Ordinal
Dist. Population (populate)	Population of district. Measured by scale where: 1 = less than 500,000 2 = between 500,000 and 1, 000,000 3 = between 1,000,000 and 1,500,000 4 = between 1,500,000 and 2,000,000 5 = between 2,000,000 and 2,500,000 6 = greater than 2,500,000 7 = don't know/can't say	Ordinal
District Review (revdist)	Degree to which district senior managers review project decisions to ensure public input has been considered. Measured by response to seven point likert scale	Ordinal
Dist. Success (success)	Degree to which district is successful in identifying representative stakeholders when conducting public involvement programs. Measured by response to	Ordinal

seven point likert scale

Dist.Technical (dstech)	Degree to which district is willing to consider changes to technical project decisions when requested. Measured by response to seven point likert scale continuous basis. Measured by response to seven point likert scale	Ordinal
Document PI (document)	Degree to which district requires documentation of public involvement programs. Measured by response to seven point likert scale	Ordinal
Engages Representative (engages)	Degree to which district successfully engages representative stakeholders in project public involvement programs. Measured by response to seven point likert scale	Ordinal
Ethics-Distwide (ethicsds)	Degree to which district requires ethics training for employees other than senior managers or project managers. Measured by response to seven point likert scale	Ordinal
Ethics-PM (ethicspm)	Degree to which district requires ethics training for project managers. Measured by response to seven point likert scale	Ordinal
Ethics-SM (ethicssm)	Degree to which district requires ethics training for senior managers. Measured by response to seven point likert scale	Ordinal
Face/Face Tools (facetool)	Degree to which district staff selects participation tools that strengthen face-to-face interactions with the public.	Ordinal
Federal PI Review (fedrev)	Degree to which federal highway administrators review district project decisions to ensure public input was considered in decision-making. Measured by response to seven point	Ordinal

likert scale

Highway-Media (hwymedia)	Degree to which the media supports new district highway projects. Measured by response to seven point likert scale	Ordinal
Info Exchange Tools (infoexch)	Degree to which district selects public involvement tools that increase information exchange between the agency and stakeholders. Measured by response to seven point likert scale	Ordinal
Jurisdic Compete (jurisdic)	Degree to which competition exists among jurisdictions within the district. Measured by response to seven point likert scale	Ordinal
Leaders Share (leadersh)	Degree to which elected officials within the district resist sharing leadership with others. Measured by response to seven point likert scale	Ordinal
Local Competition (compete)	Degree to which elected officials within the district are competitive with each other. Measured by response to seven point likert scale	Ordinal
Local Rivalry (rivalry)	Degree to which there are rivalries among elected officials in the district. Measured by response to seven point likert scale	Ordinal
Media Fair (medfair)	Degree to which the media portrays the district fairly. Measured by response to seven point likert scale	Ordinal
PI Openness (openess)	Degree to which citizens perceive that public participation programs in the district are an open process in which they are welcomed to participate. Measured by response to seven point likert scale	Ordinal

PM Active (pmactive)	Degree to which project managers actively work with individuals that respond to public involvement outreach efforts. Measured by response to seven point likert scale	Ordinal
PM Additional PI (pmaction)	Degree to which project managers take action to implement additional public involvement outreach efforts when turnout or response is weak to planned public involvement efforts. Measured by response to seven point likert scale	Ordinal
PM Big Picture (pmbigpic)	Degree to which project managers fully understand the "larger" picture of their efforts. Measured by response to seven point likert scale	Ordinal
PM Bureaucratic (pmbureau)	Degree to which project managers seek exemptions from agency rules and regulations. Measured by response to seven point likert scale	Ordinal
PM Concerned (pmconcer)	Degree to which project managers are concerned when few stakeholders participate in public involvement opportunities. Measured by response to seven point likert scale	Ordinal
PM Decide (pmdecide)	Degree to which project managers decide how project level public involvement programs are implemented. Measured by response to seven point likert scale	Ordinal
PM Empowered (pmempow)	Degree to which project managers are empowered to make important decisions. Measured by response to seven point likert scale	Ordinal
PM Learns (pmlearns)	Degree to which project managers are willing to adopt new ideas based on what is learned during	Ordinal

