RECURRING COMMUNITY IMPACTS

Requested by:

American Association of State Highway
and Transportation Officials (AASHTO)
Standing Committee on the Environment

Prepared by

Michael Grant, Principal Investigator
Christine Paulsen
Wendy Messenger
ICF International

and

Teresa Townsend, AICP Co-Lead Investigator
Ann Steedly, PE
Planning Communities, LLC

September, 2008

The information contained in this report was prepared as part of NCHRP Project 25-25, Task 36, National Cooperative Highway Research Program, Transportation Research Board.

Acknowledgement

This study was requested by the American Association of State Highway and Transportation Officials (AASHTO) and conducted as part of National Cooperative Highway Research Program (NCHRP) Project 25-25. The NCHRP is supported by annual voluntary contributions from the state departments of transportation. Project 25-25 is intended to fund quick-response studies on behalf of the AASHTO Standing Committee on the Environment. The report was prepared by ICF International and Planning Communities, LLC. Primary contributors were Michael Grant, Wendy Messenger, and Christine Paulsen of ICF International, and Teresa Townsend and Ann Steedly of Planning Communities, LLC.

The work was guided by a task group that included William Hauser of the New Hampshire Department of Transportation, Gregory King of the California Department of Transportation, John Mettille of Wilbur Smith Associates, Anne Morris of PBS&J, and Harold Peaks and Katiann Wong-Murillo of the Federal Highway Administration. The project manager was Chris Hedges, NCHRP Senior Program Officer.

Disclaimer

The opinions and conclusions expressed or implied are those of the research agency that performed the research and are not necessarily those of the Transportation Research Board or its sponsors. The information contained in this document was taken directly from the submission of the author(s). This document is not a report of the Transportation Research Board or of the National Research Council.

TABLE OF CONTENTS

1. PREFACE 1

A. ABOUT THIS GUIDE 1

B. BACKGROUND ON THE STUDY 2

2. INTRODUCTION TO RECURRING COMMUNITY IMPACTS 4

A. WHAT ARE RECURRING COMMUNITY IMPACTS? 4

B. TYPES OF POTENTIAL RECURRING IMPACTS 5

C. WHY ADDRESS RECURRING COMMUNITY IMPACTS? 6

Legal Basis for Consideration 6

Making Better Project Decisions 7

D. WHO'S RESPONSIBLE? 8

3. GUIDING PRINCIPLES FOR CONSIDERING RECURRING COMMUNITY IMPACTS 9

A. INTEGRATE INTO TRANSPORTATION DECISION-MAKING 9

B. TAKE A COMMUNITY RESOURCE PERSPECTIVE 9

C. MAKE COMMUNITY OUTREACH A CENTRAL COMPONENT 10

D. BE FLEXIBLE AND OPEN TO CHANGE 10

4. INCORPORATING RECURRING COMMUNITY IMPACT ANALYSIS INTO THE CIA PROCESS 11

A. IDENTIFYING STUDY AREA AND POTENTIAL RECURRING IMPACT AREAS 14

Review Area History and Project Information 14

Determine Initial Study Area and Timeframe for Past Actions (Geographic and Temporal Boundaries) 15

Incorporate Recurring Impact Considerations Into Community Outreach Plan 17

B. DESCRIBING THE AFFECTED COMMUNIITES 19

Identify Community Characteristics and Potential Recurring Community Impacts 19

Identify Community Resources Affected by Recurring Community Impacts 21

Revise Study Area and Community Boundaries 22

C. DETERMINING RECURRING COMMUNITY EFFECTS 24

Determine Community Resource Impact Categories 24

Assess Recurring Community Effects 25

Incorporate Community Outreach and Participation 28

D. IDENTIFYING SOLUTIONS AND INTEGRATING INTO DECISION-MAKING 29

Develop Solutions for the Community 29

Incorporate Community Outreach and Participation 34
Use Post-Project Assessments 35
Documenting Results 36

5. CASE STUDIES 37

I-70 Mountain Corridor, CO 37
I-395 in the Overtown Community Miami, FL 39

6. RESOURCES 44

APPENDIX A: WEB SURVEY RESULTS A-1

APPENDIX B: PHONE INTERVIEWS B-1

APPENDIX C: TRAINING COURSES RELEVANT TO RECURRING COMMUNITY IMPACTS C-1

1. PREFACE

A. ABOUT THIS GUIDE

Transportation is often considered to be a catalyst of change in communities. Whether positive or negative, transportation actions affect communities and quality of life. Direct impacts on communities, including low-income and minority neighborhoods, are reasonably well understood, and there are proven Community Impact Assessment (CIA) approaches to help practitioners identify and analyze effects on the human environment. However, one facet of impact analysis that often is overlooked when conducting an environmental analysis is examining the impacts of previous actions on communities.

