MEASURING THE EFFECTIVENESS OF COMMUNITY IMPACT ASSESSMENT

RECOMMENDED CORE MEASURES

UNIVERSITY OF SOUTH FLORIDA

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16. Abstract

For more than a decade, transportation agencies have refocused efforts to involve communities when considering transportation actions in order to assess the social impacts of the proposed actions. These efforts have included greater public involvement, training, and other guidance for transportation professionals; and the compilation of a number of techniques and tools commonly identified as the community impact assessment (CIA) process. Considerable resources have been directed toward these efforts. The enactment of the Transportation Equity Act for the 21st Century (TEA-21) mandated a more streamlined process for consideration of environmental impacts while assuring inclusion of the public, particularly traditionally underserved subgroups of the population, in the decisionmaking process. The need exists to examine from multiple perspectives whether CIA is an effective process and how it can be enhanced to meet regulatory requirements and improve the quality of life.

The Florida Department of Transportation (FDOT), particularly the Environmental Management Office (EMO), is a nationally recognized leader in developing and implementing programs and tools to effectively work with communities. The EMO, through the FDOT Research Center, contracted with the University of South Florida to investigate the effectiveness of CIA. Building on past efforts, the objectives of this research included identifying effective performance measures for CIA; assessing impacts after a transportation action; and identifying methods for meaningful feedback. To meet these objectives, the researchers reviewed transportation actions in varying stages to determine how potential impacts were identified, how alternatives were identified, and whether the actions address the needs of a broad range of users.

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Executive Summary

For more than a decade, federal, state, and local transportation agencies have refocused efforts to involve communities when considering transportation actions in order to assess the social impacts of the proposed actions. These efforts have included greater public involvement; training, regulations, handbooks, and other guidance for transportation professionals; and the compilations of a number of techniques and tools commonly identified as the community impact assessment (CIA) process. Considerable resources have been directed toward these efforts. The enactment of the Transportation Equity Act for the 21st Century (TEA-21) mandated a more streamlined process for consideration of environmental impacts while assuring inclusion of the public, particularly traditionally underserved subgroups of the population, in the decisionmaking process. The need exists to examine from multiple perspectives whether community impact assessment is an effective process and how the process can be enhanced to further regulatory requirements and improve the quality of life.

The Florida Department of Transportation (FDOT), particularly the Environmental Management Office (EMO), is a nationally recognized leader in developing and implementing programs and tools to effectively work with communities. The EMO, through the FDOT Research Center, contracted with the University of South Florida Center for Urban Transportation Research Center (CUTR) to investigate the effectiveness of community impact assessment. Building on past efforts, the objectives of this research included:

- Identifying effective performance measures or measures of effectiveness (MOEs) for community impact assessment;
- Assessing actual impacts after a transportation action; and
- Identifying methods for meaningful feedback to inform future actions.

The researchers reviewed transportation actions in varying stages, e. g., planning, design, construction, etc., to determine how potential impacts were identified, how alternatives to these impacts were identified, and whether the actions address the needs of a broad range of users. This document summarizes the research findings. It also suggests methods for evaluating community impact assessment and how these measures may be applied in future phases. Recommendations are provided on how community impact assessment may be incorporated into environmental streamlining.

The review of literature and practices suggests that consideration of social impacts occurs most extensively in roadway projects. Performance monitoring also occurs in system planning with the establishment of purpose and need and broad consideration of alternatives. To develop a trial set of performance measures, activities of public transportation agencies, including state departments of transportation, metropolitan planning organizations, and transit agencies were reviewed by means of an e-mail survey. The research also included a review of the 25 Florida metropolitan planning organization (MPO) long-range transportation plans (LRTPs). The review suggested these agencies have become more attentive to the impacts of their actions on local communities. Community impact assessment was discussed, in one form or another, in all but one of the LRTPs. The most common areas where impact assessment was mentioned were in sections on goals and objectives, project evaluation, and public involvement.

Eight basic qualities of effectiveness are identified. An overview of each measure is provided and data sources for evaluation and applications also are recommended. In many instances, the suggested process is an update of baseline data, analyses of findings, and an exploration of strategies to address adverse impacts. The tools and techniques also are not new. Both qualitative and quantitative methods are recommended. While the quantitative methods may appear straightforward, they should be combined with qualitative methods. Many of the public involvement strategies recommended rely heavily on qualitative methods.

The findings may be used by public transportation planning and implementation agencies to evaluate and refine their assessments of social impacts. As transportation actions are proposed and move through the decisionmaking processes, some of the responsible transportation agencies are at varying stages of evaluating social impacts. Improved analysis of these impacts may contribute to better project development and service delivery for FDOT. The suggested measures include consideration of safety, economic impacts, efficiency, and the preservation of resources. The performance measures also suggest methods of including the public in the evaluation process, helping to ensure that solutions are appropriate for the affected communities. This concept is important to the development of transportation resources that are sensitive to Florida's environment and quality of life.

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CHAPTER 1. INTRODUCTION

For more than a decade, federal, state, and local transportation agencies have refocused efforts to involve communities when considering transportation actions in order to assess the social impacts of the proposed actions. These efforts have included greater public involvement; training, regulations, handbooks, and other guidance for transportation professionals; and the compilation of a number of techniques and tools commonly identified as the community impact assessment (CIA) process. Considerable resources have been directed toward these efforts. The enactment of the Transportation Equity Act for the 21st Century (TEA-21) mandated a more streamlined process for consideration of environmental impacts while assuring inclusion of the public, particularly traditionally underserved subgroups of the population, in the decisionmaking process. The need exists to examine from multiple perspectives whether community impact assessment is an effective process and how the process can enhance compliance with regulatory requirements and improve the quality of life.

The Florida Department of Transportation (FDOT), particularly the Environmental Management Office (EMO), is a nationally recognized leader in developing and implementing programs and tools to effectively work with communities. The EMO, through the FDOT Research Center, contracted with the University of South Florida Center for Urban Transportation Research Center (CUTR) to investigate the effectiveness of CIA. Building on past efforts, the objectives of this research included identifying effective performance measures or measures of effectiveness (MOEs) for community impact assessment; assessing actual impacts after a transportation action; and identifying methods for meaningful feedback to inform future actions. To meet these objectives, the researchers reviewed transportation actions in varying stages, e. g., planning, design, construction, etc., to determine how potential impacts were identified, how alternatives to these impacts were identified, and whether the actions address the needs of a broad range of users.

This document summarizes the research findings. It also suggests methods for evaluating CIA and how these measures may be applied in future phases. Recommendations are provided on how CIA may be incorporated into environmental streamlining.

Basic Qualities of a Balanced Project

In the keynote address at the 1998 FDOT Environmental Management Office Workshop, FDOT District 4 Secretary Rick Chesser discussed several components of a good assessment. These included early identification of community issues; collaborative problem-solving; using a continuous impact assessment process through project development; community-based decisionmaking; and meeting the needs of a broad range of users. He also listed several features, which he described as the "basic qualities of a balanced project," first discussed at the 1998 "Thinking Beyond the Pavement" Context Sensitive Design Workshop. The qualities or principles are:

- The project is a safe facility for the user and the community.
- The project satisfies the purpose and needs established by all of the parties involved.
- The project is in harmony with the community and preserves environmental, scenic, aesthetic, historic and natural resources of the area.
- The project exceeds the expectations of both the designers and our customers and achieves a level of excellence in the public's mind.
- The project involves efficient and effective use of the resources (time, budget, community) of all involved parties.

Principles of Context Sensitive Design
Thinking Beyond the Pavement / "Qualities and Characteristics"

The following principles were presented at the 1998 workshop held in Maryland.

Qualities of Excellence in Transportation Design

- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- The project is a safe facility for both the user and the community.
- The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area, i.e., exhibits context sensitive design.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involves efficient and effective use of the resources (time, budget, community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

Characteristics of the Process Contributing to Excellence

- Communication with all stakeholders is open, honest, early, and continuous.
- A multidisciplinary team is established early, with disciplines based on the needs of the specific project, and with the inclusion of the public.
- A full range of stakeholders is involved with transportation officials in the scoping phase. The purposes of the project are clearly defined, and consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances. This process should examine multiple alternatives that will result in a consensus of approach methods.
- A commitment to the process from top agency officials and local leaders is secured.
- The public involvement process, which includes informal meetings, is tailored to the project.
- The landscape, the community, and valued resources are understood before engineering design is started.
- A full range of tools for communication about project alternatives is used (e.g., visualization).

- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

Review of Literature

Effectiveness measures are derived from the concept of performance monitoring, which draws on economic analysis and embraces two distinct notions: effectiveness and efficiency. Effectiveness is concerned with the results of a service or product, while efficiency is concerned with means of achieving these results. Decisions or actions are effective if the desired objectives are accomplished. Consequently, measures of effectiveness are used to compare end results and impacts with the original broad objectives. Efficiency is used to evaluate a system, service, or product by comparing results with the amount of resources used to obtain them. Hence, improving efficiency is generally thought of as minimizing costs.

Performance monitoring, effectiveness measures, and other evaluation tools had limited public application to the transportation industry prior to World War II. In the late 1940s and early 1950s, however, several urban areas began conducting travel studies for the purpose of improving planning of roadways and design features (Weiner 1997). Performance monitoring was extended to the U.S. transit industry in the early 1970s and 1980s as a result of dissatisfaction with services and the use of public funds to provide the services. The overall premise was that administration needed to be "untangled"; that a small set of indicators could be used to distinguish "good" performance from "bad." Also, indicators provided a "bottom line" that helped gauge success or failure (Fielding 1992).

This focus on the "bottom line" may have limited consideration of social impacts in performance monitoring. That is, transportation investments were measured in terms of system efficiency rather than effectiveness in meeting, in this instance, social objectives. The first shift from the "bottom line" emphasis to consideration of social impacts can be found in the Civil Rights Act of 1964 and the National Environmental Policy Act (NEPA) of 1969 and is echoed in the 1970 Federal-Aid Highway Act and other pieces of federal legislation, particularly those related to public involvement in the decisionmaking process (Lewis 1997:241; Leavitt *passim*).

Public involvement, as a tool, which underpins social impact assessment, had been limited prior to this period. Jordan et al. write:

> *Citizen participation is an evolutionary outgrowth of the traditions of limited governmental discretion and formal public accountability…From the Revolution to the 1850s the changes revolved around universal white male suffrage and the long ballot. From the Civil War to the 1920s, the principal developments involved suffrage for women and the reform of corrupt legislatures and local government. From the 1930s to the present [1976] the evolution has been in the areas of increased suffrage for minority groups and efforts of citizens' groups to control the huge administrative bureaucracies. This last adaptation has generated the "Sunshine Laws," citizen participation, and extensive reform through litigation (1976:6).*

The authors go on to argue that during the mid-1970s, transportation planning underwent two changes–a more dynamic process and a more demanding citizenry–that influenced public involvement. These changes resulted in more periodic reviews of facility or service improvements.

The changes also suggest that one function of the transportation planning process is performance evaluation, e.g., establishing project purpose and need, early evaluation of alternatives, etc.

> *System planning– identifying the need for a facility and examining the alternative modes of program actions that might meet the need– is no longer a neat sequential process, but rather a continuous process which monitors development trends and resulting transportation needs and problems to guide shorter-range 'action programs' (Jordan et al. 1976:15)*

From the mid-1970s to the 1980s, there were increasing efforts to both monitor the performance of transportation systems and to include the public in the decisionmaking process. Among other activities, the Federal Highway Administration (FHWA) published two books, *Effective Citizen Participation in Transportation Planning, Volume I. Community Involvement Process* and *Volume II. A Catalogue of Techniques* to provide guidance and tools to include the public.

According to the Association for Metropolitan Planning Organizations (AMPO), another major shift that affected transportation planning occurred in the 1980s.

> *The decade of the 1980s ushered in a new mood in the nation to decentralize control and authority, and to reduce federal intrusion into local decisionmaking. The joint FHWA/UMTA urban transportation planning regulations were rewritten to remove items that were not specifically required by statute. The new regulations required a transportation plan, a transportation improvement program (TIP) including an annual element, and a unified planning work program for areas of 200,000 or more in population. The planning process was to be self-certified by the states and MPOs as to its conformance with all requirements when submitting the TIP. Essentially, only the end products were specified while the details of the process were left to the states and MPOs. This represented a major shift in the evolution of urban transportation planning. The result was an urban transportation program and process that languished, and the loss of much of the technical capacity that had been built up in the MPOs (AMPO 2002).*

Social impact assessment and public involvement also languished during this period. Much of system planning, including performance monitoring, during this period became what some have termed "a paper exercise," e.g., traffic zone analyses, "running the model," etc. According to Solof, the enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, "…focused on improving transportation not as end in itself but as the means to achieve important national goals including economic progress, cleaner air, energy conservation and social equity" (1997). Despite the Act's mention of efficiency, the goals are more closely associated with the definition of effectiveness.

ISTEA also placed increasing emphasis on the involvement of the public in the transportation decisionmaking process. Specifically stated in *A Guide to Metropolitan Transportation Planning under ISTEA - How the Pieces Fit Together - United States DOT*:

> *...ISTEA places significant emphasis on broadening participation in transportation planning to include key stakeholders who have not traditionally been involved, including the business community, members of the public, community groups, and other governmental agencies. This challenges transportation professionals and elected officials because meaningful engagement of diverse interests can be difficult. However, broader participation should ensure that decisions will be more responsive to local needs (FHWA/FTA 1994:4).*

This legislation marked a second shift or a return to consideration of social goals in the provision of transportation. Also during this period, the administrators of FHWA and FTA issued an interim policy on public involvement, which stated that among other things the agencies were committed to

> *Carefully evaluating public involvement processes and procedures to assess their success at meeting the performance requirements specified in the appropriate regulations during our joint certification reviews, metropolitan planning and conformity findings, State Transportation Improvement Program (STIP) approvals and project oversight (Slater and Linton n.d.).*

As in the early 1970s, other legislation, guidance, and orders supported the shift, e.g., Executive Order 12898. Again, FHWA took a leadership role in providing guidance on how to include the public, as a means of assessing social impacts, with several publications:

- *Community Impact Assessment: A Quick Reference for Transportation*
- *Community Impact Mitigation: Case Studies*
- *Public Involvement Techniques for Transportation Decisionmaking.*

Throughout the 1990s, transportation agencies took an increasing interest in considering the social impacts of their actions on communities. The reauthorization of the surface transportation act, the Transportation Equity Act for the 21st Century (TEA-21), continued the emphasis on public involvement. TEA-21 also provided for streamlining the environmental process, among other actions, eliminating major investment studies (MIS). FHWA and FTA have emphasized that the purpose of environmental streamlining is to improve federal agency coordination. Planning and environmental provisions are viewed as crosscutting issues, which include public involvement; equity, environmental justice, and Title VI of the Civil Rights Act of 1964; and cumulative and indirect effects of transportation actions (FHWA and FTA 2001). These issues are viewed by FHWA and FTA as closely related to the NEPA process.

> *The joint FHWA/FTA planning regulations discuss public involvement principles and performance expectations for transportation planning conducted by MPOs and State DOTs. The planning regulations provide the discretion to States and MPOs on how to carry out public involvement statewide and in metropolitan regions. However, all States and MPOs are required to develop explicit public involvement procedures and to make them available for public review prior to adoption…The NEPA regulation, though jointly issued by FHWA/FTA in response to the Council on Environmental Quality regulations, provide different approaches to public involvement for FHWA and FTA projects. Each agency's approach reflects specific provisions in the respective highway and transit statutes…Additionally, both FHWA and FTA grantees are often subject to State and local public involvement requirements (FHWA and FTA 2001).*

What was originally mandated by NEPA as social impact assessment has since evolved into community impact assessment and in 2000, was recognized by the Transportation Research Board (TRB) as a joint subcommittee of TRB Committees ADD20 - Social and Economic Factors in Transportation, ADA60 - Public Involvement in Transportation, and ADC10 - Environmental Analysis in Transportation.

For some, the literature and practice suggest that consideration of social impacts occurs in roadway projects, the literature also suggests that performance monitoring occurs in system planning with the establishment of purpose and need and broad consideration of alternatives. The literature review was expanded to include the long-range transportation plans of Florida metropolitan planning organizations (MPOs). The review also indicated that mass transit agencies were subject to the same legislation which mandates consideration of social impacts. Florida transit agencies and other public transit agencies were included in the primary data collection.

Development of Performance Measures

To develop a trial set of performance measures, current activities of public transportation agencies, including state departments of transportation, metropolitan planning organizations, and transit agencies were reviewed by means of an e-mail survey. The survey is included in Appendix A.

Measuring the Effectiveness of CIA E-mail Survey Results

In April 2002, CUTR staff e-mailed 200 unduplicated surveys to state departments of transportation environmental staff; transit agencies, including all Florida transit providers; and MPOs, including the 25 Florida MPOs. A total of 74 usable surveys were returned, a response rate of 37 percent.

Where Respondents Worked

Nearly one-half of respondents stated they worked with MPOs, the largest group represented in the sample. The remaining respondents were evenly split between state departments of transportation and transit agencies. One respondent worked for a department of city government, another for a regional planning agency; one was a private mass transit provider, and a fourth was with a transportation management association.

Evaluation of Transportation Actions

Ninety-five percent of respondents said that their agencies evaluated transportation actions.

Written Performance Measures

Only slightly more than 50 percent of respondents, however, stated that the agencies had written performance measures.

Table 1. Techniques Used to Evaluate the Effects of a Transportation Action on the Community

TECHNIQUE	PERCENT WHO USE
Brainstorming	55%
Comparisons	55%
Delphi Techniques	10%
Expert Consultation	45%
GIS/Databanks	49%
Internet/World Wide Web	28%
Map Overlays	53%
Market Research	28%
Peer Review	45%
Public Involvement	89%
Statistical Analysis	57%

Public involvement was the most frequently mentioned of evaluation technique. Other techniques that were mentioned by more than one-half of respondents included statistical analysis, brainstorming, and comparisons. Other techniques mentioned included modeling, research or investigation, door-to-door canvassing with foreign language interpreters, and surveys.

Public Involvement Plans

The majority of respondents, 87 percent, stated that their organizations had public involvement plans. Those who responded, "No" tended to be from transit agencies or did not identify their agencies.

Use of Public Involvement to Evaluate the Effects of an Action

Again, the majority of respondents, 85 percent stated that public involvement was used to evaluate the effects of an action. Also, those who responded, "No" were from transit agencies or did not identify their agencies.

Table 2. Public Involvement Techniques Used for Evaluation

TECHNIQUE	PERCENT WHO USE
Ad hoc task forces	49%
Advisory committees	87%
Charrettes	31%
Citizen work groups	39%
Community events	30%
Field offices	12%
Focus groups	54%
Internet	53%
Newsletters	64%
Personal contact	68%
Public meetings	93%
Workshops	60%

The most frequent technique used by respondents for evaluation was public meetings. Respondents also stated that advisory committees, personal contacts, and newsletters were often used. In other comments, respondents mentioned the use of surveys, fliers, open houses, field demonstrations, stakeholder meetings, and public meetings.

Table 3. Frequency of Use of Public Involvement Techniques in a Year

FREQUENCY IN A YEAR	PERCENT WHO USE
2	11%
6	8%
10	12%
15	10%
20	8%
50	8%
Varies	10%

On average, respondents used public involvement techniques eight times per year. The most frequent response, 12 percent, was 10 times per year; followed by 11 percent, twice per year; and 10 percent, 15 times per year, and "varies."