public involvement programs. Measured by response to seven point likert scale

PM Modify PI (pmmodify)	Degree to which project managers are willing to modify public involvement programs. Measured by response to seven point likert scale	Ordinal
PM Participants (particip)	Degree to which project managers are concerned that participants in public involvement programs are representative of the community. Measured by response to seven point likert scale	Ordinal
PM Support PI (pmsupport)	Degree to which project managers support public involvement programs. Measured by response to seven point likert scale	Ordinal
PM Technical (pmtech)	Degree to which project managers are willing to consider changes to technical project decisions when requested. Measured by response to seven point likert scale	Ordinal
Population Recognize (poprecog)	Degree to which citizens perceive that public participation programs in the district allow participants in public involvement process to accurately represent them. Measured by response to seven point likert scale	Ordinal
Project Life (projlife)	Degree to which district requires that issues raised during public involvement are fully dealt with during the life of projects. Measured by response to seven point likert scale	Ordinal
Project Status (prostat)	Degree to which district provides updates to stakeholders regarding project decisions. Measured by response to	Ordinal

seven point likert scale

Refresh PI (refresh)	Degree to which district does a good job of keeping the public involved in projects that take many years to complete. Measured by response to seven point likert scale	Ordinal
Representative Concern (concern)	Degree to which district is concerned about engaging representative stakeholders in public involvement programs. Measured by response to seven point likert scale	Ordinal
SDOT PI Policy (sdotpoli)	Existence of SDOT Policy that affects district public involvement programs. Where: Yes = 1; No = 0	Nominal
SDOT Review (revsdot)	Degree to which SDOT central office managers review district public involvement programs to ensure federal compliance. Measured by response to seven point likert scale	Ordinal
SDOT Years (sdotyrs)	Number of year's respondent has worked for SDOT	Ratio
Sex (sex)	Sex or respondent. Where: 1 = Female; 0 = Male	Nominal
SM Big Picture (smbigpic)	Degree to which senior district managers understand the "larger" picture of their efforts. Measured by response to seven point likert scale	Ordinal
SM Box (smbox)	Degree to which senior district managers are encouraged to "think outside the box." Measured by response to seven point likert scale	Ordinal
SM Bureaucratic (smbureau)	Degree to which district senior managers seek exemptions from agency rules and regulations. Measured by response	Ordinal

to seven point likert scale

SM Decides (smdecide)	Degree to which district senior managers decide how project level public involvement programs are implemented. Measured by response to seven point likert scale	Ordinal
SM Empowered (smempow)	Degree to which senior district managers are empowered to make important decisions. Measured by response to seven point likert scale	Ordinal
SM Learns (smlearns)	Degree to which district senior managers are willing to adopt new ideas based on what is learned during public involvement programs. Measured by response to seven point likert scale	Ordinal
SM Modify PI (smmodify)	Degree to which district senior managers are willing to modify public involvement programs. Measured by response to seven point likert scale	Ordinal
SM Positive Relation (smposrel)	Degree to which senior district managers have a positive relationship with local officials. Measured by response to seven point likert scale	Ordinal
SM Review PI (smreview)	Degree to which district senior managers review public input that is received during public involvement programs. Measured by response to seven point likert scale	Ordinal
SM Support PI (smsuppor)	Degree to which district senior managers support public involvement programs. Measured by response to seven point likert scale	Ordinal
SM Technical (smtech)	Degree to which district senior managers are willing to consider changes to technical project decisions when	Ordinal

requested. Measured by response to seven point likert scale

State PI Laws (stlaws)	Existence of state laws that affect district public involvement programs. Where: Yes = 1; No = 0		Nominal
(Tools)	Degree to which district uses specific public participation tools in public involvement programs. Degree of use of each participation tool is measured by response to seven point likert scale		
Advertisements (tadverts)	Advertisements	seven point likert scale	Ordinal
Briefings (tbriefin)	Briefings to Groups	seven point likert scale	Ordinal
Citizen Boards (tboards)	Citizen Advisory Boards	seven point likert scale	Ordinal
E-mail (temail)	Internet E-mail	seven point likert scale	Ordinal
Information Centers (tinfoctr)	Project Info Centers	seven point likert scale	Ordinal
Information Materials (tinfomat)	Public Info Materials	seven point likert scale	Ordinal
Legal Notices (tpapers)	Legal Notices (newspapers)	seven point likert scale	Ordinal
Newsletters (tnwsltr)	Project Newsletters	seven point likert scale	Ordinal
Open Houses (topenhs)	Open Houses	seven point likert scale	Ordinal
Press Conferences (tpconf)	Press Conferences	seven point likert scale	Ordinal
Press Releases (tpreleas)	Press Releases	seven point likert scale	Ordinal
Public Hearings (thearing)	Formal Public Hearings	seven point likert scale	Ordinal
Public Workshops (twrkshop)	Informal Public Workshops	seven point likert scale	Ordinal
Surveys (tsurveys)	Surveys	seven point likert scale	Ordinal
Websites (twebsite)	Websites	seven point likert scale	Ordinal
Trust Agency (trustage)	Degree to which citizens trust the agency. Measured by response to seven point likert scale		Ordinal
Trust Public (trustpub)	Degree to which district selects public involvement tools that create and environment of trust with the public. Measured by response to seven point likert scale		Ordinal

APPENDIX E
UCF INSTITUTIONAL REVIEW BOARD APPROVAL

April 24, 2004

Jorge Figuerdo
895 Stardust Way
DeLand, FL 32720

Dear Mr. Figuerdo:

With reference to your protocol entitled, "Public Participation in Transportation: An Empirical Test for Authentic Participation," I am enclosing for your records the approved, executed document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Chris Grayson
Institutional Review Board (IRB)

Copies: Dr. Evan Berman
        IRB File

12443 Research Parkway • Suite 207 • Orlando, FL 32826-3252 • 407-823-3778 • Fax 407-823-3299
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THE UNIVERSITY OF CENTRAL FLORIDA

INSTITUTIONAL REVIEW BOARD (IRB)

IRB Committee Approval Form

PRINCIPAL INVESTIGATOR(S): Jorge Figueredo

PROJECT TITLE: Public Participation In Transportation: An Empirical Test for Authentic Participation.

Committee Members:

Dr. Theodore Angelopoulos: _____

Ms. Sandra Browdy: _____

Dr. Jacqui Byers: _____

Dr. Ratna Chakrabarti: _____

Dr. Karen Dennis: _____

Dr. Barbara Fritzsche: _____

Dr. Robert Kennedy: _____

Dr. Gene Lee: _____

Ms. Gail McKinney: _____

Dr. Debra Reinhart: _____

Dr. Valerie Sims: _____

[ ] Contingent Approval
    Dated: _____

[ ] Final Approval
    Dated: _____

[x] Expedited
    Dated: 4/21/2004

[ ] Exempt
    Dated: _____

Chair, IRB

Signed: _____
Dr. Sophia Dziegielewski

NOTES FROM IRB CHAIR (IF APPLICABLE): _____

_____

_____

APPENDIX F
SURVEY PRENOTICE LETTER

July 19, 2004
Mr. XXXXX XXXXXXX
Division 1
Alabama Department of Transportation
23445 Highway 431 North
P.O. Box 550
Guntersville, AL 35976

A few days from now you will receive in the mail a request to fill out a brief questionnaire for an important research project being conducted by the University of Central Florida.

It concerns the public involvement programs of State Department of Transportation Districts in the United States. The research seeks to understand the experiences of the senior district manager with the implementations and outcomes of these programs.

I am writing in advance because we have found that many people like to know ahead of time that they will be contacted. The study is an important one that will help transportation agencies, transportation professionals, and academicians better understand the factors and influences surrounding district public involvement programs that can lead to successful implementations and citizen participation.

Thank you for your time and consideration. It's only with the generous help of people like you that our research can be successful.

Sincerely,

Jorge Figueredo
Principle Researcher

APPENDIX G
SURVEY INSTRUMENT AND COVER LETTER

August 6, 2004

«SAL» «First_Name» «Last_Name»
«District»
«Company_Name»
«Address»
«City_State_Zip»

Dear «SAL» «Last_Name»:

As the senior administrator for your state department of transportation district, you have been chosen to complete a brief national survey regarding the public involvement programs in your district.   This survey is being sent to all state departments of transportation in the United States to measure the dimensions, predictors, and outcomes of public involvement programs in district highway projects that utilize federal funding.   It will take about 20 minutes of your time to complete the survey. **Your participation is critical to our ability to correctly interpret responses and evaluate the data on a national level.**

We believe the survey asks important, useful questions, the answers to which may give practitioners like yourself important information that might assist your agency in meeting its mission. If you cannot accurately provide an answer or do not feel confident about a question, please leave that question blank rather than give erroneous information. There are no known risks, and participation is voluntary. Responses to questions about your identity are strictly for follow-up purposes and will remain confidential.