Table 4. Notification Activities Typically Used

TECHNIQUE	PERCENT WHO USE
Announcements at town meetings	32%
...religious services	8%
...community events	23%
Posters/flyers at local business	42%
…at gathering places	27%
...schools, shopping centers, public parking facilities	28%
Internet	81%
Local newspapers	96%
Radio	45%
Public-access television	35%
Public service announcements	31%

Respondents most frequently used local newspapers to notify the public. While this was expected; the Internet was the second most frequent, 81 percent for this sample. Although Internet use is increasing, some subgroups of the population, specifically those who are traditionally underserved may not be reached, if this technique is relied upon too heavily. Posters or fliers at local businesses was the third most frequent tool. Other responses included mail, notices on buses, study web pages, and notices at libraries.

The Most Effective Way to Notify the Public About the Effects of a Transportation Action on the Community

Respondents mentioned 15 different ways as the most effective to notify the public. Many of the techniques were repeats from Question 10, "What notification activities are typically used by your organization?". The most frequent response was "Newspaper," 30 percent. "Public meetings," 11 percent, followed this. Other responses, which were less significant, included fliers or posters, [transit] onboard notices, radio, mail surveys, and news releases.

…. The Least Effective Way to Notify the Public

There were 18 different responses by respondents as the least effective ways of notifying the public. The most frequent was "Newspaper," at 25 percent. The second most frequent response was "Advertisement," 11 percent. Other responses included public meetings, word of mouth, and fliers or posters.

Interestingly, "Newspaper" was the most frequent mention of both the *most* and *least* effective ways to notify the public. A possible explanation for this finding is that notices of public meetings are required to be published in newspapers, however, agencies have found that newspaper notices are not mentioned by the *public* when asked!

Rating of the Public's Response to Public Involvement Techniques

More than 50 percent of respondents rated the public's response to their organization's public involvement techniques as favorable. Forty percent, however, only rated the response as fair. Eight percent did rate the response as very favorable, which was significant.

Public Outreach Plan

Twenty-eight percent of respondents stated that their agencies had a public outreach plan. This question is used to make the distinction between public involvement and public outreach. It measures the degree to which agencies have a mechanism to implement public involvement plans. For example, an agency may have a public involvement plan, but fail to engage the public in a meaningful way for lack of strategies to reach various segments.

Table 5. Methods Used to Record Comments

TECHNIQUE	PERCENT WHO USE
Court reporter	28%
Internet	37%
Written comment forms	93%

Most respondents use written comment forms to record comments. The Internet was the second most frequent response. Other methods mentioned included video and audiotape, summary of minutes, letters and testimonies, summarize public comments with responses, flip charts, surveys, and email.

Evaluation of Public Involvement Techniques

Nearly three-quarters of the respondents stated that their organizations evaluated their public involvement techniques.

Table 6. Tools Used to Evaluate Public Involvement Techniques

TECHNIQUE	PERCENT WHO USE
Brainstorming	50%
Comparisons	42%
Delphi Techniques	3%
Expert Consultation	19%
GIS/Databanks	5%
Internet	19%
Map Overlays	7%
Market Research	15%
Peer Review	35%
Public Involvement	42%
Statistical Analysis	18%

Brainstorming was the most frequent technique used to evaluate public involvement techniques. Respondents also stated that their organizations frequently used comparisons and public

involvement. Respondents also mentioned public critiquing, the use of citizens' advisory committees, observation, performance measures, review indicators, discussion with project managers, and comment forms.

The Most Effective Way to Evaluate Public Involvement Techniques

Again, respondents had 15 different responses of the most effective ways to evaluate public involvement techniques. The most frequent (14%) was expert or peer review. This was followed by "learning from the public," surveys, and public involvement [a combination of several tools].

The Least Effective Way to Evaluate Public Involvement Techniques

There also were 18 different tools mentioned as the least effective means of evaluating public involvement activities. The most frequent (15%) was "do nothing." The only other response that was notable was "It depends [on the project, action, or situation]."

Overall, the survey suggested that the effectiveness of community impact assessment techniques are being measured. While this may not be clearly documented as is suggested in the literature, agencies, particularly MPOs seem to be evaluating and refining the use of impact assessment. This is occurring the despite the claim that "CIA is another unfunded mandate."[1]

REVIEW OF FLORIDA MPOS' LONG-RANGE TRANSPORTATION PLANS (LRTP)

EFFECTIVENESS MEASURES IN FLORIDA MPO LRTPS

Although community impact assessment seems to be increasingly part of the MPO LRTP process in Florida, the use of CIA as an effectiveness measure seems to be less widespread. To assess this, where and how MPOs used CIA in the process was scrutinized. Table 7 shows the results of this review.

Table 7. Community Impact Assessment in Florida MPO LRTPs

	LRTP SECTION				
	Introduction or Executive Summary	**Goals, Objectives, Policies**	**Evaluation Criteria**	**Public Involvement**	**Appendices**
NUMBER OF MPOs	4	16	6	7	1

The above table suggests that while many MPOs are mentioning CIA in their goals, objectives, and policies or otherwise trying to keep the approach in the forefront of the process, it has not been fully incorporated throughout the process. More use of community impact assessment in evaluation criteria of the LRTP would be beneficial. That is, while many MPOs have developed evaluation criteria to select cost feasible projects, few include public input at this juncture. The review also suggested that public involvement could be used more throughout the LRTP process. Attention was also paid to the types of impacts, segments of the population, and assessment processes that MPOs considered.

Table 8. Types of Impacts Considered in Florida MPO LRTPs

	LRTP SECTION					
	Aesthetics	**Community Cohesion**	**Economic Conditions**	**Mobility and Access**	**Safety**	**Social**
NUMBER OF MPOs	12	3	5	5	2	2

This is not an exhaustive list of impact categories nor does it fully detail responses of these categories by MPOs. The table reflects the number of MPOs that made significant efforts to consider these impact categories and used public involvement when considering the impacts. Nearly two-thirds of the MPOs considered the effects of proposed actions on ethnic minorities, the persons who are transportation disadvantaged, and traditionally underserved populations.

TWO EXAMPLES FROM THE MPOS' LRTPS

Pasco County MPO

The Pasco County MPO devoted Chapter Four in entirety to community impact assessment. The MPO used the same definition of CIA as the Florida Department of Transportation's CIA Manual and included a discussion on environmental justice and Title VI of the Civil Rights Act of 1964. Pasco County MPO considers CIA at three levels:

- System Level
- Community Level, and
- Project Level.

Community level analyses are described as an "intermediate level . . . [that] identifies areas having potential for being impacted by transportation projects." "Community value criteria" were chosen, which include:

- Age,
- Racial/ethnic composition,
- Low-income neighborhoods,
- Aesthetic resources, e.g., park, scenic, or historic designated areas, and
- Community facilities, e.g., school, library, hospital, senior center, etc.

Using these criteria, the MPO identified projects that may have either positive or negative impacts. A map is created that shows "Areas of Potential Impact."

Project Level Analysis refines the community level analysis by looking at those projects within a ¾-mile radius of a low-income, minority, or elderly area or within ¾-mile of a community facility. In the LRTP reviewed, the Pasco County MPO identified 118 proposed roadway projects that met these conditions. Additionally, public transportation, pedestrian, and bicycle projects were analyzed.

The Project Level Analysis is a two-part process. The first part evaluates and scores projects identified near the Areas of Potential Impact identified in the community level of analysis. The

second part of the Project Level Analysis is designed to incorporate Environmental Justice (EJ). Invitations were issued to community leaders, social service organizations, and citizens " . . . with the understanding that these representatives would have the best understanding of minority and low-income needs in the community" to participate in an EJ discussion group. The EJ discussion group reviewed all projects to determine their level of potential impact and to score each project based on a system of points assigned for each of the community criteria.

Hernando County MPO

The Hernando County MPO LRTP identified neighborhood and historic community locations in maps and text. Also, in the goals and objectives section, Goal 4.0.0 focuses on "community social and environmental preservation," which is supported by objectives relating to:

- Air quality,
- Energy conservation,
- Aesthetics,
- Impacts to established communities and activity centers,
- Public lands and environmentally sensitive areas, and
- Enhancing and maintaining community character.

The LRTP reviews indicated that most Florida MPOs had incorporated community impact assessment into the planning process. Nearly one-fourth used assessment techniques to evaluate plans. The two MPO examples were selected as examples because their populations are relatively small (Hernando 130,802; Pasco 344,765), according to the 2000 Census estimates. Smaller MPOs have fewer resources, however, these are examples of innovative, relatively low-cost techniques.

Recommended Core Performance Measures

Based on the findings from the literature review, input from key resource persons, the national survey of transportation agencies, review of the long range transportation plans (LRTPs) from throughout Florida, and interviews, a recommended set of core performance measures follows. Where appropriate, other resources, such as texts, Internet sites, key persons, etc., are identified. Also, provided are general recommendations on assessing actual impacts after a transportation action. Some suggestions are made on how the performance measures may be used in a later research phase. This may include applying the performance measures to pilot projects and monitoring the projects over time.

The recommended measures build on the "basic qualities of a balanced project" and the "Principles of Context Sensitive Design." These may be used by transportation agencies at various stages of the decisionmaking process—planning, implementation, design, construction, maintenance, monitoring. While this may appear to be overarching, the purpose of the measures is to evaluate whether the assessment process is effective. As stated in *Community Impact Assessment: A Quick Reference for Transportation*, "The assessment process is iterative…the analyst must make appropriate reevaluation and adjustments in findings . . . " (FHWA 1996:11).

The national survey results suggested that the performance measures do not require any new tools or techniques. The purpose of performance measurement is to determine whether the goals of the assessment were achieved. This can be accomplished by incorporating community impact assessment into the evaluation process. The findings from the evaluation process can be used, in turn, to make better decisions. The analyst or evaluator is encouraged to review the techniques described in Florida's *Community Impact Assessment (CIA) Handbook* (Williams et alia 2000), particularly the section on "Monitoring," in Chapter 2.

A general CIA evaluation rule of thumb is to return to the community profile associated with the action. (Chapter 2, *Community Impact Assessment Handbook*, also details the community profile.) Begin the evaluation by assessing what has occurred since the action took place. The evaluation then becomes an update of the community profile. The suggested measures serve to focus the update by examining a few key areas.

MONITORING

Monitoring is strongly recommended in any impact assessment program both to document actual or unforeseen impacts and to provide useful feedback for similar projects in the future. Monitoring helps to build understanding of actual impacts for particularly controversial issues–the economic impacts of medians, for example. Monitoring is also a way to identify and address any unforeseen adverse impacts of a transportation project on safety, operations, or the community. In this sense, *monitoring can be added to the list of mitigation strategies as a commitment by the transportation agency that any significant unforeseen impacts will be addressed and resolved* [emphasis added].

Suggestions for incorporating monitoring into agency activities, include the following:

- Integrate monitoring of similar or nearby past projects into future project development and environment (PD&E) studies,
- Develop a monitoring program and database,
- Conduct special studies to monitor the impacts of selected projects after construction, and
- Coordinate with the public information office to assure that the appropriate Department representatives are notified of public comments regarding the project after construction (Williams et alia 2000:2-12).

THE COMMUNITY PROFILE: A REVIEW

The *CIA Handbook* describes the community profile as a summary of baseline conditions in a community and study area (Williams et alia 2000). In documentation required for the National Environmental Policy Act (NEPA), the profile describes the "affected area." Not all actions require NEPA documentation. Transportation agencies do, however, have statutory responsibilities and regulatory guidance that require the collection of data that may be used for the purpose of community profiling, e.g., FTA Circular 4702.1, Title VI Program Guidelines for Urban Transportation Administration Recipients. The elements of the community profile generally include:

- Definitions of community boundaries, and neighborhood or subdivision boundaries;
- Locations of businesses, residences, and activity centers;
- Descriptions of demographic characteristics, economic base, location of community facilities, and other characteristics, e.g., historical, cultural, aesthetics, etc.
- A base map of key geographic information.

Chapter 2 of the *CIA Handbook* details the steps of conducting a community profile, including sources of data and various methods for involving the community in profile activities (Williams et alia 2000). Just as community impact assessment can be integrated into transportation agencies'

existing decisionmaking processes, evaluation of the assessment process also can be part of the process. As stated in Chapter 2 and shown in Figure 1, impact assessment is an iterative process. By returning to the community profile, we are monitoring the community assessment process to determine if there have been any changes in the baseline conditions. The recommendations in Table 9 are suggested steps to help us evaluate and refine the profile.

AECOM et al. state, "Performance measures are used to answer the question: 'Are we achieving what we set out to accomplish?'" Use these performances measures to ask the community, "Did we achieve what we set out to accomplish?"

OVERVIEW OF THE REMAINDER OF THE DOCUMENT

The next nine chapters suggest MOEs for each of the eight basic qualities. (An additional measure related to sustainability was added based on findings in the literature review and other research.) Each chapter also provides sources of data and applications. In many instances, the suggested process is an update of baseline data, analyses of findings, and an exploration of strategies to address adverse impacts. The tools and techniques also are not new. Both qualitative and quantitative methods are recommended. While the quantitative methods may appear straightforward, they should be combined with qualitative methods. Many of the public involvement strategies recommended rely heavily on qualitative methods.

The use of key informants, community leader surveys, and questionnaire surveys are three methods the assessor could use to determine the accuracy of pre-project analysis. Monitoring can also provide data to be incorporated into the feedback process by government agencies to keep policies, decisions, and programs responsive to unforeseen changes in the impacted community (Burdge 1994:182; Carley 1986).

The recommended data sources and techniques are discussed in the *CIA Handbook* (Williams et alia 2000) and other resources. The references site in this report also are recommended. Some data sources or techniques also are discussed in the text.

Chapter 2 provides recommendations on how to measure users' and communities' perceptions of the safety of the facility or service versus the impacts that were predicted. In Chapter 3, recommendations are made on ways to measure satisfaction with the results based on the "purpose and need" established during the assessment. Recommendations are provided in Chapter 4 on how to determine whether the action is in harmony with the community and other aspects of the environment. Chapter 5 discusses how to gauge the effective and efficient use of all resources. Suggestions on measuring sustainability and preservation of resources are provided in Chapter 6. Chapter 7 provides recommendations on measuring the stakeholders' expectations of the actions. Suggestions on how to measure the amount of disruption to the community caused by the action are provided in Chapter 8. And, Chapter 9 provides recommendations on measuring the "lasting value" of the action. The core recommendations are followed by conclusions and recommendations in Chapter 10. Endnotes, references cited, and appendixes of relevant materials follow.

A brief overview of the recommended measures, including sample questions, is provided in Table 9. This summary table is repeated and expanded in the respective chapters. In addition, the tables in each chapter recommend data sources for the respective measures and analyses or applications. The tables are followed by a checklist of questions, drawn from the suggested

measures, and a discussion on each question. A separate section provides recommendations on public involvement techniques.

Table 9. Recommended Core Measures

	MEASURE	CHECKLIST QUESTIONS
SAFETY	Crime in the neighborhood or study area	Did crime in the neighborhood or study area increase or decrease after the transportation action?
	Effect on emergency (police, medical, and fire) response times	Have there been changes in the response times of emergency personnel?
	Effect on nonmotorist (pedestrian and bicycle) conditions	Have persons who use nonmotorized modes of transportation been effected?
	Residents' perception of safety, e.g., barriers, canyons, etc.	Do residents feel safe in the community since the action took place?
	Users' perception of safety	Do users of the facility of service feel less safe? More safe? Why?
PURPOSE & NEED	Economic development	Will the proposed policy or program improve access to or for businesses?
	Level(s) of service improvement	Was the action triggered by a need to improve the level of service?
	Safety hazard correction	Did a safety concern prompt the project or service?
	Social demand	Is the action in response to community demands for improved access or mobility?
	System linkage, i.e., "fits" in the transportation system	Does the policy, project, or service provide needed connections in the existing system?
	Interface with other modes	Does the project, program, or service improve intermodal connections?
	Transportation demand	Will the project promote ridesharing, nonmotorized vehicle use, and other efforts to decrease single occupant vehicle use?
	Effect on aesthetic resources	Are there inventories or other documents of aesthetic resources? What attractions, landmarks, gathering places can be observed?
	Effect on cultural resources	What archival data is available on cultural or historical resources?
	Visual impact of the action	What visible changes have taken place in the community as a result?

	MEASURE	CHECKLIST QUESTIONS
HARMONY	Public support for changes to aesthetic and cultural resources	What public support, if any, is there for changes to aesthetic, cultural, or other resources?
	Number of affected or relocated households	How will the action affect households in the community?
	Number and type of affected or relocated businesses, displaced community facilities, etc.	Did the action affect or displace community facilities, businesses, places of worship, etc.?
EFFICIENT USE OF RESOURCES	Support for resulting plan, project, or service	Are there indicators of support for the resulting action?
	Results consistent with purpose and need	Do the outcomes reflect the goals of the purpose and need statement?
	Engagement in the decisionmaking process	Did the community and other stakeholders remain engaged in the process?
	Resources expended responsibly	What considerations were given to budget, the community, staff, time, and other resources?
SUSTAINS & PRESERVES	Effect on natural resources	Will the action have effects on natural resources? If so, what?
	Effect on land uses	What effects, if any, will the action have on land uses?
	Natural resources and land uses identified by the community	What important natural resources and land uses has the community identified?
	Enhancement activities	Are there opportunities to enhance the natural resources and land uses?
EXCEEDS EXPECTATIONS	Purpose and need goals	What goals were identified in the statement of purpose and need? Other goals?
	Stakeholders' visions of the project	What visions have affected parties expressed?
	Commitments made to stakeholders	What commitments were made to affected parties?
	Needs of special populations	How have the needs of special populations been included and addressed?
	Impacts, perceived and otherwise, on affected parties	What disruptive impacts were identified by the community?
	Project or service meets design or implementation plan	Does the project or service meet design or implementation plans?

	MEASURE	CHECKLIST QUESTIONS
MINIMAL DISRUPTION	Residential, business, civic organization or other relocations	How many residential, business, civic organization, or other relocations occurred?
	Loss of trade	Did businesses, civic organizations, or other agencies identify any loss in trade?
	Loss of access or mobility	Did residents or other users identify loss of access or mobility?
LASTING VALUE	Safe facility	Is the facility or service safer as a result of the action?
	Meets the purpose and need	Does the action meet the purpose and need as identified by all stakeholders?
	Is harmonious	Is the action harmonious with the built and natural environment?
	Efficient and effective	Does the action make responsible use of all resources?
	Sustains and preserves cultural, historic, and other valued resources	Does the action sustain and preserve these resouces?
	Exceeds stakeholders' expectations	Does the action exceed stakeholders' expectations?
	Impacts avoided, minimized, or mitigated	Were impacts avoided, minimized, or mitigated? Does the action enhance the community?

CHAPTER 2. A SAFE FACILITY OR SERVICE FOR THE USER AND THE COMMUNITY

Anthony Ferraro

NEPA requires that federally-assisted actions be carried out in a manner that does not risk health or safety (42 USC § 4331). Safety considerations under community impact assessment take on a boarder definition than may be the usual case for transportation professionals. Community residents may include issues related to public health, personal safety, and security–asthma, emergency services, secluded areas–in their definition, while transportation professionals may focus more on traffic conflicts. Facility or service users may include issues that overlap those of the residents and transportation professionals. Community residents also may have perceptions of unsafe conditions that should be addressed.