The results of this survey will be included in my doctoral dissertation project titled, "Public Participation In Transportation: An Empirical Test for Authentic Participation." The potential exists that the findings will further be published in academic and practitioner journals relevant to transportation and/or public administration. There are no direct benefits or compensation to participants. By completing the survey and returning it to me, you give me permission to report your responses **anonymously and in the aggregate** in the final manuscript to be submitted to my faculty supervisor as part of my dissertation requirements and in future professional publications.

If you have any questions about this research, please contact me at (386) 736-1268 or my faculty supervisor, Dr. XiaoHu Wang, at (407) 823-5714. Questions or concerns about research participants' rights may be directed to the UCFIRB Office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The phone number is (407) 823-2901.

I realize this survey will take about twenty minutes of your valuable time, but the result should be worth the effort. Enclosed please find a postage paid envelope in which to return the survey. To be useful, your response must be received by August 25, 2004. Thank you for your consideration.

Sincerely,

Jorge Figueredo
Principal Researcher

SURVEY OF PUBLIC INVOLVEMENT
IN STATE DEPARTMENTS OF TRANSPORTATION DISTRICTS

Please complete this national survey about Public Involvement processes of State Departments of Transportation in District projects. This survey takes about 20 minutes to complete, and your comments are very important to the success of this endeavor. We are happy to make final copies of this study available to your organization.

Please use the self-addressed envelope to return your response.

Principal Researcher:

Jorge C. Figueredo
University of Central Florida
Public Administration Department
1155 Louisiana Avenue, Suite 210
Winter Park, Florida 32789
Figueredo@cfl.rr.com

Introduction. Please tell us a little about yourself:

Are you the *(please check one)*:
  _____District Secretary
  _____District Administrator
  _____hold an equivalent position
  _____other position (please identify _____)

How many years have you worked at this agency? .... _____ Years
How many years have you worked in this district? .... _____ Years
How many years have you worked as a government employee? .... _____ Years

How familiar are you with the public involvement processes of your
  transportation district? *(please check one)*:   _____Very Familiar
                                                    _____Familiar
                                                    _____Somewhat Familiar
                                                    _____Not Familiar *(see box below)*
                                                    _____Don't Know/Can't Say *(see below)*

If "Not Familiar" or "Don't Know/Can't Say," please forward this survey to an
individual in your District who is most familiar with District public involvement programs

---

Part 1

Please evaluate the following statements, using the following measurement scale.

(Please use a check mark, √, to identify your response to each item.)

Always	Very Frequently	Occasionally	Rarely	Very Rarely	Never	Don't Know/ Can't Say
1	2	3	4	5	6	7

" My District uses the following public participation tools in our public involvement programs…"

	A	VF	O	R	VR	N	DK
Advertisements (newspapers, radio, TV)……………………..................	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Briefings to Social/Civic Groups…………………………………....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Citizen Advisory Boards……………………………………………....	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Legal Notices (newspapers)………………………………………..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Press Conferences……………………………………………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Press Releases………………………………………………………..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Project Information Centers…………………………………………….	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Project Newsletters………………………………………………..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Printed Public Information Materials……………………………...	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public Hearings – Formal……………………………………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public Workshops – Informal ………………………………………..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Project Open Houses………………………………………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Surveys…………………………………………………………….	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Internet Email……………………………………………………..	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Web Sites………………………………………….…………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Others (please list and use measurement scale)

	A	VF	O	R	VR	N	DK
_____……………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
_____………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
_____…………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)
_____…………………	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Please evaluate the following statements, using the following measurement scale.

(Please use a check mark, √, to identify your response to each item.)

Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know/ Can't Say
1	2	3	4	5	6	7

Note: In the following, the phrase "stakeholders" refers to citizens as well as public and private organizations and, business and other community leaders that have a stake in district projects.

"My Transportation District…"

	SA A SA SD D SD DK
Requires that issues raised during public involvement are fully dealt with during the life of projects	(1) (2) (3) (4) (5) (6) (7)
Requires minutes and other documentation of public involvement	(1) (2) (3) (4) (5) (6) (7)
Does a good job of accurately assessing public needs	(1) (2) (3) (4) (5) (6) (7)
Does a good job of keeping the public involved in projects that take many years to complete	(1) (2) (3) (4) (5) (6) (7)

Note: In the following phrases "Representative stakeholders" refers to the degree to which public involvement programs are successful in attracting and engaging participants that are characteristic of the populations being impacted by the transportation project under consideration.

"**When conducting public involvement, as an organization my District…**"

Is concerned about engaging representative stakeholders	(1) (2) (3) (4) (5) (6) (7)
Is successful in identifying representative stakeholders	(1) (2) (3) (4) (5) (6) (7)
Successfully attracts these stakeholders to project public involvement	(1) (2) (3) (4) (5) (6) (7)
Is successful in engaging these stakeholders in project discussions	(1) (2) (3) (4) (5) (6) (7)

Note: In the following, the phrase "stakeholders" refers to citizens as well as public and private organizations and, business and other community leaders that have a stake in district projects.

"When conducting public involvement, as an organization my District…"

Accurately assesses the views of participants	(1) (2) (3) (4) (5) (6) (7)
Uses stakeholder input in project decision making	(1) (2) (3) (4) (5) (6) (7)
Provides feedback to stakeholders about the status of their input	(1) (2) (3) (4) (5) (6) (7)
Provides updates to stakeholders regarding project decisions	(1) (2) (3) (4) (5) (6) (7)
Explains project decisions that are made to stakeholders	(1) (2) (3) (4) (5) (6) (7)
Provides processes for citizens and other stakeholders to appeal project decisions	(1) (2) (3) (4) (5) (6) (7)

"When selecting public involvement tools, project managers in my Transportation District use tools

that…"

Strengthen face-to-face interactions with the public .... (1) (2) (3) (4) (5) (6) (7)
Assist agency staff in meeting stakeholders in person .... (1) (2) (3) (4) (5) (6) (7)
Allow stakeholders and agency representatives to interact as equals .. (1) (2) (3) (4) (5) (6) (7)
Increase information exchange between agency and stakeholders....... (1) (2) (3) (4) (5) (6) (7)
Create an environment of trust with the public .... (1) (2) (3) (4) (5) (6) (7)

"When conducting public involvement, project managers in my District…"

	SA	A	SA	SD	D	SD	DK

Are knowledgeable about the populations being affected by
        their projects.. (1) (2) (3) (4) (5) (6) (7)
Are concerned that participants are representative of the community . (1) (2) (3) (4) (5) (6) (7)
Actively work with individuals that respond to public involvement
        outreach efforts.. (1) (2) (3) (4) (5) (6) (7)
Are concerned when few stakeholders participate in public
        involvement opportunities... (1) (2) (3) (4) (5) (6) (7)
Take action to implement additional public involvement outreach
        when turnout or response is weak.. (1) (2) (3) (4) (5) (6) (7)

"Generally, public participation in my District is perceived by citizens…

As an open process in which they are welcomed to participate .... (1) (2) (3) (4) (5) (6) (7)
To provide sufficient opportunities for the District to correctly
        assess their needs.. (1) (2) (3) (4) (5) (6) (7)
To allow participants in public involvement processes to accurately
        represent them.. (1) (2) (3) (4) (5) (6) (7)
To ensure that agency managers accurately assess citizen needs......... (1) (2) (3) (4) (5) (6) (7)

"As part of public involvement programs in my District…"

Good communication occurs between project managers responsible
        for different project phases... (1) (2) (3) (4) (5) (6) (7)
Senior managers review public input that is received .... (1) (2) (3) (4) (5) (6) (7)
Senior managers review project decisions to ensure public
        input has been considered... (1) (2) (3) (4) (5) (6) (7)
DOT Central Office managers review District project decisions to
        ensure public input has been considered .... (1) (2) (3) (4) (5) (6) (7)
Federal Highway administrators review District public involvement
        programs to ensure federal compliance................................. (1) (2) (3) (4) (5) (6) (7)
Federal Highway administrators review District project decisions
        to ensure public input was considered in decision-making ... (1) (2) (3) (4) (5) (6) (7)

Strongly Agree	Agree	Somewhat Agree	Somewhat Disagree	Disagree	Strongly Disagree	Don't Know/ Can't Say
1	*2*	*3*	*4*	*5*	*6*	*7*

Note: In the following, the phrases "technical project decisions" refers to architectural and engineering decisions relating to a project that can be changed or modified at the discretion of the agency, district, project manager, responsible engineer, or other responsible entity or individual.