Safety performance measures may be incorporated by various transportation agencies throughout the process. In *Considering Safety in the Transportation Planning Process,* the authors (AECOM et alia) recommend that planning agencies involve the public in developing safety goals and objectives, thus facilitating community support and "buy-in" (n.d.: 2-4). The text also stresses the importance of assessing safety as a means of prioritizing limited resources. In project development and environment (PD&E), users and communities may help identify safety concerns associated with increased traffic conflicts between facility automotive users, between automotive users and pedestrians and bicyclists, and the safety and security of public spaces. (See the *Florida Project Development and Environment Manual (PD&E) Manual).*) The Federal Transit Administration (FTA) environmental guidance states that "projects should be evaluated to identify potential pedestrian and traffic hazards, as well as user and employee security issues" (n.d.).

The core measures recommended in Table 10 are suggested to assess the breadth of the definition of safety from the user's and community's perspectives developed during the initial assessment process and to gather information for any future action. These help to identify how well the community's and user's concerns–health, safety, and security and real or perceived–were addressed. The measures also aid in monitoring the action for safety problems and unanticipated benefits. The recommendations also may help in identifying solutions to problems and provide information for long range planning. These are not exclusive, but are provided as suggestions on how to *think* about the impacts. The application discussion, questions and pubic involvement methods are additional supports.

Table 10. Core Safety Measures

Measures	Data	Analysis
Crime in the neighborhood or study area	Crime statistics	Use for before-and-after comparison
Effect on emergency (police, medical, and fire) response times	Primary data from emergency services agencies	Look for changes in access to or through the community
Effect on nonmotorist (pedestrian and bicycle) conditions	Crash statistics, hospital emergency department statistics	Use for before-and-after comparison
Residents' perception of safety, e.g., barriers, canyons, etc.	Demographic data Primary data from residents	Look for changes in population, particularly, vulnerable groups, e.g., children, older persons, persons with disabilities, and women, and changes in travel behavior.
User's perception of safety	Crash statistics Primary data from users	Use for before-and-after comparison Look for changes in driving or other travel behavior.

Application of Core Safety Measures

As mentioned earlier, the suggested measures contain both qualitative and quantitative methods. The combination of the two help transportation analysts to determine the community's and user's perceptions of the action and the actual conditions. Quantitative methods alone will not provide an assessment of the user's and community's perceptions of safety. Nor will qualitative methods used alone provide an assessment of the results of the transportation action.

The purpose of the data collection and analyses is to gather information to determine both good and bad impacts of the action. The good impacts or benefits of the action should be carried forward. Adverse impacts should be minimized or mitigated. The community should have input on these solutions.

In *Using Data to Ensure Accountability: Building Capacity for Local Decisionmaking*, the Center for the Study of Social Policy (CSSP) suggests that "[c]ollecting, analyzing, reporting, and using data is an ongoing process that is part of [a local governance partnership's] data system. With this process in place, thoughtful and deliberate decisions can be made to improve results . . . " (2001:98). A key application for the data collection effort is to provide feedback. Again, CSSP suggests a number of questions that may structure the feedback.

Are the indicators moving in the direction intended? If not, why are the strategies not working? Are these the right ones? Are they reaching enough people? What is the community wisdom about why the strategies are not working? What changes should be made? These questions may require more input . . . Be careful to take time with these questions, talking to families, frontline staff, counselors, and clergy, or whomever else might have an idea about what works and why.
Is the strategy being implemented in the way intended?
Are the strategies serving or impacting the persons intended?
With the intention of improving our strategies, what changes should be made in operating agreements, contracts, practices, or policies to refine indicators and results?
What is our timeline for making changes? (2001:102)

Think of the core measures as a way of answering a series of questions. The answers to these questions may suggest more in-depth analysis. The answers also may suggest actions beyond the purview of the analyst or the agency. Documentation of the findings–an update of the assessment–may aid in future actions to mitigate adverse impacts, provide enhancements, and to share information on benefits of the action

Checklist of Safety Questions

1. Did crime in the neighborhood or study area increase or decrease after the transportation action?

   An increase in crime near or around the action may suggest that community or study area is less secure. Are there new hiding places? Is there less access for police? Or that assailants feel more secure?

   A decrease in crime may suggest that the community or study area appears more secure. Is there more lighting? Is there better access for emergency services? Are there fewer places for would-be assailants?

   Attention should be given to nonviolent and violent crimes. Depending on the size of the study area or community, the analysts also may look for shifts in crime from one neighborhood to another. Answers to all of the above questions also may be important in addressing the community's and user's perceptions of safety.

2. Have there been changes in the response times of emergency personnel?

   The fire, medical, and police units that serve the study area or community can provide data on changes in their response times. Also, the crime statistics may provide information on police response times. Increases in response times by these agencies may suggest the need for better coordination during the initial impact assessment in future projects. It will be necessary to work with the community and the emergency agencies to mitigate the impacts. If no changes in response times are found, this information will be important to share with the community and users.

3. Have persons who use nonmotorized modes of transportation been effected?

   A comparison of data on bicycle and pedestrian crashes after the action with baseline information is one measure. (Hospital emergency departments have been suggested as better data sources than State motor vehicle crash data (Stutts and Hunter 1999).) Prior to data comparison, however, data should be gathered from nonmotorized users. This may include their perceptions of safety, security, and comfort; changes in travel behavior; attitudes toward changes in nonmotorized resources; walkability; and general attitudes about the action. Of particular interest will be those impacts that could not be foreseen. Once the action has taken place, both good and not so good effects may result.

4. Do residents feel safe in the community since the action took place?

   A number of public involvement methods may be used to gather data on residents' perception of safety. It is important also to ask what about the action makes them feel safe or less safe. Do they feel the roadway is now too wide to cross? Is the new bus stop in a hidden area? Do residents now feel comfortable walking at night because of new lighting? What is suggested here is to probe for not only how residents feel about the results of the

action, but also probe for why they may feel as they do. What about the *action*, if anything, affects their feelings.

The findings from analysis of the crime and crash statistics also may be shared with residents to contrast and compare perceptions with the actual results. Work with the community to find solutions to feelings of being less safe as well as ways to minimize or mitigate actual unsafe conditions.

5. Do users of the facility of service feel less safe? More safe? Why?

Users may suggest that they feel less safe as a result of the action by changes in their driving or other travel behavior. As with community residents, try to determine what factors caused changes in their feelings? Is the traffic too fast on the facility? Have the users changed routes or modes of transportation as a result of the action? What do the users suggest to minimize or mitigate these feelings?

Case Example

The Department of Recreation, Park, and Tourism Sciences and the Texas Transportation Institute at Texas A& M University conducted research to evaluate bicycle and pedestrian facilities using user satisfaction and perception surveys. The authors of the study state,

> Public and community input on transportation projects is often mentioned as a necessary step in the planning process but seldom performed. The opinions and perceptions of facility users are immensely valuable in improving conditions at current trails as well as in the development and design of new trails (Shafer et al. 1999:1).

The researchers developed two questionnaires, one for on-site completion. The second was mailed to respondents. The purpose of the on-site survey was to gather data *in situ*. The second more extensive survey gathered data on frequency of trail use, other trail-related behavioral aspects, and the contribution of trails to the community's quality of life. The researchers had a very good response rate (64 percent of the total who agreed to participate) to the mail-back survey .

Suggested Safety Public Involvement Methods

The following public involvement methods are suggested to collect data from the public to measure safety. These are not exclusive, but may help to focus the analysis and provide the analyst with additional tools.

Community Mapping

At any stage in project or policy development, analysts can work with users, residents, or resource agencies, e.g., human services agencies, emergency services personnel, etc., or any combination to identify and map the attributes of the study area that may have been affected by the action. This can range from a very simple exercise involving a hand drawn or a wall map to a more complex geographic information system with visualization. (These maps can be compared and contrasted with cognitive or mental maps. See Appendix B.) The purpose of the exercise is to identify how the action has impacted safety. It is important to get the perspectives of different users. Attributes may have different meanings for different groups. For example, plans to calm traffic in a residential area may slow automobile speeds, but may be an impediment to emergency personnel. The map provides visual clues, helping participants to describe and the analyst to understand how the attributes are used.

FOCUS GROUPS

As with community mapping, focus groups can provide opportunities for diverse insights. Participants should be recruited from a broad spectrum of users and the community. It may be beneficial to mix various groups. A portion of the group process may involve participants identifying solutions to adverse impacts or resolving conflicts. Mixed groups also may save time and other resources by providing feedback across different groups. For the best results, it is recommended that the analyst work with a professional focus group facilitator to develop the topic guide and to conduct the focus group, unless the analyst is experienced with group processes. The topic guide should be limited to questions about safety and security and should include probing questions on how and why participants have the feelings they express.

INTERVIEWS OF KEY PERSONS

The value of interviews may be their relative low cost and convenience. They may be conducted in person or by telephone using a topic guide or a more structured survey administered by telephone. The importance, here, is to identify *key persons* to provide the needed information. Key persons may include representatives of various groups that may be affected by the action. Interviews are often an effective means of gathering data from hidden or hard to reach populations.

MEETINGS

This is another group process, which is less structured than focus groups, but can be used to gather data on impacts. Meetings can be planned to take place throughout the life of the action giving would-be participants early notice of opportunities to provide comments. Like focus groups, meetings can save time and resources by bringing together different groups and providing information across groups. For the best results, meetings should have an agenda and a moderator. The details of the topics to be discussed, how to provide input, ground rules, e.g., time limits, should be clearly outlined.

SURVEYS OR POLLS

A survey or poll designed around a small set of questions regarding safety and security can be effective in reaching a large number of people. The survey can be mailed to residents, printed in newspapers, posted on the Internet, or left at key places in the community to attract respondents. Focusing on a small set of questions related to a specific topic keeps the size of the survey small and may prompt more people to respond. Information on how to provide more in-depth responses also should be included.

WALKABILITY AUDITS

Bicycle and pedestrian travel are particular concerns for Florida communities. The concerns include health, safety, and a sustainable environment. The analyst can recruit key persons or focus groups to conduct audits to measure how user-friendly the action may be for bicyclists or pedestrians. A number of audits or checklists are available on the Internet many of which are

designed for differing groups, e.g., seniors. The audit also is a good participant observation tool for the analyst, i.e., taking the opportunity to "walk [and document] the project."

CHAPTER 3. SATISFIES THE PURPOSE AND NEED ESTABLISHED BY ALL THE PARTIES INVOLVED

In his 1998 address, FDOT District 4 Secretary Rick Chesser stated that the purpose and need for a proposed action should be established at the earliest phase and modified as warranted. For many transportation professionals, the term "purpose and need" generally is associated with the NEPA process. The FHWA Office of NEPA Facilitation states that the purpose and need section may be the most important part of the environmental document because:

Beverly Ward

> *It establishes why the agency is proposing to spend large amounts of taxpayers' money . . . A clear, well-justified purpose and need section explains to the public and decisionmakers that the expenditure of funds is necessary and worthwhile and that the priority the project is being given relative to other needed . . . projects is warranted (1990).*

Although the above text suggests that purpose and need are only established in the NEPA process, the Office of NEPA Facilitation also states that the *transportation planning process* [emphasis added] is primary in establishing purpose and need. This suggests that purpose and need is established *prior* to a NEPA determination. An initial statement of purpose and need developed in the planning process also is thought to help coordinate and streamline the overall environmental process. The *CIA Handbook* (Williams et alia 2000) recommends that analysts include the public in developing a statement of purpose and need. Burdge also states, "Social impacts actually begin the day the action is proposed and can be measured from that point" (2004:24).

Whether a NEPA action or some other action, the establishment of the purpose and need becomes a primary performance measure. Frequent return to the purpose and need helps to guide the development of the program or project. This iterative process was once described by a student as the "statement of perpetual need!"

Humor aside, early and continuing involvement of the public, including resource agencies, may ensure buy-in and consensus with the statement. This also may help to identify potential impacts early in the process. Sanchez, Stolz, and Ma advise MPOs and state DOTs to " . . . consider not only travel patterns encouraged and secondary land use impacts, but also the consequences for access and mobility, household expenditures for transportation, and urban congestion" as a means of closer examination of cumulative environmental and social impacts (2003:37-38). Further, many conventional models, studies, and surveys provide good data on automotive travel, but are much less effective in capturing the behavior and needs of other travelers, such as bicyclists, pedestrians, and public transit users. Early community engagement in establishing the purpose and need for a

proposed action helps transportation planners and analysts to supplement other data collection activities. Early engagement also establishes a method of continuous feedback that builds in a performance measure that can be used throughout the process.

Oftentimes, purpose and need for a proposed action may be triggered by a legislative or policy mandate. For example, the Florida Intrastate Highway System Plan (FIHSP) may be interpreted to prompt an action that would widen an existing two-lane facility to a four-lane divided, controlled access highway according FIHS standards to improve the level of service (FDOT Systems Planning 2002: *passim)*. The purpose and need statement may be determined, at the initial read, as the need to meet FIHS standards. At a closer read, however, FIHS standards do not preclude other alternatives, such as improvements to multimodal facilities and services. Nor do FIHS standards preclude other alternatives and input into the decisionmaking process.

> *Multimodal and interim, low cost, and short-term improvements to protect the operation and safety of the facility are included [in the Action Plan to meet FIHS standards]. Public involvement, and coordination with MPOs, transit operators, and other local government officials are integrated in this planning process (FDOT Systems Planning 2002:3).*

A full read of the FIHSP then suggests that the data may indicate that a two-lane facility may need to be increased once the level of service declines to a certain level. One alternative is to increase to a four-lane divided, controlled access highway. This decision, however, is made by integrating public involvement, coordination with MPOs, transit operators, other local government officials, and other resources in the *planning process* [emphasis added]. The level of service data, then, is only one element of the purpose and need statement.

Table 11. Core Purpose & Need Measures

MEASURES	DATA	ANALYSIS
Safety hazard correction	Crash data, e.g., number of crashes, injuries, fatalities, property data; hazards to nonmotorized traffic	Look for opportunities to improve safety and security.
Economic development	Traffic counts; increases in the number of businesses, Enterprise or other economic development zone designation	Use to determine if new travel demands may be generated by increased economic activity.
Level(s) of service improvement	Increased demand on the facility or route, e.g., traffic counts, passenger boardings, etc.; lists of needed enhancements of pedestrian and bicycle facilities, crossings, bus stops, etc.	Look for alternatives to decrease congestion or add capacity, including increased nonmotorized travel.
Social demand	Community requests for improvements, user complaints, suggestions; changes in education, human service, or religious facilities; residential relocations; aesthetics	Use to determine if new travel demands may be generated by changes in social activities.
System linkage, i.e., "fits" in the transportation system	Congestion on local roads, travel demand or volume sufficient to support high-speed or express facilities or services	Look for opportunities to provide links within modes.
Interface with other modes	Connectivity; level of quality for transit and nonmotorized traffic; bicycle and pedestrian facilities, sidewalk, path, and trail conditions, street crossings, universal design features	Look for opportunities to provide links between modes.
Transportation demand	Average vehicle occupancy rates, congestion, crash data, energy consumption, nonmotorized travel, the number of zero-vehicle households	Use to develop alternatives that may promote nonmotorized travel or improve access and mobility for nondrivers.

Application of Core Purpose & Need Measures

The suggested core purpose and need measures shown in Table 11 are possible issues that may have been identified in the problem definition process. The list of measures is a starting point, which should be expanded or condensed as needed. Likewise, the data sets and analyses. Again, Table 11 focuses on the quantitative data collection effort. Qualitative data sources are discussed separately.

By incorporating community impact assessment in the establishment of purpose and need, the analyst incorporates the steps to manage the process " . . . planning and design through to operation" as outlined in Taylor, Bryan, and Goodrich.

These steps include:

- *Early planning and identification of issues*
- *A sound information base*
- *Coordination between central, local and regional government and the developer*
- *Involvement of local people in decisionmaking and identification of issues*
- *Monitoring to assess the social effects of the development over time (2004:59).*

Transportation analysts, more familiar with the planning process or policy analysis, and others may view the development of a statement of purpose and need as "problem definition." Weiss says that "problem definition is concerned with the organization of a set of facts, beliefs, and perceptions–how people think about circumstances" (1989:118). By engaging the community early in the development of purpose and need, variations in facts, beliefs, and perceptions among different groups within the community and resource agencies are identified. The importance of problem definition and, consequently, the statement of purpose and need is the need to solve the "right" problem. The varying facts, beliefs, and perceptions of what may be many affected parties is a more complicated process than responding to a legislative requirement, which may be only one definition of the problem.

Early identification of the variations in "definitions" allows for refinement of the statement of purpose and need and a means of monitoring the process. Buyukdamgaci suggests that solving the wrong problem, a Type III Error–the right answer to the wrong question–harms society through the waste of resources, lost opportunities, and "diminished hope in customers/citizens for effective solution of problems" (2003). Recognition of the complexity of the process, including time pressures, can help to reduce Type III errors. Finally, if this investment is made early in the process, time and other resources may be saved later on.

Checklist of Purpose & Need Questions

1. Did a safety hazard correction prompt the statement of purpose and need?

   First, return to the Performance Measure, "A Safe Facility or Service for the User and the Community" and incorporate those measures into the application. These

measures may be enhanced by consideration of other elements of the statement of purpose and need.

Second, having incorporated the safety performance measures, assess crash data, hazards to nonmotorized traffic, and other revealed safety indicators. What goals were achieved or not achieved? Who are the affected parties? Was there displacement, e.g., did one subgroup of the population benefit at the expense of another? What mitigation strategies are suggested?

A Workable Method for Improving Problem Definition Processes

- Consider all relevant parties...to the situation at hand; find ways to identify all of them without forgetting or ignoring any...identify the ways in which each of the relevant ones enter the picture.
- Give the whole process a clear direction, a purposefulness; this direction being a rational combination, the "resultant vector" of all the parallel or conflicting purposes of various stakeholders (we know that with a different set of purposes, the situation at hand may not even pose a problem), a shared vision, shared values.
- Be creative: see the situation...free from bias, institutional blindness, political fear, limits of personal cognition, limits of open or tacit assumptions.
- Be bold: initially look at the situation from as high above as thinkable, and define (draw the boundaries of) the problem as broadly as possible.
- Try hard to keep from skipping over the problem definition and analysis phases, and jumping on to solving the problem; keep from solution-mindedness, from worrying about feasibility and/or available...alternatives.
- Be objective: be fact-oriented, try to consider all relevant information in the process when it is the right time to be realistic. (Buyukdamgaci 2003).

Have new personal safety or security concerns arisen? What are they? Who are the affected parties? What is needed to mitigate or minimize the concerns? What agencies are potential partners?

Safety, from injury or fatality, was purposefully listed as the first performance measure. While it may not have emerged as a dominant element in the statement of purpose and need, this is one of the few opportunities for the analyst to interject professional expertise and knowledge into the process. Consider personal safety and security concerns from the perspective of all mode users and from time-of-day. What concerns have emerged from safety considerations? How have these concerns been affected by actions taken with meeting the purpose and need statement? What refinements, if any, are needed to mitigate or minimize these effects? Who are the affected parties?

2. Was economic development an element in the statement of purpose and need?

The data collected from traffic counts, changes or lack thereof in the number of businesses, and review of activity in enterprise or other economic development zones may provide information on the contribution of the action to achieve economic development zones. This data may be useful in identifying the need for additional actions, means of refining the initial action, or application of successful actions to other areas.

Attempt to identify what changes, if any, occurred and why they are important. Did the action provide better access? Do businesses and users feel safer? If no changes occurred, try to find out why not. Did the action have adverse impacts? What were they? What can be done to meet the goals? Are these actions beyond the scope of the implementing agency? Who are potential partners?