"As an organization, my District…."   SA A SA SD D SD DK

Is willing to consider changes to technical project decisions
          when requested .... (1) (2) (3) (4) (5) (6) (7)
Often seeks exemptions from agency rules and regulations................. (1) (2) (3) (4) (5) (6) (7)
Does a good job of learning from new situations................................. (1) (2) (3) (4) (5) (6) (7)
Generally assigns all project public involvement responsibilities
          to one project manager .... (1) (2) (3) (4) (5) (6) (7)

"Senior managers in my District…"

Are willing to consider changes to technical project decisions
          when requested .... (1) (2) (3) (4) (5) (6) (7)
Often seek exemptions from agency rules and regulations .... (1) (2) (3) (4) (5) (6) (7)
Decide how we implement project level public involvement .... (1) (2) (3) (4) (5) (6) (7)
Are willing to modify public involvement programs .... (1) (2) (3) (4) (5) (6) (7)
Are willing to adopt new ideas based on what is learned during
          public involvement programs .... (1) (2) (3) (4) (5) (6) (7)
Are encouraged to "think outside the box" .... (1) (2) (3) (4) (5) (6) (7)
Are rewarded for innovation and initiative .... (1) (2) (3) (4) (5) (6) (7)
Are empowered to make important decisions .... (1) (2) (3) (4) (5) (6) (7)
Have a positive relationship with local officials .... (1) (2) (3) (4) (5) (6) (7)
Fully understand the "larger" picture of their efforts .... (1) (2) (3) (4) (5) (6) (7)
Support public involvement programs .... (1) (2) (3) (4) (5) (6) (7)

"Project managers in my District…"

Are willing to consider changes to technical project decisions
          when requested .... (1) (2) (3) (4) (5) (6) (7)
Often seek exemptions from agency rules and regulations .... (1) (2) (3) (4) (5) (6) (7)
Decide how we implement project level public involvement .... (1) (2) (3) (4) (5) (6) (7)
Are willing to modify public involvement programs .... (1) (2) (3) (4) (5) (6) (7)
Are willing to adopt new ideas based on what is learned during
          public involvement programs .... (1) (2) (3) (4) (5) (6) (7)
Are encouraged to "think outside the box" .... (1) (2) (3) (4) (5) (6) (7)
Are rewarded for innovation and initiative .... (1) (2) (3) (4) (5) (6) (7)
Are empowered to make important decisions .... (1) (2) (3) (4) (5) (6) (7)
Have a positive relationship with local officials .... (1) (2) (3) (4) (5) (6) (7)
Fully understand the "larger" picture of their efforts .... (1) (2) (3) (4) (5) (6) (7)
Support public involvement programs .... (1) (2) (3) (4) (5) (6) (7)

Please answer the following questions, in ways indicated. *Please use a checkmark, √, to indicate your response:*

My State has laws that affect public involvement programs in my agency…. _____ Yes _____ No

> ***If yes,*** *please answer next question, if no, skip to following question:*
>
> These State laws exceed federal requirements for   SA A SA SD D SD DK
> public involvement .... (1) (2) (3) (4) (5) (6) (7)

My agency has a public involvement policy that affects District
public involvement programs…………………………………………_____ Yes _____ No

> ***If yes,*** *please answer next question, if no, skip to following question.*
>
> My agency's public involvement policy exceed   SA A SA SD D SD DK
> federal requirements for public involvement .... (1) (2) (3) (4) (5) (6) (7)

My District has project guidelines that affect District
public involvement programs…..……………………………………_____ Yes _____ No

> ***If yes,*** *please answer next question, if no, skip to following question.*
>
>   SA A SA SD D SD DK
> My District's public involvement guidelines encourage project
> managers to engage the public on a continuous basis....... (1) (2) (3) (4) (5) (6) (7)

My District uses a Five-Year Work program…………………………………..._____ Yes _____ No

> ***If yes,*** *please answer next question, if no, skip to following question*

My District's Five-Year Work Program is updated every: (*please check one*)
           ____Annually
           ____Every two years
           ____Every three years
           ____Every four years
           ____Every five years
           ____Don't Know/Can't Say

Part 2

> The following questions assess your views regarding District performance on highway projects that utilize federal funding and go through Corridor Studies (PD&E), Design, and Construction phases. *Please use a check mark, √, to identify your response to each item, using the following scale:*
>
> | Strongly Agree | Agree | Somewhat Agree | Somewhat Disagree | Disagree | Strongly Disagree | Don't Know/ Can't Say |
> |---|---|---|---|---|---|---|
> | *1* | *2* | *3* | *4* | *5* | *6* | *7* |