Likewise if the action had adverse impacts, what are they? Who are the affected parties? What can be done to mitigate or minimize these impacts? What agencies or members of the community can partner with the implementing agency?

3. Were levels of service improvements significant elements in the statement of purpose and need?

Did levels of service reach target rates? Were there improvements for one mode at the expense of another? If so, how does this affect users of these modes?

Increased demand on the facility or route, may indicate both improved levels of service or displacement from other areas. In the latter instance, initial gains may be offset by increasing demand. These conditions may be beneficial or adverse, depending on the mode or goals. For example, if the goal was to decrease the level of automobile congestion and there are early gains that are later offset due to displacement from other areas, then the action may not be sustainable. This may indicate the need for additional actions to relieve automobile congestion, if that is the desired goal.

Were the enhancements of pedestrian and bicycle facilities, crossings, bus stops, etc., provided? If so, did they affect the level of service for these modes? Increased level of services in bicycle and pedestrian uses, conversely, may suggest that the needs of these users are being met.

Have there been changes in the public transit level? What are they? Are these changes sustainable? Does the transit agency have the resources? The last question may be beyond the scope of the implementing agency, however, data on the changes may indicate opportunities for partnership or refinement of the action. If the action decreased the transit levels of service, targeted onboard surveys, discussed later, may help in identifying needed refinements. If the action prompted increases in the transit levels of service, is the transit agency able to meet the increased demand? Depending on the implementing agency for the action, it may be necessary to partner with others ensure that desired levels of transit service are sustainable.

What overall refinements, if any, are needed? Who are the effected parties? Does the new information require refinements to the statement of purpose and need? This returns the analyst to the "statement of perpetual need." Socioeconomic changes may simply prompt changes. The refinements suggested may reflect these changes. If the data indicates the need for such refinements, the performance measures are working.

4. Was social demand a key component in the statement of purpose and need?

Demands from the public that contribute to the statement of purpose and need may come from active or passive sources. Active sources may include requests for service

improvements, complaints, suggestions, surveys, etc. Passive demands may be observed in land use changes, such as the changes in facilities, e.g., business, education, human service, religious institutions, or residential relocations etc., that place more travel demands on the transportation system. Local changes in the community aesthetic designs also may be a passive social demand. For example, changes implemented by local agencies in efforts to revitalize neighborhoods may trigger the need for the transportation system to alter the visual or other aesthetic design elements.

5. How does the action "fit" in the transportation system?

This question is strongly associated with Question 3. Level of Service. Its separate consideration is provided to trigger analysts to look at conditions of congestion on local roads or travel demand that may support high-speed or express facilities or services that may not be routinely considered. The needed system linkages also may require creative solutions that incorporate bicycle, pedestrian, public transit, or other facilities that provide better connectivity between modes–the overall transportation network–to meet new or increased demands. What action is suggested by these changes? Is greater connectivity between modes needed? Where are the gaps? How can these be met? Who will benefit? Is any group disadvantaged? Is there an overall increase in access and mobility?

6. Does the action interface well with other modes?

This question takes Question 5. "Fit" a step further. If a decision is made on a specific action to meet system fit, carry the decision a step further to give further consideration to issues of connectivity between modes and access management. Ask questions about the level of quality for transit and nonmotorized traffic, e.g., bicycle and pedestrian facilities, sidewalk, path, and trail conditions, street crossings, universal design features. (Although universal design features generally are thought of in consideration for persons with disabilities, there are many others who benefit.)

7. Has transportation demand triggered the statement of purpose and need?

General Concepts, Universal Design Principles and Guidelines
Why Do It?

There are many reasons, both practical and economic, for creating a world we can all use.

Understanding the Population

People who could benefit from more universal designs include many both with and without disabilities. In some cases, people may experience difficulty in using products purely as a result of the environment or an unusual circumstance. Beneficiaries of universal design include:

- People in a noisy shopping mall who cannot hear [audio] information [provided in] a kiosk
- People who are driving their car who must operate their radio or phone without looking at it
- People who left their glasses in their room
- People who are getting older
- People with disabilities
- Almost anyone (Trace Research & Development Center, College of Engineering, University of Wisconsin-Madison n.d.).

This question hinges on several of the above questions. While transportation demand may be a key element in the statement of purpose and need, it should be considered in conjunction with the other questions and with any new information that emerges from public involvement. What aspects of travel demand triggered purpose and need? What is the community's response to this information? Is there complementary or social demand from the community? What are the visual or aesthetic impacts? Does the transportation demand action "fit?" How does it interface with other modes?

Suggested Public Involvement Methods

The following public involvement methods are suggested to help develop and refine the statement of purpose and need. Although emphasis is placed on developing the statement of purpose and need early in the process, the methods are applicable throughout and may be used later in the process to identify changes or trends. If the analyst is not familiar with the techniques, it may be useful to bring in others with more expertise.

Revisiting the Statement of Purpose and Need

Various public involvement techniques can be used to revisit the statement of purpose and need, including the techniques detailed below. The aim in highlighting it here is to combine other data with the public involvement process, keeping community concerns and input central to performance measurement. To revisit the statement of purpose and need, public involvement techniques may be targeted at specific groups or persons in the community depending on the measure or measures that prompted the action. For example, if a citizens' advisory committee has been established, it may be useful to bring the committee together to assess the effects of the action. Meetings with other groups or stakeholders, e.g., business owners, low-income or minority residents, resource agencies etc., that may have been directly impacted also may be used. Other techniques such as comment cards, toll-free telephone numbers, drop-in centers, and so on, can be used to gather information from a broader range of the community. Frequent revisiting of the statement of purpose and need throughout the process keeps the reason for the action at the forefront guiding decisions. It also makes available new information that may be learned as the project or program is refined.

Visioning

Although many MPOs use visioning as part of their public involvement process to identify the long-term image or "vision" of the community, it also can be used as a performance measure to gauge how well the community's goals have been met. A number of public involvement methods are used to gather vision data, including focus groups, meetings, charrettes, surveys, etc.

Charrettes

A charrette is a series of small working group meetings—usually over 3 to 5 days—within a larger meeting. Based on intensive, around-the-clock meetings of participants with different points of view, a charrette is designed to solve problems, resolve conflicts, and produce a set of recommendations in a short period of time. A charrette can also establish new lines of communication, produce new insights into solving problems, and build relationships between participants (U.S. EPA 2002:145).

If visioning has not been conducted earlier in the process, it can be used in later stages to document the community's long term goals. This data can be used to develop plans for future actions. It also can be used to compare and contrast how the action fits the community's vision.

The focus of the visioning exercise should be an examination of the action in response to the statement of purpose and need. Opportunity also should be provided to identify any new or undisclosed concerns that may not have been included when establishing the statement.

OPINION SURVEYS

Depending on the scope of the action, a visioning exercise may not be feasible if the need is to gather data from the broadest representation of the community. A survey structured to elicit information about knowledge of the statement of purpose and need, the action, and the action in relation to the purpose and need may be more efficient. The survey responses may have many uses. Information on the statement of purpose and need may include:

Intercept Surveys

Intercept surveys are short interviews that usually take place *in situ*, for example, in shopping malls. The technique also has been used transportation analysts to gather opinions and perceptions of users before and after a project or program. In these instances, it may be appropriate to conduct the survey *in situe* at or near the site of the action. This provides the analyst with an additional data collection opportunities, direct or participant observation, site visits, etc..

- The community's awareness of the statement of purpose and need;
- How well the community's concerns were incorporated in the statement; and
- The need for additional education or information.

The responses can provide similar information about the action, e.g., the community's awareness of the action, the effects of the action, and the community's satisfaction or new concerns.

Care should be taken to ensure that the survey is administered in a way that captures a wide range of the community, especially underrepresented groups. Telephone interviews, intercept surveys, and oversampling are several survey techniques that can be used to ensure that all the affected parties are reached.

Underserved people include those with special cultural, racial, or ethnic characteristics. Cultural differences sometimes hinder full participation in transportation planning and project development. People with disabilities find access to transportation more difficult and their ability to participate in public involvement efforts more constrained. People with low incomes often lack both access and time to participate. Poorly educated people may not be fully aware either of what transportation services are available or of opportunities to help improve them (Howard/Stein-Hudson Associates, Inc. et al. 1996).

CHAPTER 4. THE ACTION IS IN HARMONY WITH THE COMMUNITY

Beverly Ward

At first pass, the consideration of "harmony" as a performance measure may appear beyond the responsibility of the analyst. In general, we think of harmony in association with art forms such as art, music, style or "taste." While there are aesthetic and cultural considerations, it may be useful to expand our thinking by including analysis of the more tangible elements. This chapter discusses the legal basis for the consideration of harmony as a performance measure, provides a working definition, discusses how various publics may define harmony, and provides examples of both tangible and intangible measures, data needs, and applications.

As shown in the following quote, the first two sections of NEPA speak of harmony. The first reference is to "enjoyable harmony" and the second, "productive harmony." The Act, however, does not define what is meant by harmony, alone, nor what is meant by enjoyable or productive harmony. There are some suggestions within the Act and related legislation. First, there is the consideration of conditions that allow for the " . . . fulfill[ment] of social, economic, and other requirements of present and future generations of Americans." Harmony then can be measured in regard to the extent the action affects the community's ability to carry out social, economic, and other activities. There also are sustainability aspects that include giving consideration to the impacts on future generations.

> *The National Environmental Policy Act of 1969, as amended Sec. 2 [42 U.S.C. § 4321]. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment . . . Sec. 101 [42 USC § 4331]. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment . . . declares that it is the continuing policy of the Federal Government . . . 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.*

Although harmony is not specifically mentioned, Section 102 of NEPA includes the "appropriate consideration of unquantifiable environmental amenities." Consideration of an action's harmony in the community may be an "unquantifiable environmental amenity" and as such, its impacts are then assessed. This consideration, in conjunction with "an interdisciplinary approach in planning and decisionmaking," provides some direction on how to include the less tangible aspects. NEPA, then, sets forth that actions should create and maintain conditions of

productive harmony with the environment. Harmony may be measured by assessing the community's ability to fulfill social, economic, and other requirements, including unquantifiable amenities.

While NEPA gives some suggestion to the aspects of harmony in the environmental process, a more thorough overview of the elements is provided in legislation and policies of the transportation modal administrations. In its *Environmental Guidebook*, an online resource, FHWA points out two subject areas, the Natural Environment and the Built and Social Environment. The majority of the considerations related to harmony are related to the latter. These include aesthetics, visual impacts, and cultural and historical resources. (Related legislation and policy guidance is provided at the website and is listed in the reference section.) Evaluation of harmony with the Natural Environment may include questions on how the action impacts air quality, farmlands, wetlands, noise, and natural features that may be of concern to the community.

Two of the best sources for legislation and guidance on aesthetics and visual impacts, from the Federal Highway Administration, are the Aesthetics and Historical & Archaeological Preservation sections of the *Environmental Guidebook* and the 1986 memorandum on [Ae]thetics and Visual Quality Information. There also is a separate FHWA website on Historic Preservation. (All are cited in the references section with links to the Internet web sites.) These sources provide the legal backing and policies on consideration of aesthetic and visual impacts and are useful as checklists in review of the community profile or identifying features that may have been affected by the action if a profile is not available.

> *The appearance of new and improved highway facilities will have an impact on the scenic and visual quality of an area. Consequently, the planning, design, construction, and operation of the Federal-aid highway program should incorporate consideration for [a]esthetics (FHWA 1986).*

As stated above, the FHWA [Ae]sthetics and Visual Quality Guidance recommends consideration of aesthetic and visual impacts from planning through operation. For the analyst, at any phase, this means constant questioning, "What impacts have been identified?" "What are the outcomes?" "Are there new impacts?"

Perhaps the most important contribution from the planning phase is the identification, update, and maintenance of inventories of aesthetic, archaeological, architectural, cultural, and historic resources. These inventories, along with land use and others, provide baseline data for community profiles for the implementing and operating agencies. Combined with data gathered from public involvement, these agencies are alerted to the existence of these resources, their importance to the community, and potential impacts. The Miami-Dade MPO is developing a Community Characteristics Program (CCP), an online database of various socioeconomic characteristics and geographic features. The reports generated from queries of the database assist the MPO in developing customized public involvement activities for communities. The reports and public involvement efforts will be an invaluable resource for implementing and operating agencies served by the MPO.

In addition to aesthetic and visual impacts, other aspects of the environment that should be considered include cultural, historical, relocation and displacement and land use. Depending on the affected communities, socioeconomic, civil rights, and environmental justice impacts also

may be assessed. The questions to answer are "What cultural or historical resources were identified?" " Were these resources impacted by the action?" "Were there any displacements or relocations?" "What were the effects?" "How did the action affect other plans?" "What were the unanticipated impacts?" "How can they be addressed?"

As mentioned, these issues are addressed in FHWA's *Environmental Guidebook*, which is a good resource for the other modes. Although the Federal Transit Administration does not list aesthetics in its tally of resource information, it does include the references in the FHWA *Guidebook* under "Historic, Archeological, and Cultural Resources" (2005). In its *Procedures for Considering Environmental Impacts*, the Federal Railroad Administration (FRA) includes consideration of aesthetic and design quality impacts, land use, and locations of archaeological, architectural, or cultural significance (1999). FRA also provides a good tip for our purposes; one of the factors considered in the analysis is "whether and to what extent the impact has been assessed in a prior environmental document."

Collecting Data in the Planning Phase

The Miami-Dade MPO is developing an online application that will help the MPO to identify community characteristics. The Community Characteristic Program builds on the community profile data, but includes additional elements and is coupled with a geographic information system (GIS). The data collection includes selected characteristics that provided in two layer sets.

The primary layers include:

- Total 2000 Population
- Total, percent, and density of African Americans
- Total, percent, and density of Hispanics
- Total, percent, and density of Asians
- Total, percent, and density of Native Americans
- Total, percent, and density of all other minorities
- Population aged 65 or older
- Population with income-to-poverty ratio under 125% of poverty status
- Total, percent, and density of population that do not speak English
- Total, percent, and density of population with disabilities
- Age distribution
- Household size
- Educational level of population aged 25 or older
- Vehicles per household
- Average household income

Secondary layers include:

- Places of worship
- Schools
- Medical/Health Facilities (Hospitals)
- Fire Departments
- Intermodal Facilities
- Cultural Centers
- Police Departments
- Community Centers
- Social Service Facilities
- Civic Centers
- Government Buildings
- Cemeteries
- Community boundaries
- Future Land Use Map
- Emergency Response Service Zones
- Historic Structures
- Parks
- Transit Routes / Service Areas
- Transportation Disadvantaged Service Plan
- Population and Employment Forecasts
- Bridges
- Work Force Development Data
- ROW Lines
- Business Districts (Rockwell 2004).

Physical Aspects of Harmony

To assess the impacts of an action in relation to this measure, return to the community profile, focusing on those features identified in the inventory of aesthetic and cultural resources. These may include:

- Cultural landmarks and other resources,
- Archaeological sites,
- Historical districts or structures,
- Modal facilities, e.g., transit kiosks or stops, parking facilities, traffic control devices,

- Scenic landscapes, trees, and other natural features, and
- Displacement of residences and businesses.

A review of other inventories, e.g., community facilities and services, businesses, residences, land use and transportation characteristics, and local plans also may be helpful in understanding how the aesthetic and cultural resources function in relation to the other features in the area. This helps to avoid evaluating impacts in isolation. It also may help identify impacts in relation to other features. Public involvement is combined with the review of inventories to gain an understanding of the impacts from the community's perspective.

Less Tangible Aspects of Harmony

Other aspects of harmony that may not be as easy to inventory can include cultural symbols or other markers that are important to the community, but not apparent to outsiders. By cultural symbols, we mean those practices that may be unique to a given community. These may include common, everyday behaviors such as eating practices, worship, etc. other symbols may be present, but only recognized for special occasions or as historical markers. The importance of public involvement cannot be over emphasized as a tool to identify these items in the community and they are importance. Examples may include ethnic stores, restaurants, historic schools, sacred places, etc. What may appear to an outsider as a not desirable place, may hold special meaning for the community.

Table 12. Core Harmony Measures

MEASURES	DATA	ANALYSIS
Effects on aesthetic or architectural resources	Inventories of attractions, gathering places, landscape features; photographs; maps	Changes in the natural or built environment, physical appeal, feelings of safety or security
Effects on cultural or historical resources	Inventories of cultural resources, archival data, histories	Changes in historic or important community facilities or symbols
Visual impacts of the action	Photographic mapping, paintings, historical photographs, illustrations, videos	Changes over time in use; cumulative and indirect impacts
Public support for changes to aesthetic and cultural resources	Applications or other requests for designation or other recognition of key sites, facilities	Community aesthetic and cultural resource indicators
Number of affected or relocated households	Demographic, employment, and housing information	Before-and-after comparisons; quantitative assessments; sociodemographic assessments
Number and type of affected or relocated businesses	Inventory and maps of businesses; economic information:	Before-and-after comparisons; socioeconomic assessments
Number of affected or displaced community facilities	Inventory and maps of other community facilities	Before-and-after comparisons; assessments of social or cultural changes

Application of Harmony Measures

As discussed earlier, the consideration of harmony as a performance measure includes both concrete and ethereal elements within the community. This brings into consideration the "fit" of the action into the sociocultural framework of the community. At any phase of the action, identification of aesthetic, architectural, cultural, and historic resources and their importance to the community must be assessed for the potential of impacts. It is also important to assess not only negative impacts, but beneficial impacts also should be considered. For example, efforts to enhance a cultural symbol in one neighborhood while disregarding such a symbol in another neighborhood is not equitable distribution of beneficial impacts. Simply put, we want to ensure that cultural, aesthetic, and other elements of harmony are shared by all.

A helpful suggestion in working with communities to measure harmony is found in the *FHWA/FDOT Native American Coordination* brochure. As part of a cooperative approach, the agencies attempt to include Native Americans through employment opportunities. Examples include:

- Monitoring construction associated with sites;
- Providing expert information;
- Conducting cultural awareness training for agency personnel; and
- Working as technicians on cultural resource projects.

These opportunities may be useful with other measures, but they may be particularly important when measuring the effects of aesthetic, archaeological, cultural, or historical impacts. The

Beverly Ward

Central Avenue District, Tampa, Florida

The general area between Ybor City and downtown Tampa was once known at the Central Avenue District more or less fondly as "the Scrub." The Central Avenue District has strong historical meaning for the African-American community. From the late 1800s until the 1970s, it was a black residential and business district. During the period of urban renewal and revitalization, many business and residents were relocated. Two public housing complexes, Central Park Village and Tampa Apartments, other residences, many church, and businesses are also located in this area. The photographs shown in this chapter are of the [Fendall] Kid Mason Center, a city-owned recreation facility named for a prominent black businessowner. The mural, shown in the second photograph, "serves as a historical tribute to the former business people who made Central Avenue in the surrounding neighborhood of viable place to live, work, and provide essential goods and services" (Tampa 2003.) It was commissioned by the City of Tampa Public Art Program and is hoped to serve towards establishing a Central Avenue Historic District.