"In my Transportation District…"   SA A SA SD D SD DK

Corridor Studies (PD&E Phase) of projects are completed within time schedules .... (1) (2) (3) (4) (5) (6) (7)

Corridor Studies (PD&E Phase) of projects are completed within budgets.. (1) (2) (3) (4) (5) (6) (7)

The Design phase of projects are completed within time schedules .... (1) (2) (3) (4) (5) (6) (7)

The Design phase of projects are completed within budgets .... (1) (2) (3) (4) (5) (6) (7)

The Construction phase of projects are completed within time schedules .... (1) (2) (3) (4) (5) (6) (7)

The Construction phase of projects are completed within budgets ...... (1) (2) (3) (4) (5) (6) (7)

Right of way for highway projects are completed within time schedules .... (1) (2) (3) (4) (5) (6) (7)

Right of way for highway projects are completed within estimates .... (1) (2) (3) (4) (5) (6) (7)

Highway projects are completed within time schedules (all phases combined) .... (1) (2) (3) (4) (5) (6) (7)

Highway projects are completed within budgets (all phases combined) .... (1) (2) (3) (4) (5) (6) (7)

Highway projects are completed with no stakeholder lawsuits .... (1) (2) (3) (4) (5) (6) (7)

"My Transportation District…"   SA A SA SD D SD DK

Is successful in acquiring consultant services to support projects........ (1) (2) (3) (4) (5) (6) (7)

Meets contract letting schedules... (1) (2) (3) (4) (5) (6) (7)

Maximizes federal funding opportunities for highway projects........... (1) (2) (3) (4) (5) (6) (7)

Maximizes state funding opportunities for highway projects .... (1) (2) (3) (4) (5) (6) (7)

Maximizes local funding opportunities for highway projects .... (1) (2) (3) (4) (5) (6) (7)

Maintains its highway to the highest possible levels............................ (1) (2) (3) (4) (5) (6) (7)

Delivers the safest possible highways to motorists .... (1) (2) (3) (4) (5) (6) (7)

Meets the resurfacing and rehabilitation needs of its highways .... (1) (2) (3) (4) (5) (6) (7)

Performance satisfies the populations it serves .... (1) (2) (3) (4) (5) (6) (7)

Meets the state highway needs of local governments........................... (1) (2) (3) (4) (5) (6) (7)

Delivers on work program commitments .... (1) (2) (3) (4) (5) (6) (7)

Has sufficient funding available to meet state highway needs in my area .... (1) (2) (3) (4) (5) (6) (7)

Has sufficient staffing available (District and consultant) to
       deliver highway projects.. (1) (2) (3) (4) (5) (6) (7)
Is not able to build all highway projects that are considered a priority   (1) (2) (3) (4) (5) (6) (7)

Part 3

> The final part of this survey asks general questions about your District. *Again, please answer the following statements as indicated, using checkmarks for each item:*

In our transportation District, generally   SA A SA SD D SD DK
There is much rivalry among elected officials .... (1) (2) (3) (4) (5) (6) (7)
There is much competition among jurisdictions.................................. (1) (2) (3) (4) (5) (6) (7)
Elected officials often resist sharing leadership with others .... (1) (2) (3) (4) (5) (6) (7)
Elected officials are competitive with each other............................... (1) (2) (3) (4) (5) (6) (7)
Elected officials support new highway projects.................................. (1) (2) (3) (4) (5) (6) (7)
Citizen trust in our agency is high .... (1) (2) (3) (4) (5) (6) (7)
Citizens support new highway projects... (1) (2) (3) (4) (5) (6) (7)
The local media portray us fairly.. (1) (2) (3) (4) (5) (6) (7)
The local media support new highway projects .... (1) (2) (3) (4) (5) (6) (7)
Collaboration with community leaders is good .... (1) (2) (3) (4) (5) (6) (7)
Relations with the business community are positive............................ (1) (2) (3) (4) (5) (6) (7)

Note: In the following, the phrases "IT" refers to information technologies such as computer hardware and software in various forms to include: stand-alone computers, networked computers, integrated systems, and standard and specialty software.