In a Central Avenue Area Community Forum held in February 2005, residents from the community, the Tampa Housing Authority staff, students and faculty from the University of South Florida, community activists, public officials, and local historians gathered to discuss potential impacts of new plans to revitalize the area. One of the results of the forum was the identification of an another historical landmark, Meacham School. The importance of the school was shared in a City Council meeting in March 2005. The City Council passed a motion to have the historic preservation manager submit a report on "whether Meacham School is a historic landmark and how can demolition of the school be prevented." This was seen as a strong indicator favoring preservation of the school building.

engagement of community members is not limited to working with Native Americans. There are numerous examples of agencies hiring community members as design consultants, artists, and so on. Combined, these measures help us to understand the uniqueness of each neighborhood, its quality of life, and what makes it "home."

Checklist of Harmony Questions

1. Are there inventories or other documents of aesthetic resources? What attractions, landmarks, gathering places can be observed?

   Using overlays, direct observation, pictures, etc., try to determine changes in aesthetic features. Has access changed? Does the community still use the gathering places? Have there been comments from the community regarding any impacts? Has the action created a change in the natural or built environment? Has the community made any comments about physical appeal? The probe here is the extent to which the action "fits in" with the aesthetic resources. Have there been comments regarding feelings of safety or security?

2. What archival data is available on cultural or historical resources? How has the action affected these resources? Have you consulted the community regarding any effects on these resources?

   Using inventories of cultural resources, previous environmental studies, archival data, and histories, assess the changes, if any, that have taken place. As with aesthetic resources, impacts on cultural or historic resources should be carefully assessed with the community as an active partner. It is important to remember that the analyst may not have information or an insider's knowledge on the importance of these resources. Gather input from the community regarding their perceptions of the effects.

3. What visible changes have taken place in the community as a result of the action?

   Direct observation, photographic mapping, overlays, historical photographs, illustrations, and so on are useful tools and assessing visual impacts of action. It may also be important to note changes over time to assess cumulative or indirect impacts. Key questions may include, "Did the action affect the line site for traffic, scenic views, or other important features?" "Did the action enhance the community by contributing to aesthetic or cultural resources?" "What impacts have various community members noted?"

4. What public support, if any, is there for changes to aesthetic, cultural, or other resources?

   In the review of documents and archival material, the analyst may discover past attempts by the community to have certain sites or facilities designated as landmarks or of historical value. In addition to providing data regarding the importance of these facilities, this may be an opportunity to assist the community in gaining recognition of these resources.

Should the action require some change to an already identified aesthetic, cultural, or historic resource, it is suggested that the action be considered in light of the guidance of Section 4(f) whether the resource is covered by statute or not. What is important here is to give consideration to the preservation of these resources and to minimize any adverse impacts to the extent possible. Careful consultation with the community is vital to identify strategies to minimize or mitigate adverse impacts and disruption. (FHWA recently released new guidance on *Nationwide Section 4(f) Programmatic Evaluations*. A link to the guidance is contained in the reference section.)

5. How will the action affect households in the community? Are disruptions temporary? Will there be relocations?

   Although there is specific guidance and legislation on relocation, our concern with relocation in the harmony measure is to understand the social networks that may be disrupted by an action. This may be day-to-day hidden activities that are not apparent to outsiders. For example, will relocation change day care arrangements, transportation arrangements for older persons or persons without personal vehicles, or other neighbor-to-neighbor exchanges that may not have a direct monetary value? Will it disrupt long-standing friendships? How will it affect residents' sense of place? In her book, *Root Shock* (2004) , Dr. Mindy Thompson Fullilove describes the effects of urban renewal as a "collective loss." Are these changes temporary? Some of these effects may be especially difficult for vulnerable population groups, such as persons with disabilities, low income households, older persons, and female-headed households. These households may have community arrangements that help in carrying out their day-to-day activities, but may easily be disrupted by an action. A review of sociodemographic data may alert the analyst to the presence of these households within the community and help to identify potential impacts.

6. Did the action affect or displace community facilities, businesses, places of worship, etc.?

   Although the question may have been answered earlier when considering aesthetic, cultural, or other harmony measures, it is repeated here to help the analyst understand how the community uses these facilities and to better assess the impacts of disruption and relocation. Again, emphasis is placed on social activities with economic considerations secondary considerations. In addition to community input, inventories, maps, etc., a useful tool is the Internet. A Google search of restaurants, places of worship, parks, health care facilities, etc., and address matching with the study area may reveal places of interest beyond the neighborhoods' interest. The analyst may be unaware of the effects of the action to a broader community. For example, the action may affect a free clinic that is used by others who do not reside in the study area. One example from New Mexico is a tamale restaurant that people drive to from Phoenix, Arizona, to get take-away meals.

Suggested Public Involvement Methods

Public involvement may be the most important tool in identifying harmony impacts. Although inventories, maps, photographs, and other archival data may suggest aesthetic,

cultural, and historic resources, how these are used in their significance to the community cannot be understood without input from the users. We also stress seeking input from various users in the community and, as suggested by the analysis, others outside the community.

MEETINGS

Meetings may be an effective tool in reviewing archival data on these resources, how they are used, and their significance. This review also may serve to identify other resources that may not appear in existing inventories. The advantages of meetings are that they may bring together large groups of the community and can be an inexpensive way of reviewing and collecting data. The disadvantages are that small or unique groups within the community may not be represented, others may attend that are not comfortable in participating in a group session, or the "tyranny of the majority" may influence participation.

VISUAL RECORDS

Disposable cameras, video cameras, and assets are useful tools for reviews, before-and-after comparisons, and ongoing assessments. The analyst may create his/her own visual records. Diverse groups of the community also should be encouraged to create and share their records. (It also may be useful to have community members share past visual records.) The analyst's records may be used to ask community about the importance of identified facilities. Records shared by community members may provide insight on the significance of facilities from their perspective.

WINDSHIELD SURVEYS

A windshield survey generally is used by analyst as a form of direct observation to gather data. In this instance, we suggest conducting windshield surveys with key informants who can point out key features in the community. In an initiative to address economic development and revitalization issues in the community East Tampa, Florida, the Corporation to Develop Communities of Tampa, Inc., provided van tours of the community for analysts, students, and city officials, forming a partnership and an understanding of cultural and historic resources.

INTERVIEWS AND KEY INFORMANTS

Face-to-face interviews with individuals or small groups are good sources for data. For this measure, it is important to talk with various members of the community, e.g., residents who have lived in the area for a number of years, youths, business owners, etc. Over time, the relationships may develop and these persons may be relied upon as "go to" people or key/expert informants. They also may help the analyst identify other resource persons or agencies to help in the assessment. It also may be useful to combine work with key informants with participant observation, such as attending a cultural event.

CHAPTER 5. THE ACTION MADE EFFICIENT AND EFFECTIVE USE OF RESOURCES

Powell, Fragala & Associates, Inc.

As discussed in Chapter 1, in the review of literature, performance monitoring draws on two notions: effectiveness and efficiency. For our purposes, this particular measure is operationalized by giving consideration to the desired objectives and outcomes, whether the action is effective. We also consider whether the action is efficient, that is, are the results commensurate with the amount of resources used. Throughout the evaluation process, consideration should be given to how well these two elements–the desired outcomes and the use of resources–are being addressed.

In *A Guidebook for Developing a Transit Performance Measurement System*, the authors (AECOM et alia) point out that many traditional cost-efficiency and cost-effectiveness indicators are not linked with user and community issues (2003:1). This is an important point, particularly when considering community impacts. Many efficiency and effectiveness indicators are associated with the dollar value or the "bottom line." Fiscal responsibility is important, however, we also include other indicators. Some analysts view the process as three separate spheres, economy, environment, and society (Lane 2002:19). This view helps to develop a holistic approach and may be useful in selecting other indicators.

There are many indicators to measure the efficiency of service or system performance, which may be taken into consideration as part of this evaluation process. These may be suggested by earlier measures, particularly as identified in the statement of purpose and need. Central to this measure is consideration of the effectiveness and efficiency of the community impact assessment process in meeting social objectiveness. Since public involvement undergirds the process, emphasis is placed on evaluation of public involvement activities. In addition to *A Guidebook for Developing a Transit Performance Measurement System*, the Florida Department of Transportation *Public Involvement Handbook* includes a chapter, "Evaluation of the Effectiveness of Public Involvement Programs."

Table 13. Core Efficiency and Effectiveness Measures

MEASURES	DATA	ANALYSIS
Results consistent with purpose and need	Stated goals and objectives, the statement of purpose and need	Comparison of results with the stated goals and objectives and the statement of purpose and need
Support for resulting plan, project, or service	Comments, survey responses, interview data, polls	Satisfaction with plan, project, or service outcomes
Engagement in the decisionmaking process	Participation in workshops, meetings, other contacts, such as inquiries, calls made to public involvement telephone number, etc.	Degree to which affected communities reached and participated throughout the process
Resources expended responsibly	Responses to specific questions regarding expectations and whether expectations were met, use of time, satisfaction with the process, and resolution of issues	Satisfaction with the assessment process, including use of stakeholders' time

Application of Core Efficiency and Effectiveness Measures

This measure may serve as a milestone or checkmark in the evaluation process to determine how well other issues have been identified, provide an opportunity to address unresolved issues, and to refine the process. Al-Kodmany states

> *A key principle of neighborhood planning is that residents know what is best for their communities. All too often, however, community residents are put in the position of reacting to the visions of "outsiders," planners and designers whose understanding of the neighborhood is less immediate and comprehensive. This can result in an incomplete meeting of the minds about community design, with residents limited in their abilities to visually express their ideas and planners and designers— however well-meaning— limited in their local perspective (1999).*

The goal is to determine how the partnership between the analyst and the community performed. The analyst's role is to facilitate the process whereby the community identifies potential impacts and solutions. The process can be seen to be effective if the stakeholders' goals, expectations, and issues have been clearly articulated. Likewise, the process can be seen to be efficient if the results are considered to be worth the amount of resources expended.

Checklist of Efficiency and Effectiveness Questions

1. Is there support for the resulting plan, project, or service?

   Positive feedback on the resulting plan, project, or service can provide a body of "best practices" that can be used in future assessments. Dissatisfaction with the action's outcome may indicate that issues were not adequately addressed. It may not be possible to satisfy all affected parties, but it is important to learn what concerns or issues remain unresolved. This may improve the outcome of future actions.

2. Are the results consistent with the statement of purpose and need?

   There should be a correlation between the results and the goals and objectives identified in the development of the statement of purpose and need. The degree to which the results map to the goals and objectives is a measure of how well issues and impacts were identified and addressed.

3. Did the affected communities remain engaged throughout the decisionmaking process?

   Continued participation in the process is an indicator of support for the process. Conversely, if the expected participation does not occur at the outset or lags in later phases, this may be an indication of inadequate outreach or dissatisfaction. An important part of the analyst's role as a facilitator is to work with the community to identify the best means of gathering and disseminating information.

4. Were resources expended responsibly?

   Resources can be considered to have been used responsibly if the community thinks the investments of time, budget, and other assets were worth the effort. The community's willingness to make these investments flows from an understanding of the decisionmaking process, attention to issues and impacts, and realistic expectations.

Suggested Public Involvement Methods

As indicated above, feedback from the public on whether the process is viewed as efficient and effective should be asked directly. To a large extent, this is an evaluation of the public involvement process. Archival data from earlier phases of the project can be combined with these methods. For example, elements from the statement of purpose and need may be used in a survey to gather data on satisfaction with the action's outcome.

Surveys

While collecting data regarding other phases of the evaluation, questions may be included that address issues of efficiency and effectiveness. Examples include asking stakeholders questions regarding information dissemination, satisfaction with various phases of the process, and so forth.

Interviews

Key informants or members of citizens groups may provide feedback on outcomes and investments. Although this data comes from a smaller segment of the affected population, more detailed information may be obtained. Informants may be asked to gather data from selected segments of the population in order to provide more representative responses.

Meetings

During meetings or other gatherings, opportunities should be sought to gather data on the action's efficiency and effectiveness. As stated earlier, this measure should be interwoven throughout the process.

Visualization

Computer drawings, plans, and other visual images can be used to compare and contrast expectations with outcomes. These exercises also are useful throughout the process to provide a visual record of changes and refinements. They also may be more effective when working with certain segments of the population or when used in conjunction with written documentation.

CHAPTER 6. THE ACTION SUSTAINS AND PRESERVES RESOURCES

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The preceding measure placed emphasis on the evaluation of effects on sociocultural resources and the built environment. With this measure, we explore the effects of the action on the natural environment. This measure continues to build on Sec. 101of NEPA and explores how the transportation action may serve to sustain and preserve the Natural Environment. Consideration is given from the community's perspective of the effects to the Natural Environment and the interaction between the Natural and the Built and Social Environment.

The importance of this measure is to analyze, first, the effects of the action on the natural environment, and, second, how the effects on the natural environment may impact the community. Perhaps, in this sense, this measure may require more analysis of indirect, cumulative, or secondary impacts than others. The features associated with this measure should be identified in the community profile or, at least, by reference in local or state plans. For example, air quality issues may be addressed in the State Implementation Plan (SIP) and the Transportation Improvement Program (TIP). The analysis then would measure the impacts of the action on these plans or programs and, consequently, the community. A key question regarding an action that takes place in an air quality nonattainment area may be whether the action conforms with transportation control measures to meet attainment goals. This question may have added significance for communities with asthma sufferers or other respiratory ailments.

The analysis associated with this measure also includes consideration of multiple communities; that is, communities that may extend beyond the neighborhoods within the study area. Features or resources within the natural environment may be shared by a broader community than the surrounding neighborhoods. Analysis of impacts also should include these users. Public parks, recreation lands, and scenic rivers are just a few examples.

Following the theme of consideration of impacts in the natural environment and effects on communities, the interaction between the Natural Environment and Built and Social Environment also is included. Because of the emphasis in legislation on lands, wildlife and waterfowl refuges, and historic sites and wilderness areas(known to many as Section 4(f) and Section 6(f)), there could be a tendency to consider the impacts on these resources in isolation.

The point here is to look beyond these uses, broadening the list to include, as mentioned earlier, air quality; water quality, particularly highway or storm water runoff; brownfields, noise, etc.

Sustainability and Preservation

In framing the criteria for this measure, consideration was given to what is meant by the terms "sustain" and "preserves" within the context of transportation actions. A discussion which took place over several months on *Re: NEPA*, FHWA's online "community of practice" discussion board regarding the mitigation of direct impacts provided some guidance. One discussant had pointed out

> *We are bound by the policies, requirements, and regulations implementing the various laws governing natural resources and the made environment, and beyond the letter of the law, by what is the best and highest use of our natural, human, and fiscal resources within the boundaries of national policy and precedent . . . There are no quick, simple solutions here; it is, at best, a difficult balancing act (Sullivan 2004).*

This comment led to further discussion which included a concept from the Haudenosaunee/Iroquois Nation, seven generations. That is, what impact will this decision, action, or use have in seven generations? This is a stretch from our current planning process. The LRTP usually is conducted with a vision of one generation, 25 years. The discussants agreed that the seventh generation concept is a useful philosophy as a long-term goal for resource management

Section 4(f)

Many analysts may be familiar with the consideration of these resources from Section 4(f) legislation. According to *NEPA Project Development* guidance, "Section 4(f) has been part of Federal law since 1966. It was enacted as Section 4(f) of the Department of Transportation (DOT) Act of 1966 and set forth in Title 49 United States Code (U.S.C.), Section 1653(f). A similar provision was added to Title 23 U.S.C. Section 138, which applies only to the Federal-Aid Highway Program. The wording in the two provisions was somewhat different; therefore, the Federal-Aid Highway Act of 1968 amended the wording in both sections to be consistent. In January 1983, as part of an overall recodification of the DOT Act, Section 4(f) was amended and codified in 49 U.S.C. Section 303 but Section 138 was not. The Substantive provisions of Section 4(f) apply only to agencies within the U.S. DOT and are generally referred to as 49 USC 303.

49 USC 303 Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites

(a) It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

(b) The Secretary of Transportation shall cooperate and consult with the Secretaries of the Interior, Housing and Urban Development, and Agriculture, and with the States, in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities.

(c) The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under section 204 of title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the Federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if-

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use" (2005).

The seventh generation concept also was echoed in the World Commission on Environment and Development definition of sustainable development–"development that meets the needs of the present without compromising the ability of future generations to meet their needs" (Eppel 1999:41). This definition was used by the Organisation for Economic Co-operation and Development (OECD)[2] Environment Policy Committee's Task Force on Transport project on environmentally sustainable transport (EST). The task force has been working on this project since 1994 and defines a sustainable transport system as one where "transportation does not endanger public health or ecosystems and meets [the] needs for access, consistent with: (a) use of renewable resources below their rates of regeneration; and (b) use of non-renewable resources below the rates of development of renewable substitutes" (Eppel 1999:50). The task force uses five indicators to measure transportation impacts

- Carbon dioxide emissions,
- Nitrogen oxides and volatile organic compounds,
- Carcinogenic particulate matter,
- Noise, and
- Land use.

The seventh generation concept and the EST project provide us with ways of thinking about sustainability and preservation of resources. The task force indicators, as incorporated in the following suggested measures, are a good beginning. Eppel says that sustainability is a balance between management of natural resources to preserve reproductive capacity and social welfare considerations, including equity concerns and social cohesion.

> *The emphasis is on the links between the key components of sustainability, namely the economic, social and environmental dimensions; on the need to balance these components when there are conflicts; and on ensuring that economic policy takes into account environmental and social policy concerns, and vice versa (Eppel 1999:41-42).*

This balance, as stated earlier, may be difficult, but if sustainability and preservation are included in planning as long-term goals, they can be considered throughout the decisionmaking process.

Table 14. Core Sustainability and Preservation Measures

MEASURES	DATA	ANALYSIS
Effect on natural resources	Air quality analyses, highway/stormwater runoff data, location of native vegetation, transportation improvement programs (TIPs), water quality action plans, wetland delineation and mitigation, locations of wildlife habitats, designated wild and scenic rivers, locations of wilderness areas	Before-and-after comparisons on these resources; compliance or enhancement of local plans; avoidance or mitigation of impacts
Effect on land uses	Location of brownfields, farmland, hazardous waste sites, public parks, recreation lands, and historic sites	Before-and-after comparisons of effects to land uses; opportunities for enhancement of brownfields or other hazardous waste sites; avoidance or mitigation of impacts to farmland, parks, recreation lands, historic sites, etc.
Important natural resources identified by the community	Public involvement data, photographs, histories	Comparisons or contrasts with plans, archival data, update inventories; mitigation or enhancement opportunities
Important land uses identified by the community	Public involvement data, local government plans, histories	Comparisons or contrasts with plans, archival data, update inventories, mitigation or enhancement opportunities
Enhancement activities	Wild or scenic river designations, wetland mitigation, rail-to-trail activities, reclamation of waste sites	Opportunities for new delineations or designations; enhancement opportunities

Application of Sustainability and Preservation Measures

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Ideally, the questions of whether an action is sustainable and preserves resources should be incorporated in the development of the statement of purpose and need. These questions can and should be considered throughout the process. At each turn, the questions should be raised, "Will this decision preserve resources?" "If not, what are the impacts."

Many of the resources under consideration are transboundary or common property. That is, impacts that affect air quality, water quality, or land uses may have outcomes that extend beyond the study area and may include multiple communities. Consideration of these impacts should be undertaken in the broadest possible sense. And, as discussed above, there are temporal considerations, the long-term effects. In applying the sustainability and preservation measures, it may be useful to think of characteristics of the resource to understand potential impacts and the affected parties. These considerations also may help to identify other agencies that may work as partners.

Checklist of Sustainability and Preservation Questions

1. Will the action have effects on natural resources? If so, what?

   From state implementation plans (SIPs), water quality data and overlays of wetland delineations, wildlife habitats, designated wild and scenic rivers and wilderness areas, analysts can determine potential impacts to natural resources. TIPs also may provide information on other proposed transportation action. Review of water quality action plans may aid in identifying water quality issues and coordinating monitoring and protection activities. (See also FHWA's *Development of Statewide or Regional Water Quality Action Plans*, 1996b.)

2. What effects, if any, will the action have on land uses?

   In addition to public parks, recreation lands, and historic sites, are there other land uses in or adjacent to the study area that may be important resources. One such land use that is of increasing concern is farmland. FHWA requires "early consultation" with the Natural Resources Conservation Service of the U.S. Department of Agriculture as part of the environmental process. State and local agriculture agencies, however, also may assist transportation agencies in identifying and monitoring impacts.

FHWA and FTA also have issued joint policy and information on brownfields or hazardous waste sites, which encourages consideration of these redevelopment sites in the transportation planning processes (1998b). This has the potential to improve the value and use of these resources.

3. What important natural resources and land uses has the community identified?

Some of the data sources for this information may be available from partnering agencies that are responsible for the care of these resources. For example, the local MPO may have gathered this data in its LRTP public involvement process. The MPO also may be a source of information for ambient air quality information, particularly in nonattainment areas. Where community data is not available or is in need of an update, suggestions on gathering this data are provided in the "Suggested Public Involvement Methods" section of this chapter. The key concern for the analyst is to ensure that the community's perspective on these resources is identified and that input from the community is gathered on monitoring and evaluating the effects.

4. Are there opportunities to enhance the natural resources and land uses?

As discussed above, redevelopment of brownfield sites may provide an opportunity for enhancement. Other opportunities may exist to enhance or, at least, preserve scenic and wilderness areas. Some enhancement activities can be supported through the federal Surface Transportation Program. These activities are:

- Provision of facilities for pedestrians and bicycles.
- Provision of safety and educational activities for pedestrians and bicyclists.
- Acquisition of scenic easements and scenic or historic sites.
- Scenic or historic highway programs (including the provision of tourist and welcome center facilities).
- Landscaping and other scenic beautification.
- Historic preservation.
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).
- Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails).
- Control and removal of outdoor advertising.
- Archaeological planning and research.
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.
- Establishment of transportation museums (1999).

The guidance on transportation enhancements (TEs) also provides some instruction on monitoring and limited funding for maintenance and operation of program activities. FTA also provides for transit enhancement activities, including:

- Historic preservation, rehabilitation, and operation of historic mass transportation buildings, structures, and facilities (including historic bus and railroad facilities);
- Bus shelters;

- Landscaping and other scenic beautification, including tables, benches, trash receptacles, and street lights;
- Public art;
- Pedestrian access and walkways;
- Bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles;
- Transit connections to parks within the recipient's transit service area;
- Signage; and
- Enhanced access for persons with disabilities to mass transportation.

Where enhancements are beyond scope of the implementing transportation agency, the role and importance of partners takes on greater significance. Examples of successful partnerships are provided in FHWA's *Community Impact Mitigation: Case Studies* (1998). Other examples can be found at the national Transportation Enhancements Clearinghouse (www.enhancements.org). This resource also provides guiding principles and questions on TE activities.

Enhancement, while more specifically addressed in this measure, should be considered appropriately with other measures. In *Community Impact Assessment: A Quick Reference for Transportation*, enhancements are considered as part of the solution when adverse impacts are identified.

Finally, consider enhancement opportunities which are a reasonable expenditure of public funds and help the project fit harmoniously into the community . . . Add a desirable or attractive feature to the project to make it fit more harmoniously into the community. (Not designed to replace lost resources or alleviate impacts caused by the project.)...Commitment must be included in Categorical Exclusion (CE), Finding of No Significant Impact (FONSI), and Record of Decision (ROD) documents as well as the draft and final EIS. Public Involvement is an important input to help identify acceptable solutions to address adverse impacts . . . The analyst should recognize to distinction between: environmental Enhancements, which may be added to a transportation project to improve community acceptance (see 1990 FHWA Environmental Policy Statement) and transportation enhancements, which are funded through the . . . [STP]. Environmental enhancements are incorporated into a project as part of routine decisionmaking to make it more compatible with and sensitive to community needs. [TE] funding may be available to help meet these needs (1996).

Suggested Public Involvement Methods

As discussed earlier, the nature of a number of the resources identified in this measure may be beyond the responsibility of the implementing transportation agency. As the proposed action nears implementation, however, it becomes increasingly important for the responsible transportation agency to work with the affected to communities to identify potential impacts and solutions and to develop effective monitoring and evaluation activities. Whether the implementing transportation agency is responsible for the impacts, including enhancements, or not, the importance of partnerships cannot be overemphasized. Often, the public only sees the "government" taking an action and may not have knowledge of the funding or other regulatory restraints. Often, as actions move through the process, the question comes up from the community, "Don't you people talk to each other?" Further, partnering offers the

opportunity to "piggyback" on public involvement activities of other agencies in order to "leverage each other" and to respect the time constraints of the affected communities.

MEETINGS

Using the "piggyback" idea, issues of sustainability and preservation can be addressed as part of the public involvement activities of other agencies. For example, transportation actions and their effects can be raised during consideration of the SIP. Monitoring the effects of transportation actions can be included in public meetings of updates of the LRTP. As one planner put it, "Learn to attend each other's meetings and to educate each other."

STAKEHOLDER ADVISORY GROUPS

Building on the knowledge gained from the monitoring the affected resources, the analyst may be able to follow up with the respective advisory groups. Examples may include community environmental justice groups or task forces, watershed councils, transit users, MPO citizen advisory committees, community revitalization partnerships, or other grassroots and environmental organizations. These groups may provide both baseline information on potential impacts and provide assistance in monitoring the effects of the action. The groups may provide information through key informant interviews, focus groups, or other information exchanges.

SURVEYS

As discussed in Chapter 2, "A Safe Facility or Service for the User and the Community," surveys may be useful to gauge users' satisfaction and perception of actions taken by the implementing agency to sustain and preserve resources. The survey may be conducted independent of the transportation agency or in conjunction with the agency responsible for the resource. For example, the transportation agency may review the responses to a survey conducted by the National Park Service or the MPO. The implementing transportation agency also may be able to add specific questions regarding the effects of its action to a survey being conducted by a partnering agency.

CHAPTER 7. THE ACTION EXCEEDS THE EXPECTATIONS OF THE DESIGNERS AND OTHER STAKEHOLDERS

Beverly Ward

While the performance measures are not intended to be linear, there should be several indicators at this point that the community, partnering agencies, and others have certain expectations of the results of the action. It also may seem impossible to meet, or even exceed, the expectations of all the stakeholders. Our goal with this measure is to offer guidance on how agreement among the various affected parties, given the consideration of the preceding measures, may go beyond "satisficing."[3] Also, when considering the issues, potential impacts, and enhancements, tradeoffs may be necessary because of the scarcity of resources. The idea of asking stakeholders for tradeoffs or concessions seems counterintuitive to meeting or exceeding their expectations. The need for mediation or conflict resolution may arise earlier, however, meeting expectations of multiple stakeholders or asking for concessions have built-in conflicts. First, there may be conflicting expectations or desires among stakeholders. Second, stakeholders may be reluctant to make tradeoffs. The expectations of the stakeholders also may be beyond the scope of the transportation agency to meet.

The techniques from mediation or conflict resolution may be useful for this measure. One tool is *The Consensus Organizing Model.* The model was developed by the Consensus Organizing Institute, a nonprofit organization that works with low-income and other disadvantaged communities on community organizing, consensus, and economic development. The model includes:

- Identifying an institutional partner, who provides financial and other resources;
- Developing a preliminary assessment of community and other stakeholder interests;
- Building self-sustaining organizations to further community participation;
- Identifying overlapping interests to build relationships and carry out joint ventures; and
- Training consensus organizers as resource persons for future efforts (n.d.).

In applying this model to our evaluation process, the transportation agency serves as the institutional partner. A key resource that the transportation agency can provide to the community and the process is access to other agencies. Throughout the decisionmaking process, data is collected on stakeholders' interests or expectations. This data can be used to identify overlapping interests or "common ground."

The Community Board of San Francisco has developed *The Conciliation Handbook*, which used by communities to bring together different groups to resolve conflicts. The Board states that the handbook can be used to " . . . promote conciliation as a vehicle for empowerment, more effective justice systems, and participatory democracy" (1993:2-3). There are five core principles:

- Voluntariness - the right of participants to enter freely into agreements reached in the process;
- Informed consent - participants' right to information about the process, other options, and resources;
- Self-determination - the ability and the right to define issues, needs, and solutions and determine the outcome of the process;
- Impartiality - participants' right to a process that serves everyone fairly and staff free from bias or favoritism; and
- Confidentiality - information received from participants is kept within the community boards.

This conciliation process stresses the rights of communities and their roles as partners in the process. The principal of informed consent may not be familiar to some users outside of academia, medicine, or other agencies subject to institutional review, however, it is an important concept in the conciliation process. Informed consent includes educating communities about the transportation planning, project or service development process, and implementation of the proposed action. This includes providing information on alternatives, the communities' rights and responsibilities in the decisionmaking process and the responsibilities and resources of the transportation agency. Communities are then prepared to participate in the process and make "informed" decisions. The principals of impartiality and confidentiality speak to fair treatment and discretion in the use of information.

"Adjusted Winner" or fair division was developed in the political science and mathematics disciplines. The concept has been described as a means of ". . . efficient conflict resolution rather than protracted litigation" (Hively 1995). Fair division provides a method of dividing goods among groups who may have different values. In an example of fair division, representatives of two or more groups secretly rank the value of the issues in question. For our purposes, a community to be impacted might rank a playground as more important than a proposed corridor widening. The larger community might desire the corridor widening, placing lesser importance on the playground. In our hypothetical situation, a representative of each group or each group collectively, ranks the issues, secretly.

> *A mediator then uses those lists [of issues] to figure out who gets what, according to their own [the groups'] stated preferences. This method of declaring one's values, carried out in secret, doesn't lend itself to posturing, bluffs, and threats. Instead, . . . it allocates the items in a way that maximizes satisfaction for all parties (1995).*

Steven Brams, a political scientist at New York University, and Alan Taylor, a mathematician at Union College have worked on this procedure since 1993. Their applications are discussed in the book, *Fair Division: from Cake-cutting to Dispute Resolution*. Some of the original application of games theory to this type of political problem was begun by Hugo Steinhaus in Poland during

World War II. While the concept may seem bounded in theory, Steinhaus, Brams, and Taylor all have sought practical applications. Although the process is oversimplified in this example, the potential for fair or envy-free division has been advanced as a possible tool in the resolution of environmental justice issues.

Lisa Beever

Marilyn Ababio, and Michelle Depasse, two environmental justice consultants, used the concept of "adjusted winner" in working with communities in New York City and US DOT regarding congestion pricing. Ms. Ababio gave this description of the concept at the 1996 African-American Mobility Symposium.

> *Our procedure shows us, if we follow certain rules, I cut, you choose, the two haves can add up to more than a whole. Not in size but to their subjective value to each player. Now this is a new concept and it is a diversion from the educational process that we have experienced at school where we are asked for the right answer. This concept says that we should ask for what we want, what we value . . . individuals with special needs, [may] not value the same things that others do. Therefore, often the further apart people are in terms in what they value, the easier it is to divide goods or services. The second concept is equity or fairness. In a roundtable setting, we divide participants in two groups of players. Everyone works to flush out all of the issues around, let's say, a transportation project. Once all of the issues are identified, the two groups of players receive a hundred points each. They then separate and discuss to decide how many points to give each issue. In other words, they decide what they value the most and when the players return, their point allocations are used in a mathematical algorithm to determine winners. But this is not the good part, the good part is that if one group gets more then the other, it has to give back on issues until both players have exactly the same amount of points. We call this procedure "Adjusted Winner." It's very popular because it has certain properties. It has envy-freeness, equability, efficiency and strategyproofness . . . Envy-freeness is the idea that neither party will envy the items that the other party receives because it will think that the value of its item is more than 50 percent of the total based on the fact that they want these issues. Efficiency, both parties cannot benefit by a swap of items. If one party does better, the other must do worst. Equability, each player will think that the value it receives is greater by the same amount more than 50 percent as the value the other party receives. And strategyproofness, truthfulness, it doesn't pay to lie in this game. Truthfulness is the best strategy in the "Adjusted Winner" game. The pay off is not affected by deviating from truthfulness.*

An example of these concepts in action in transportation planning is the Strings and Ribbons game used by the Charlotte County-Punta Gorda MPO to identify specific transportation needs " . . . in the context of costs and available revenues" (Beever and Wagner 1998). Strings and Ribbons was designed by Dr. Lisa Beever and has been used in transportation planning programs to educate communities about funding flexibility, funding constraints, and priorities, and to gain community consensus. GIS maps can be added to provide visual aids. Strings and Ribbons can be combined with other forms of public involvement such as public workshops, focus groups, and committee or neighborhood meetings. Participants are

given a piece of ribbon that represents road funding for one year. The ribbon can be used to expand an existing road or build a new road or traded for an equal dollar amount of buses, sidewalks, bikeways, trails, interstate interchanges, traffic signals, landscaping, or other transportation project ideas. Participants can choose to trade for alternatives that were not originally offered such as landscaping. Other materials may include one map for each group, a length of string representing one year of funding for sidewalks, several paper cutouts of buses, several paper cutouts of other transportation projects that may be considered, extra paper, and markers to create other transportation projects that come up during play (i.e., strips of paper that represent landscaping, traffic signals, highway interchanges), a report that outlines generalized costs for various types of transportation projects, scissors, glue, and paper towels. When all the options have been explored, participants place their improvements on a map. These are grouped to build a cost feasible map. The game is an effective technique to teach communities the concepts of funding flexibility and cost restraint while obtaining important information from the community values--specific project priorities (Beever and Wagner 1998; Morris 2004). It also may be used in later phases of the process to measure the degree to which project expectations have been met.

A valuable resource agency that may be of assistance in identifying issues, facilitating the mediation process, and monitoring outcomes is the Florida Conflict Resolution Consortium (FCRC or the Consortium). In addition to providing dispute resolution education, training, and research, the Consortium provides technical assistance on intergovernmental collaboration, community and public problem-solving, and environmental dispute resolution. In *Resolving Transportation Conflicts in Florida: What Have We Learned?*, the Consortium staff identified five conditions that contribute to the success of a facilitation process. The conditions were:

- Authoritative Sponsorship: The stronger the authority that calls parties together to seek consensus and resolve conflict, the greater the opportunity for success . . .
- Interagency Cooperation: One of the important features of transportation planning is the necessity to involve local, county, regional, state and federal agencies . . .
- Adequate Time: In almost all of the cases, a great deal of effort over a moderate to a long period was required to build consensus . . .
- Adequate Support: In addition to time, adequate support in terms of budget and staff resources is necessary to assume project success . . .
- Early Engagement of Facilitators: Sometimes people have the erroneous impression that facilitation only involves managing discussions in meetings for a client (Langton et al.: 2001).

More information on the Consortium's training and other resources is provided in Appendix C.

Table 15. Core Expectation Measures

MEASURES	DATA	ANALYSIS
Goals identified in the statement of purpose and need	Statement of purpose and need; refinements, amendments, or other changes to the original statement of purpose and need; community or other stakeholder input that may not have been incorporated into the statement of purpose and need	Review outcomes versus stated goals;
Stakeholders' visions of the project	Documentation of facilities, amenities, features, etc., identified by stakeholders	Incorporation of the facilities, amenities, features, etc., into the project
Commitments made to stakeholders	Documentation of issues and solutions identified earlier in the process.	Compliance with commitments made earlier in the process
Needs of special populations	Demographic and other information regarding ethnic or racial minority population groups, low-income households, female-headed households, youths, older persons, etc.	Identification of needs and incorporations of solutions of the needs of special populations into the project

Application of Expectation Measures

These measures begin with a return to the statement of purpose and need with the goal of establishing and verifying the expected baseline goals of the proposed action and measuring the degree to which these goals have been met or exceeded. (It also may be useful to review the findings from the second measure, "Satisfies the Purpose and Need Established by All the Parties Involved." These findings can provide the baseline purpose and data.) Throughout the process, it is important to ask "Have these expectations changed?" "Why?" "Have the changes been communicated to other affected parties?" "Have agreements about the changes been reached among the parties?" Communication is essential and, as Leigh Lane said, the way to do this is "public involvement, public involvement, public involvement" (1998.)

Expanding on the goals expressed in the statement of purpose and need, analysts may need to reaffirm the stakeholders' vision of the action. This may include visualization exercises as discussed later, however, it also involves drawing out objectives of the baseline information as the action progresses through the decisionmaking process. This phase helps all the stakeholders to articulate the specifics of their expectations and helps analysts continually to inform the parties of resources and constraints. This continues the education and information efforts and helps to avoid surprises or misconceptions in later phases.

It also is important to identify commitments made in earlier phases of the process and, to the extent feasible, keep these commitments or work with partnering agencies to do so. This ensures that commitments are kept in mind throughout the process and that there is accountability. It also is a means of keeping participants informed of earlier stages and agreements made in the process, decreasing the chances of rehashing earlier issues and decisions.

The needs of special populations are highlighted as an extra measure to ensure that the expectations of these groups have been included. Although the needs of special populations should be considered throughout the process, this measure returns the analyst back to these groups to ascertain that their goals have been included and that they receive equal consideration. The identification of "special" populations may or may not have taken place in earlier phases. This measure serves as a check to be certain that special populations, such as older persons, youths, ethnic minorities, persons living in low-income households, etc., that have been identified as stakeholders have the opportunity to participate in the process, express their expectations, and to measure whether their expectations have been met and exceeded.

Checklist of Expectation Questions

1. What goals were identified in the statement of purpose and need? Who were the affected parties? Were special populations included? Were there refinements, amendments, or other changes to the original statement of purpose and need? Was the input from the affected community or other stakeholders incorporated into the statement of purpose and need and the changes?

   It may be useful to keep the statement of purpose of need and refinements "out front" in the analysis. This serves to remind analysts and the affected parties of the

"why" of the action, who was involved in the development of the statement, and the agreements made early on. As changes or refinements are made, these may be incorporated as a timeline. The response to these questions serves at least two purposes. It reminds everyone of the goals of the action. It also provides information to newcomers of earlier decisions.

2. What visions did the stakeholders' have of the project? What facilities, amenities, features, economic or other developments, were identified?

   The responses to these questions are further articulations of stakeholders' desires and expectations of the action's outcomes. They may be additional facilities, transportation or other amenities, improved features or aesthetic enhancements, or opportunities for economic development and the like. The identification of these "visions" may be facilitated by visualization exercises, maps, photographs, etc. Some may be beyond the scope of the implementing transportation agency, requiring partnerships with other agencies responsible for the maintenance of these resources. The inclusion of these agencies as partners helps the transportation agency to educate the affected parties and to garner support and other commitments from these agencies.

3. Have commitments been made to stakeholders regarding the outcomes of the action? What are they? What agencies are responsible for the commitments?

   The follow-up on these commitments helps the analyst to ensure that there is compliance with earlier agreements. It also is a form of accountability and helps to educate and inform communities regarding agencies' responsibilities and the availability of resources.

4. What needs and expectations of special populations have been identified?

   Returning to the Community Profile, what special populations, e.g., concentrations of older persons, minority ethnic or faith-based groups, low-income households, youths, etc., have been identified? How have their goals and expectations been incorporated into the process? How have these been met?