"To assist in completing our work, our transportation District…"
                                                  SA A SA SD D SD DK
Uses advanced IT to support District programs .... (1) (2) (3) (4) (5) (6) (7)
Fully integrates IT in District planning .... (1) (2) (3) (4) (5) (6) (7)
Fully integrates IT in District operations.. (1) (2) (3) (4) (5) (6) (7)
Requires ethics training for senior agency managers .... (1) (2) (3) (4) (5) (6) (7)
Requires ethics training for project managers .... (1) (2) (3) (4) (5) (6) (7)
Requires ethics training for all other District employees .... (1) (2) (3) (4) (5) (6) (7)
Uses benchmarking of other Districts to support District programs .... (1) (2) (3) (4) (5) (6) (7)
Project managers trained in process re-engineering............................. (1) (2) (3) (4) (5) (6) (7)
Uses strategic planning to support District programs.......................... (1) (2) (3) (4) (5) (6) (7)
District does a five year work program .... (1) (2) (3) (4) (5) (6) (7)

- *Please answer the following questions as indicated:*

What State is your District located in?   _____ *(name of your state)*

How many counties is your District responsible for?   ____ *(number)*

What is the approximate population of your Transportation District? *(please check one)*

      _____ less than 500,000
      _____ between 500,000 and 1,000,000
      _____ between 1,000,000 and 1,500,000
      _____ between 1,500,000 and 2,000,000
      _____ between 2,000,000 and 2,500,000
      _____ greater than 2,500,000
      _____ Don't Know/Can't Say

Which of the following characteristics describe your district? *(please check **all** that apply)*

      _____ Urban
      _____ Rural
      _____ Suburbia
      _____ Don't Know/Can't Say

What is the *approximate* number of FTEs (Full Time Equivalent Employees) employed by the State Department of Transportation that are assigned to your District? _____ *(number)*

What is the *approximate* number of FTEs (Full Time Equivalent Employees) including consultant and District staff that is assigned to administer District public involvement programs?_____ *(number)*

What *approximate* percentage of your District's public involvement work is performed by District Staff? *(Please check one)*

      _____ Less than 25 percent
      _____ between 26 and 50 percent
      _____ between 51 and 75 percent
      _____ between 76 and 100 percent
      _____ Don't Know/Can't Say

What *approximate* percentage of your District's public involvement work is performed by consultants? *(Please check one)*

      _____ Less than 25 percent
      _____ between 26 and 50 percent
      _____ between 51 and 75 percent
      _____ between 76 and 100 percent
      _____ Don't Know/Can't Say

What *approximate* percentage of your District's public involvement work is performed by the State Department of Transportation central office? *(Please check one)*

      _____ Less than 25 percent
      _____ between 26 and 50 percent
      _____ between 51 and 75 percent
      _____ between 76 and 100 percent
      _____ Don't Know/Can't Say

Is your State Department of Transportation a centralized or decentralized agency? *(Please check one)*

_____ Centralized
_____ Decentralized
_____ A balance of centralized and decentralized
_____ Don't Know/Can't Say

- ***…..and, finally, just a few questions about yourself:***

What is your gender? *(Please check one)*
_____ Female
_____ Male

What is your age? *(Please check one)*

_____ under 25
_____ 26 to 35
_____ 36 to 45
_____ 46 to 55
_____ over 56

What is your highest degree you have earned? *(Please check one)*

_____ High School
_____ Associate Degree
_____ Bachelors Degree
_____ Masters Degree
_____ Ph.D. or other Doctorate
_____ J.D.
_____ No degree

In which field is your highest degree? _____ *(name of field)*

Are you a registered Professional Engineer in your State? *(Please check one)*

_____ Yes
_____ No

Thank YOU! - Please return your survey to sender (see cover letter)

APPENDIX H
SURVEY THANK YOU CARD

Month xx, 2004

«SAL» «First_Name» «Last_Name»
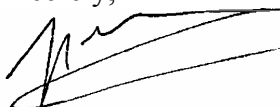«District»
«Company_Name»
«Address»
«City_State_Zip»

Dear «SAL» «Last_Name»:

A few weeks ago, a questionnaire seeking your opinions about the public involvement programs of State Department of Transportation Districts was mailed to you. You were selected because of your position as the senior district manager in your district.

If you have already completed and returned the questionnaire to us, please accept our sincere thanks. If not, please do so today. We are especially grateful for your help because it is only by asking people in your position that we can best understand the factors that lead to successful public involvement programs.

If you did not receive a questionnaire, or if it was misplaced, please call us at
(407) 644-2636 or e-mail at Figueredo@cfl.rr.com and we will get another one in the mail to you today.

Sincerely,

Jorge Figueredo
Principle Researcher

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