   These groups may not be as articulate as other stakeholders. Moreover, their expectations may be weakened by the majority. This is an opportunity to employ some of the earlier techniques discussed regarding conciliation and fair division. Majority groups may be unaware of the needs of the minority groups due to lack of experience with their conditions. An example is the experience of families subject to welfare reform. When the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) was enacted in 1996, Congress was not aware that only 7 percent of families subject to "work first" requirements owned automobiles. The PRWORA legislation required the majority of families receiving cash assistance to "work first." In many areas of the U.S. it is difficult to find and keep employment without an automobile.

   The conciliation and fair division processes serve as education and information activities between affected parties as well as information and data gathering opportunities for analysts.

Suggested Public Involvement Methods

In addition to the public involvement methods mentioned above, the methods suggested below may provide information from broad segments of the affected communities. Depending on the magnitude of the action or the heterogeneity of the affected communities, additional public involvement activities may be needed.

Revisiting the Statement of Purpose and Need

As suggested earlier, the statement of the purpose and need provides baseline information on the outcomes of the action. From this baseline information, the analyst can measure the extent to which these expectations have been met. The public involvement techniques suggested under the "Satisfies the Purpose and Need Established by All the Parties Involved" measure may be useful. These provide a check on the process, continually asking "Are we on target?" "How are we doing?" By revisiting this measure, more feedback is provided to the success of the process. And, as mentioned before, it keeps these goals and objectives constantly in mind.

Visioning

Visioning also was suggested as an earlier public involvement data collection method. Whereas visioning was used earlier to establish baseline desires and expectations, this later process is used to assess how later results meet and exceed expectations. At this point of the evaluation, more concrete examples may be available. Construction may be underway. Results of early service implementation may be available. The benefits of these results are that they provide information to the affected parties on early outcomes and provide the opportunity for refinements and may suggest new alternatives.

Surveys, Focus Groups, and Workshops

Surveys and workshops may be useful tools to gather information from broad segments of the affected populations. Surveys may be targeted toward specific questions, e.g., what were the expectations, have they been met, what else is needed, etc.

Focus groups and workshops may be used to refine the responses of the surveys or independently with selected subgroups of the affected population. More extensive questions may be built on the survey responses or more detailed topics may be addressed in focus groups and workshops. These group processes may be particularly useful in addressing issues identified of importance to the community or special population groups.

CHAPTER 8. THE ACTION WAS DESIGNED, BUILT, OR OTHERWISE IMPLEMENTED WITH MINIMAL DISRUPTION TO THE COMMUNITY

Beverly Ward

There are a several ways that a community may be disrupted by a transportation action. The most extreme is that of relocation of places of residence and businesses. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the "Uniform Act"), provides the legislative guidance on displacements that may be caused by relocations or acquisitions as the result of federal actions. The legislation focuses on three types of displacements:

- Residential owners;
- Residential tenants; and
- Business displacements.

At the other end of the spectrum, a temporary inconvenience, such as roadway resurfacing also may be disruptive to neighborhoods and others users.

Consideration is given to disruption because of its social and economic impacts on communities. The social impacts may not only be an inconvenience, but also may have indirect or secondary impacts, such as adverse health or safety effects. The economic impacts may adversely affect businesses, particularly small businesses that may be more vulnerable and unable to overcome temporary setbacks. Other impacts may affect communities beyond the immediate study area. Where potential impacts can be identified and minimized or mitigated throughout the process, the benefits of the project are more quickly realized and the potential for cumulative impacts also may be reduced.

Among the social impacts of disruptions are the historical experiences of various subgroups of the population, specifically ethnic and racial minorities and low-income communities. Helen Leavitt (1970) documented the disruption of black and low-income communities by superhighway plans more than 30 years ago. Since that time, many others have documented the effects of the "social political choices" of transportation (Manheim 1979; Bullard 1990; Lewis 1997; Bullard 1997; Bullard and Johnson 1997; Bullard et al. 2000a; Bullard et al. 2000b; Sanchez et al. 2003; Bullard et al. 2004). Much of this research focuses on roadway investments, however, in 1994, the first conference on Transportation: Environmental Justice and Social Equity addressed a number of other transportation issues and investments including (FTA 1995):

- Justice in decisionmaking;
- The siting of transportation facilities;

- Transportation and the provision of government services;
- Equity in transportation investments; and
- Transportation, land-use, economic development, the environment, and social equity.

Any of the above issues may contribute in varying to disruptions. In consideration of disruptive actions, analysts should consider not only direct impacts, but also indirect impacts and cumulative impacts, particularly from a historical perspective.

Another facet of disruptive impacts is the use of eminent domain. While real estate acquisitions for the greater public good have been well documented, there is some suggestion that the use of eminent domain may become more contentious given the 2005 Supreme Court decision, *Susette Kelo, et Al., Petitioners v. City of New London, Connecticut, et al.* 125 S. Ct. 2655.[4]

The consideration of disruptive actions may be more contentious than other measures because the actions may impact basic needs, e.g., housing, trade, mobility, etc., even if only temporary. Extra care may be necessary to ensure that affected communities are involved throughout the process because these impacts literally may "hit home." One low-income population group that has received more recent attention is "urban campers"–people who live in camp communities, usually near urban areas for access to work, shopping, schools and other services (Potier-Brown 2004)

Table 16. Core Minimal Disruption Measures

MEASURES	DATA	ANALYSIS
Impacts, perceived or otherwise, on affected parties	Documentation of anticipated disruptive impacts identified by the community, businesses, and other users	Monitor and update documentation of impacts
Project or service meets design or implementation plan	Plans to minimize or mitigate disruptions	Compliance and refinement of plans
Residential, business, civic organization disruptions or relocations	Parcel data; tax assessors records; business licenses; homeless censuses	Before-and-after comparisons
Loss of trade	Changes in sales, use of businesses	Before-and-after comparisons
Loss of access or mobility	Changes in use of services, access to goods, crashes, etc.	Before-and-after comparisons

Application of Minimal Disruption Measures

Community Impact Assessment: A Quick Reference for Transportation recommends that adverse impacts be avoided. The first consideration for the application of this measure is to consider throughout the process whether a disruptive action can be avoided. This includes analysis of alternatives, public involvement in the analysis, and, finally, if the action cannot be avoided analysis of what alternatives cause the least amount of disruption. The consideration of enhancements should be considered in addition to these steps.

As with the measure, "Action Exceeds the Expectations of the Designers and Other Stakeholders," disruptive impacts may require conciliation or mediation efforts for reasons discussed earlier. Emphasis is stressed on involving the affected parties early in the process and providing clear, effective communication. Perhaps no other measure will require as much public involvement because only the affected parties will be able to identify the extent of the impacts. This measure goes beyond adhering to the "letter of the law." Some impacts may not be addressed in law. For example, relocations of households with children may involve not only a change in residence, but also changes in schools, daycare arrangements, recreation, etc. Even temporary disruption may have indirect impacts for these households, such as access to playgrounds, safety, etc.

The analyst should review the community profile to look for subgroups of the population that may be more vulnerable to disruption. While some indicators of these potential impacts may be available from gray data, census information, parcel data, etc., public involvement is essential to understand the how the affected parties use the area where the action takes place. Partnerships with resource agencies also are stressed. This may include school districts, human service agencies, e.g., Area Agencies on Aging, local housing authorities, welfare agencies; other transportation agencies; chambers of commerce, and so on. The inclusion of these partners may aid in minimizing the disruption through coordination of services and identification of alternatives.

Checklist of Minimal Disruption Questions

1. What impacts, perceived or otherwise, were identified by the affected parties?

   Review any impacts identified by the community or other stakeholders and any documentation to avoid or minimize the impacts. (This includes a review of the community profile to check for potential impacts that may not have been identified in earlier stages.) Work with the community and resource agencies to determine if new impacts may have arisen. Review commitments made to minimize disruptions and update as necessary.

2. Does the project or service meet design or implementation plans?

   Communication with the affected parties regarding changes in plans is necessary to determine if new impacts will be created. Changes in plans may be caused by factors outside of the control of the implementing agency, e.g., contracting schedules, weather, etc., however, failure to communicate the changes may give the community the

impression that agreements will not be kept. Communication helps to further trust in the implementing agency and the process.

3. How many residences, businesses, civic organizations, places of worship, etc., have been disrupted?

   The number and contact information of these parties is important to determine if minimum disruption occurred. It is important to conduct follow-up contacts to get feedback on the outcome. As mentioned earlier, care should be taken to given to subgroups of the population that may be particular vulnerable to disruption. Disruption may cause redistribution of the population, not only loss, but an influx may have adverse effects. Also of particular concern are businesses or organizations that have unique characteristics or client bases. Suggestions on follow-up activities are included in the public involvement methods in this chapter.

4. Have businesses indicated any loss of trade? Have other agencies, particularly human service agencies reported decreases or increases in use?

   The Uniform Act address provides guidance on business relocation and compensation. Other disruptions also may have trade or employment impacts and service use. A means of receiving communication from businesses and other agencies regarding changes in trade, employment, and use is useful to document and address the impacts.

5. Have there been changes in access or mobility?

   Emphasis often is placed on adding capacity, however, consideration also should be given to automotive and nonmotorized access, including public transportation. This includes connectivity to residences, public spaces, businesses, and community facilities.

SUGGESTED PUBLIC INVOLVEMENT METHODS

As discussed earlier, disruptive impacts may be perceived as more acute than others because of their potential to affect economic conditions, places of residence, and other facilities that may have unique characteristics. Because of the possible sensitivity to these impacts, it is recommended that conciliation or mediation public involvement methods be used as soon as the potential for disruption is recognized.

COGNITIVE OR "MENTAL" MAPS

Cognitive maps may be useful to determine potential impacts as a baseline, develop alternatives to minimize disruption, and to measure how well the solutions worked. Basically, cognitive maps collect data on how the study area is used. (A more detailed discussion of cognitive maps is included in Appendix B.) Cognitive maps are very effective in helping communities visually to "describe" impacts. They also are beneficial in working with youths, persons that have limited literacy, or other conditions, which may limit the ability to communicate in another manner.

Visual Imaging and Map Overlays

Imaging and overlays may be put to the same uses as cognitive maps, however, the data for cognitive maps are generated by the community whereas the images and overlays are created by the analyst. Many of the same benefits are realized. The two techniques, cognitive maps and visual imaging/overlays, also may be combined.

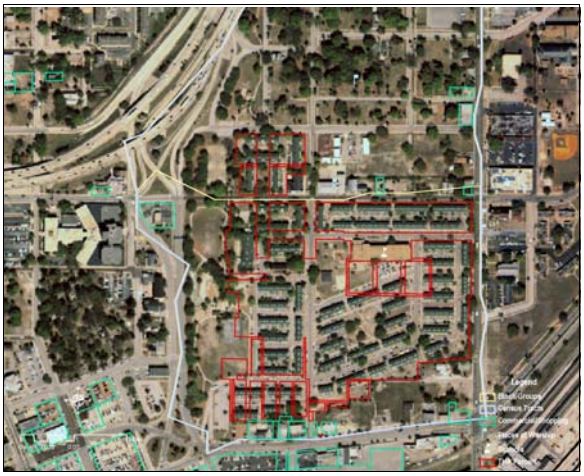
Public Meetings

Depending on the scope of the action and the size of the affected population, public meetings may be effective in assessing impacts in a low-tech manner. These may be useful for businesses, human service agency representatives, and so on.

Telephone Hotline, Project Office, Comment Cards

One or all of these methods may be useful in gathering "real time" information from the community regarding impacts. These methods provide the means for the community to provide data in an ongoing manner and establish two-way communication. It also helps to make the implementing agency more accessible to the community.

CHAPTER 9. THE ACTION IS PERCEIVED BY ALL PARTIES AS HAVING ADDED "LASTING VALUE" TO THE COMMUNITY



Central Avenue (Tampa) Study Area

It has been suggested that this measure serve as a summary measure (Louise Fragala, personal communication March 2005). While the level of analysis should extend as appropriate to the action's magnitude, this measure is a checklist in the iterative process to assure that the evaluation of the impacts and the solutions are seen as having value and sustainability by the affected communities. In a somewhat reverse engineering process, it might be useful to begin with this measure to determine the necessary level of analysis. As issues are identified that require more intense analysis, guidance on how to apply the appropriate measures related to those issues may be used.

The suggested core measures for this summary include the major themes of the previous measures. As each theme is considered, it may serve as a final check that the impacts have been addressed satisfactorily or it might indicate the need for more in-depth evaluation. Our purpose in compiling these themes is to provide analysts with an additional review step, as a means of ensuring the value of the action.

Table 17. Core Value Measures

Measures	Data	Analysis
Safe facility	Crash and crime statistics, residents' and users' perceptions, demographic data	Changes in statistics, before-and-after analyses
Meets the purpose and need	Demand/level of service; economic development; system linkage	Decreases in congestion; changes in economic or social activities; changes in access and mobility
Is harmonious	Inventories of aesthetic, architectural, cultural resources or landmarks; affected households, businesses or other facilities	Changes in the natural or built environment; changes in cultural resources
Sustains and preserves cultural, historic, and other valued resources	Air and water quality data; inventories of land uses; special land use designations	Compliance with local or state plans; before-and-after comparisons; environmental enhancements
Efficient and effective use of resources	Feedback from stakeholders; level of participation in the process	Benefits of the action considered worth the costs
Exceeds stakeholders' expectations	Stakeholders' issues and visions; demographic and socioeconomic data	Review of outcomes; commitment compliance; transportation and other enhancements
Impacts avoided, minimized, or mitigated	Documentation of anticipated impacts; plans to minimize disruptions; parcel data; changes in trade or use	Compliance with plans; updates of actions to address impacts; before-and-after analyses

Application of Value Measures

This review of the themes from earlier measures provides seven checks of the value of the action. As mentioned throughout, the magnitude of the action should dictate the level of analysis and the same is true with this measure. It does not require a full review of each of the themes, but rather is an internal checklist to ensure that the impacts of been addressed and the solutions evaluated. We advise asking one more time, "How did we do?" "Have we missed anything?"

Perhaps the most important aspect of this measure is the compilation and documentation of the findings from the previous measures. As with any impact assessment, these findings can be presented at a public meeting and may serve as a record for any future actions. Although this evaluation may serve as a stand-alone document, it may be useful for inclusion in future environmental documents. As suggested in *Community Impact Assessment: A Quick Reference for Transportation*, documentation should take place throughout the evaluation. It also is recommended that the summary documentation take the form of the community impact technical report. For guidance, see TA 6640.8A. There also may be State or local guidelines.

Checklist of Value Questions

For each of the following questions, except for the last, summarize the findings from each of the seven major themes. The response to the final question should flow from those summaries. That is, if the evaluation is favorable in each preceding area, the value of the project is conclusion drawn from those summaries.

1. Did the action create a safe facility or service?

2. Did the action meet the goals and objectives identified in the statement of purpose and need?

3. Did the affected communities find the action harmonious?

4. Does the action sustain and preserve cultural, historic, and other valued resources?

5. Were resources used efficiently and effectively?

6. Did the action exceed stakeholders' expectations?

7. How were impacts avoided, minimized, or mitigated? Was there minimal disruption? What environmental or transportation enhancements were provided?

8. What lasting value did the action provide?

Suggested Public Involvement Methods

There is only one public involvement method suggested for this measure: dissemination of the evaluation findings. The summary document may be presented at a public meeting. Copies also may be made available at libraries, resource agencies in the study area or that serve communities in the study area, and other dissemination methods as identified by the community during the evaluation.

CHAPTER 10. CONCLUSIONS AND RECOMMENDATIONS

Powell, Fragala & Associates, Inc.

The goals of this research included identifying a set of core performance measures to evaluate the effectiveness of the community impact assessment process. This was accomplished through a number of techniques including surveys, interviews, a literature review, and the study of other gray data, such as MPO plans. The measures suggested here were drawn on the principles of context - sensitive design. The principles were operationalized to form a set of measures or questions for each principle. Data sources, not exclusive, have been suggested along with analyses and applications. Potential public involvement techniques have been identified for each measure.

Overall, what is recommended is the use of the assessment process as an evaluation tool. We suggest that the analyst return to the community profile and begin by asking the question, "What has occurred since the action took place?" The application of the measures will vary depending on the magnitude of the action. Although the measures are laid out in a sequential fashion, the evaluation may not flow in this order. As with any impact assessment, it is a way of thinking about and evaluating the social outcomes.

As mentioned above, much of the early community impact assessment activity focused on road projects. The literature review and other activities suggest that consideration of community impacts has expanded into the planning process and other modes. One finding suggests that the reason community impacts were predominately considered in road projects is that many transportation professionals were under the impression that impacts only needed to be considered in conjunction with a NEPA action. Legislation, policies, and other guidance within the transportation planning process and other modes, however, require or promote consideration of social impacts whether or not there is a NEPA action. Throughout this report, we have attempted to include references and examples related to transportation planning and other modes.

Community impact assessment can be an effective tool in identifying the impacts of transportation decisions, including environmental justice issues. We have proposed a set of measures that may be used to evaluate the effectiveness of this process. Consideration was given to the fact that actions may be in progress that have included little assessment of the social impacts. It may be useful to apply the evaluation measures to gain a better understanding of potential impacts and to develop or improve partnerships with affected communities.

ENDNOTES

1. Some transportation agency staff have stated that addressing the social impacts of decisions is an "unfunded mandate," which is not the case. The process is funded through activities undertaken in environmental considerations or public involvement. As discussed in the literature review, for a number of reasons, social impacts were given less consideration than others in the past. This may have contributed to the perception that the process is not funded.

2. The Convention on the Organisation for Economic Co-operation and Development (OECD), begun in 1960, is an international group of 30 member countries and has working relationships with 70 other countries, nongovernmental organizations (NGOs), and civil society orgranizations. OCED is best know for its publications, statistics, and its work on economic and social issues. The U.S. has been a member country since 1961.

3. "To accept a choice or judgment as one that is good enough, one that satisfies. According to Herb Simon, who coined the term, the tendency to satisfice shows up in many cognitive tasks such as playing games, solving problems, and making financial decisions where people typically do not or cannot search for the optimal solutions" (Reber 1995).

4. The U.S. Supreme Court upheld the Connecticut Supreme Court's affirmation that the city's proposed disposition of the petitioners' property as a "public use" within the meaning of the Takings Clause of the Fifth Amendment.

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APPENDIXES

Appendix A

TIME SENSITIVE

Please Respond by April 5, 2002!

MEASURING THE EFFECTIVENESS OF COMMUNITY IMPACT ASSESSMENT

E-mail Survey

Please complete and return this survey by April 12, 2002. You may fax it or e-mail to Kimberlee Gabourel at CUTR: (813) 974-5168 or SunCom 574-5168 or gabourel@cutr.eng.usf.edu. Thank you in advance for your cooperation!

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1. Please give your office zipcode?

2. Where do you work?
   - ☐ State DOT
   - ☐ MPO
   - ☐ Transit agency
   - ☐ Other (please specify)

3. Do you evaluate transportation actions? (A transportation action may be defined as a change in policy, service, or investment, e.g. route changes, new facilities, etc.)

   ☐ Yes ☐ No

4. Do you have written performance measures for these evaluations?

   ☐ Yes ☐ No

5. What techniques do you use to evaluate the effects of a transportation action on the community? (Please check all that apply.)

   - ☐ Brainstorming
   - ☐ Comparisons
   - ☐ Delphi Techniques
   - ☐ Expert Consultation
   - ☐ GIS/Databanks
   - ☐ Internet/World Wide Web
   - ☐ Map Overlays
   - ☐ Market Research
   - ☐ Peer Review
   - ☐ Public Involvement
   - ☐ Statistical Analysis
   - ☐ Other (Please specify.)

6. Does your organization have a public involvement plan?

   ☐ Yes ☐ No

7. Do you use public involvement to evaluate the effects of an action?

   ☐ Yes ☐ No

8. Please indicate with a checkmark the public involvement techniques used by your organization for evaluation. (Please check all that apply.)

   - ☐ Ad hoc task forces
   - ☐ Advisory committees
   - ☐ Charrettes
   - ☐ Citizen work groups
   - ☐ Community events
   - ☐ Field offices
   - ☐ Focus groups
   - ☐ The Internet
   - ☐ Newsletters
   - ☐ Personal contact
   - ☐ Public meetings
   - ☐ Workshops
   - ☐ Other (Please specify.)

9. All together, how many times in one year does your organization typically use these public involvement techniques?

10. What notification activities are typically used by your organization? (Please check all that apply.)

    - ☐ Announcements at town meetings
    - ☐ ...religious services
    - ☐ ...community events
    - ☐ Posters/flyers at local business
    - ☐ …at gathering places
    - ☐ ...schools, shopping centers, public parking facilities
    - ☐ The Internet
    - ☐ Local newspapers
    - ☐ Radio
    - ☐ Public-access television
    - ☐ Public service announcements
    - ☐ Other (Please specify.)

11. In your experience, what is the *most effective* way to notify the public about the effects of a transportation action on the community?

…. the *least effective* way to notify the public?

12. Overall, how would you rate the public's response to your organization's public involvement techniques?

☐ Very favorable
☐ Favorable
☐ Fair
☐ Not so favorable
☐ Unfavorable

Comments:

13. Does your organization have a public outreach plan?

☐ Yes ☐ No

14. When using public involvement techniques, what method does your organization use to record comments? (Please check all that apply.)

☐ Court reporter
☐ Internet
☐ Written comment forms
☐ Other (Please specify.)

15. Does your organization evaluate its public involvement techniques?

☐ Yes ☐ No

16. What tools does your organization use to evaluate its public involvement techniques?

☐ Brainstorming
☐ Comparisons
☐ Delphi Techniques
☐ Expert Consultation
☐ GIS/Databanks
☐ Internet/World Wide Web
☐ Map Overlays
☐ Market Research
☐ Peer Review
☐ Public Involvement
☐ Statistical Analysis
☐ Other (Please specify.)

17. In your experience, what is the *most effective* way to evaluate public involvement techniques?

….the *least effective* way to evaluate public involvement techniques?

18. Would you be interested in participating in a 20-to-30 minute telephone interview about performance measures for community impact assessment within your organization?

☐ Yes ☐ No

If "Yes," please print your name and telephone number here .

Thank you for participating in this survey!

APPENDIX B

SOCIAL MAPPING

(Adapted from *Community Culture and the Environment: A Guide to Understanding a Sense of Place* (2002.))

Social maps are tools that are used to collect, organize, and analyze social data about a community. They illustrate different types of relationships and connections in general, as well as those related to the environment. Social maps also illustrate issues and problems; causes and effects; relationships between organizations, institutions, and individuals; or perceptions in general. The creation of social maps can involve actual community members, or the maps can be used as tools for actual community members, or the maps can be used as tools to methods. The four types of maps are asset, cognitive, concept, and social network. The community profile can be used as a base for many social maps or can be combined with any social mapping activity.

Social Map Uses

- Identify relationships between different elements of the community (e.g., issues, community, individuals, associations) (See Asset Map).
- Identify the direction, flow, and control of information in a community (formal or informal)(Social Network Map).
- Identify the causes and effects of an issue and the role of beliefs, perceptions, and individual and organizational relationships that structure and affect the issue (Concept Map).
- Identify potential partners (Asset Map or Social Network Map).
- Identify different perceptions of the natural and physical environment among different groups of community members (Cognitive Map).
- Trigger strategic thinking (all maps).
- Analyze impact assessment data (all maps).

- Asset Maps identify a community's capacities and assets to create changes for itself. Community assets that are visually represented on an asset map might include:

  - The individual assets of community members (e.g., specialized skills, political influence, management or fundraising experience, teaching ability).
  - The collective assets of associations or groups of citizens working together (e.g., volunteer base, meeting space, technical knowledge, office equipment — phones, faxes, computers).
  - The assets and capacity of institutions (e.g., financial and technical assistance, mediation).

- Cognitive Maps are community members' drawings of their personal perceptions of their community and its surroundings. Cognitive or "mental" maps are similar to the "pictures"community members recall from their memories to solve spatial problems,

such as navigating their surroundings and giving directions to others. Without these stored mental maps, everyday behavior, such as traveling from home to work, would be impossible. Cognitive maps are subjective; they depend on, and vary by, the perceptions, behaviors, and experiences of individual community members. A cognitive map helps the assessor understand what contributes to someone's sense of place, including places of significance, such as cultural or historic landmarks and important symbols.

- Concept Maps identify the relationships among causes and effects, ideas, beliefs, concepts, or problems, such as particular land-use decisions (cause) and nonpoint source pollution (effect) within a community. Concept maps also reveal the significant beliefs of a single community member or a community group regarding a particular problem(s) or issue(s). The mapping process structures and analyzes this information and illustrates the links between the various factors (e.g., tradition, personal experiences, access to information) that form and perpetuate the belief or problem. Concept maps can help you and community members visually reduce a complicated issue into more manageable and understandable parts, thereby clarifying the steps to take toward its resolution.

- Social Network Maps can be used to describe patterns of communication or relationships within a community. They can help identify which individuals have the strongest influence in the community and how new ideas or information spread through the community. Creating a social network map is particularly effective with small networks of people (less than 50), such as very small communities, subsets of a community, or rural areas. Analyzing this map can help tailor successful outreach and education programs by illustrating the way information travels through the community.

For more information on the data needs and applications for each map type, refer to the publication, *Community Culture and the Environment* (2002).

Using Maps to Collect Community Data in the Tampa Heights Neighborhood Plan

At the inaugural meeting of the Hillsborough County Social Information Network (SIN) on in early 2000, attendees were provided socioeconomic information on a community in Tampa, Florida, and asked to work on solving social challenges in an unnamed community. (Hillsborough County SIN is an ongoing forum founded by the Hillsborough County City-County Planning Commission. Participants in the forum include public and private nonprofit organization staff who have, collect, or use social data. By mapping the available social data, the Planning Commission hopes that the forum will link these organizations and bring together resources to address concerns and identify solutions.) Meeting attendees later learned that the community was Tampa Heights. At the end of the meeting, attendees were provided notices of two public meetings to be held in mid-Spring 2000. The City of Tampa had asked the Planning Commission to work with the community to develop a vision for the neighborhood. A description, provided below, of one of the public meetings illustrates how maps may be used to collect data from community residents.

Tampa Heights Profile

In the exercise presented to SIN meeting attendees, Tampa Heights was described as follows:

- A 3-square mile area
- Median income of $9,000 or less
- A high percentage of single head-of-household families
- A high percentage of children
- A high crime rate
- Little or no access to public transportation
- Racially mixed *and* [emphasis original] racially divided
- Lacking public facilities such as schools, libraries, and community centers.

Although many of the SIN meeting attendees represented human service agencies, it was difficult for some to imagine that a community as described above could be in an urban area. These assumptions about urban communities and their resources may present challenges to addressing the communities' needs. While the above description provides some information about the community, a more in-depth profile of the community, which inventories community resources, may be needed. Such a profile may include:

- Additional information on the community's economic history and characteristics, e.g., background;
- Additional information on the community's social characteristics, e.g., community values and issues; and
- Additional information on the community's physical characteristics, e.g., activity centers, businesses, other focal points, etc.

A GIS and other components of the community profile were developed by the Planning Commission. The GIS was made available at the two public meetings. (See Figure A-1.) The GIS included schools, bus routes, child care, and hospitals. The purpose of supplementing the data was to provide more information on the community's resources or lack thereof. The more

Figure B-1 Tampa Heights Neighborhood Facilities GIS and Public Involvement Program Work Plan

complete the information on the past, present, and planned actions for the community, the better to work with the community. The GIS also was updated as new information was obtained.

How Did They (The Planning Commission) Do It?

The Planning Commission used flyers, direct mailings, and personal contact to notify residents of the meeting. (A flyer follows this description.) Large signs were displayed outside the school and along the corridors, directing participants to the meeting hall. (See Figures A-2 and A-3.) Seventy-five residents attended the first meeting. The second meeting drew 45 residents. Participants were asked to sign-in at a registration desk that also contained information about the Planning Commission, the neighborhood meeting (follows this description), materials for written comments, volunteer solicitation, comment cards, and other information. After signing in, participants were given name badges with a number that matched their respective sign-in lines.

The meeting room was large, with columns that separated about one-third of the room lengthwise. Upon entering the room, meeting participants were greeted by Planning Commission staff and shown the easel in Figure A-1 and the aerial map in Figure A-4. Depending on interest, participants were advised on the Public Involvement Program Work Plan, the neighborhood planning process, and general information on the Planning Commission.

In addition to the aerial map shown in Figure A-4, there were three additional "stations" with aerial maps of Tampa Heights, flip charts, markers, and colored dot stickers. Each station

Figure B-2 Meeting Sign Outside Lee Elementary School

was staffed by someone from the Planning Commission or a consultant. If a participant stopped at a station, staff gave the person a sticker and assisted her or him to find their home on the aerial map. The sticker was placed on the map and the participant's number from the name badge was written onto the sticker. The staff person then asked the participant to talk about the neighborhood, asking questions such as, "What do you like about it?" "What don't you like?" " What would you change?" " What do you want to stay the same?" The person's number and comments were written onto the flip charts.

The stickers gave staff and other participants a view of the areas of Tampa Heights that were represented. The stickers also allowed participants to make comments without revealing much about their identities beyond what they chose to put on the name badges. The flip charts allowed participants to see others' comments and to add to or otherwise discuss issues. The written comments were collected by the Planning Commission staff and synthesized.

In the area behind the columns, tables, chairs, and tape recorders were arranged. The Planning Commission staff was available at these tables to take comments from participants who may not have been comfortable speaking before a group or who preferred to speak in Spanish.

Although the plan included other elements beyond transportation, key transportation questions included asking if the person had a driver's license, owned a car, used the bus, walked, carpooled or vanpooled, used a vehicle provided by a religious organization, got rides with friends or relatives, bicycled, or used other forms of transportation. For each "Yes" answer, respondents were asked how often that mode was used during a week or month. Respondents also were asked how they traveled to the meeting. Participants were asked to think not only

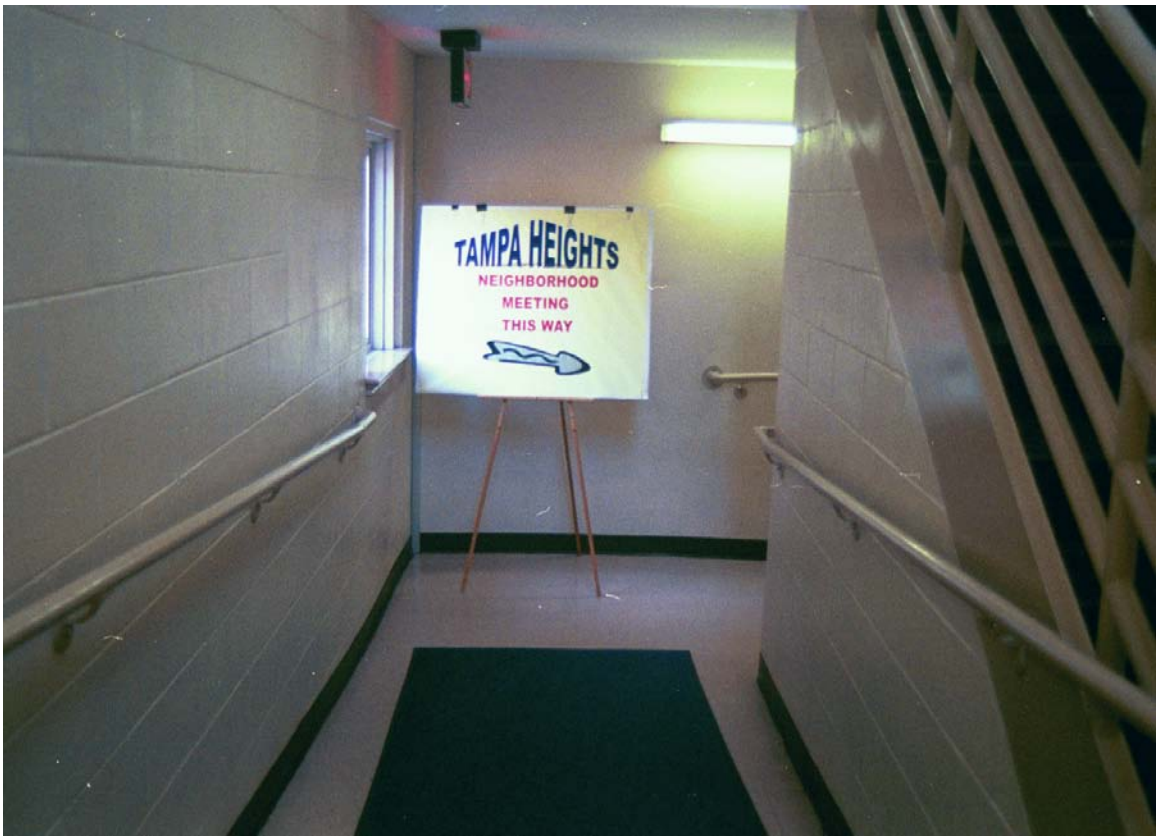

Figure B-3. Meeting Sign Inside Lee Elementary School

of how they traveled to and from Tampa Heights, but also if they traveled within the community and how. If they indicated that they did not travel either to and from the neighborhood or around it, they were asked why. Finally, participants were asked what they would like to do in the neighborhood, particularly where they would like to travel, but did not.

WHAT DID THEY LEARN?

During the two meetings, 15 direct contacts were made with different individuals or persons in small groups—two-to-three people. (This does not include transportation information gathered and posted to the flip charts.) The range in ages was roughly mid-20s to mid-80s. People were observed to be of African-American, white, or Hispanic origin. The gender mix was observed to be roughly half male, half female. It also appeared that there was a broad range of economic groups represented.

Overall, most of the people I spoke with had drivers licenses and owned vehicles. One person stated, "You have to have a car." She was a former bus user who stated that when her children were small, she and her family walked everywhere they needed to go. Now, she has a car and gives rides to her neighbors.

One bus rider said, "The bus is kind of convenient, but I wish there were more options than the one-day [or monthly] pass." For this person, these options were rather expensive. She said a multiday or weekly pass would better suit her travel needs, if the price for such a pass were adjusted.

Figure B-4. Aerial View of Tampa Heights with Photographs of Key Facilities

Another person stated that their 100-year-old neighbor walks to the HARTline North Terminal. The neighbor also uses taxis to go to drugstores and do other shopping. Most of the participants stated that they traveled outside of the neighborhood for many basic items, such as food, recreation, or entertainment. There are few facilities in the community that residents want or need. Most residents spoke of wanting grocery stores that were closer to their homes. More restaurants, not fast food franchises, coffee shops, book stores or libraries, and meeting places were mentioned. A few people mentioned the loss of "mom and pop" stores or corner grocers. They said that convenience stores did not provide a lot of the items they wanted.

Most participants drove or rode with relatives to the meeting, although Lee Elementary is relatively central to the area and the meetings began and ended during daylight hours. Everyone said they would like to be able to do more things in the community, but because they perceive the area as an unsafe place and as lacking facilities they want, they do not. One person stated that there are "too many cars, we need more [public] transportation." She said she uses the bus sometimes, but does not feel safe waiting for the bus or when she returns.

Many of the existing facilities are not used for fear of security and safety. One person stated that he was afraid to use the sidewalks because of "loose, mean dogs. The leash laws are not enforced." Another person said that he would no longer let his 12-year-old son ride his bicycle to park. The child had a bicycle stolen while at the park. Another person said bus drivers also may be afraid. She said that this fear may have caused some bus routes to be removed from the area. The perception of the area as an unsafe place seems to limit travel by residents around the community. People spoke of feeling isolated and lacking police

Figure B-5. Neighborhood Residents and Planning Staff at a Station with Interview Facilities to the Right

protection. Some of these perceptions were related to aesthetics or infrastructure maintenance such as replacing streetlights, removing garbage from empty lots, bike lanes, and sidewalk and road repair.

In general, there appeared to be little distinction between people regarding their perceptions of safety and security in the community. Everyone wanted the same things. More women said that they used public transportation, than men. More women than men also said they wanted certain facilities, such as grocery stores. The need for more activity centers and recreational facilities in the area was expressed by almost everyone. Along with the wishes for these resources, participants mentioned the need for infrastructure improvements or maintenance and better safety and security measures.

The GIS provided an excellent source of baseline information on facilities and resources available to the community. It provided the Planning Commission staff with knowledge of the community *before* the meeting and aided residents in providing additional information to the staff. The map data was supplemented by the information staff recorded on flip charts, in interviews, and two worksheets. The citizen evaluation postcards provided the opportunity for meeting participants to give feedback on each meeting.

APPENDIX C

FLORIDA CONFLICT RESOLUTION CONSORTIUM (FCRC)

The Consortium was created by State statute, §1004.49, with to the intent to reduce costs of litigation, resolve public disputes, and improve intergovernmental communications, cooperation, and consensus building. Consortium staff provide professional consultation, conduct assessments, build consensus, and resolve disputes. Transportation projects facilitated by the Consortium include:

- 2025 Florida Transportation Plan Development Process
- First Coast Metropolitan Planning Organization Strategic Directions Retreat
- Strategic Intermodal Transportation Advisory Council Consensus Building
- FDOT District 6 Workshops
- Metropolitan Planning Organization Designation Process
- FDOT State Road 40 Collaborative Process
- Krome Avenue Public Involvement Process
- Tallahassee - Leon County Metropolitan Planning Organization Retreat
- Metropolitan Planning Organization Advisory Committee Institute
- Lee County Road 951 Extension Assessment
- Florida 2020 Transportation Plan Update Process

The Consortium also offers educational services, including presentations, conference sessions, half-day workshops, and one-to-four day training sessions. The educational services are designed for each audience. The Society for Professionals in Dispute Resolution point out that public disputes may be complex. Transportation agencies, consultants, or communities may be interested in participating in some form of the Consortium's programs to gain a better understanding of the problem-solving process. Depending on interest and resources, more extensive training may be considered to develop in-house competencies. Half-day workshops offered include:

- Understanding and Resolving Conflict
- Communicating to Resolve Conflict
- The Negotiation Process
- Designing and Conducting Better Meetings
- The Collaborative Problem-solving Process
- Effecting Leading Meetings
- How to Conduct a Visioning Process.

FCRC'S BUILDING CONSENSUS SOLUTIONS TO FLORIDA'S PUBLIC PROBLEMS TRAINING SERIES

This four-day practical skill-building package has been developed from the staff's experience in resolving disputes. The sessions include:

- Negotiating and Resolving Public Disputes
- Facilitation
- Mediation and Facilitating Public Disputes
- Planning and Managing Participatory Decisionmaking.

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