In many cases, earlier projects might have adversely affected communities through displacement of businesses and residents, the imposition of physical barriers that eliminated or impeded access, the introduction of undesirable physical elements, such as traffic noise and air toxics, or by eroding a community's sense of cohesion. As aging transportation infrastructure is slated for reconstruction and capacity expansion, many of these communities will be affected once again. Therefore, a proposed transportation project that seemingly has relatively minor direct impacts might have significant recurring impacts on communities.

This reference document is intended for practitioners in transportation and resource agencies to provide a common understanding of requirements and approaches that are available to improve the analysis, documentation, and mitigation of recurring community impacts. Recurring community impacts, as explained in this guide, are a subset of cumulative community impacts that focus on the past and current actions affecting a community.

Recognizing that the field is evolving, the basics in this guide are intended to form the foundation of a "living" guide that can be expanded over time as additional case studies are developed and experience with recurring community impacts advances. This document contains information on the following:

- **What recurring community impacts are and why they need to be considered** (Section 2), including a definition of recurring community impacts, examples of types of potential impacts, reasons why they should be considered, and who is responsible;
- **Guiding principles for assessing recurring community impacts** (Section 3), which help shape the overall community impact assessment process and ensure appropriate consideration of recurring impacts;
- **How to conduct recurring community impact analyses and address impacts** (Section 4), including a description of how to approach scoping, describe the affected communities, determine recurring community effects, and identify solutions;

- **Case studies on analyzing recurring community impacts** (Section 5, and throughout), which are provided to highlight examples of practices being applied in project-level analyses; and
- **Additional resources** (Section 6), which provides a list of documents available to practitioners to further assist them in addressing recurring community impacts.

Appendices provide additional information on research conducted in developing these guidelines (Appendices A and B), and identify training courses that could potentially incorporate information from this document and provide an opportunity for broader dissemination of the contents (Appendix C).

B. BACKGROUND ON THE STUDY

This document is designed to supplement existing guidance documents on community impact assessment and cumulative effects analysis, and bring specific attention to the issues associated with recurring community impacts. The guidelines contained in this document are based on research conducted by the study team, including the following components:

- A literature review examining relevant guidance documents, research, and case studies;
- A Web-based survey of state DOTs, metropolitan planning organizations (MPOs), local planning agencies, FHWA division offices, and private consulting firms to gather basic information on perceptions and practices in assessing recurring community impacts and to identify agencies and organizations with more advanced practices; and
- Telephone interviews with select agencies and organizations, drawn from responses to the survey.

The research revealed that guidance documents and supporting information are available to practitioners regarding community impact assessment and cumulative impact analysis. However, these generally appear in separate documents, leaving questions among practitioners regarding the intersection of the two, including analysis of recurring community impacts. Although the Web-based survey was not designed to be statistically representative, it highlighted the limited standard procedures and guidelines for conducting analysis of recurring community impacts. More than 30 percent of the survey respondents indicated that past projects are “never” or “almost never” assessed in their processes, and another one-third of the respondents indicated that assessment of past projects takes place “sometimes.” The follow-up interviews revealed that the term “recurring community impacts” is new to most practitioners, and none of the agencies interviewed currently have a policy or guidance for addressing recurring community impacts. The closest example most have is limited guidance for addressing impacts to environmental justice communities.

The survey and interviews together revealed some of the most common challenges for the community impact analyst, including the following:

- Constraints on staff and available resources,
- The magnitude of the effort necessary to collect data on past actions,
- Budget limitations to conduct the analysis,
- Difficulty determining appropriate spatial and temporal boundaries,
- Lack of adopted processes for conducting the analysis, and
- Concerns regarding responsibility for identifying and mitigating past impacts.

A summary of the Web survey results and interviews are included as Appendix A and B, respectively.

The guidelines contained in this document are designed to address many of the questions associated with recurring community impacts and to provide staff involved in the National Environmental Policy Act (NEPA) process with practical procedures for analyzing these impacts. However, as with the NEPA process in general, there is no “one size fits all” methodology for analyzing impacts and the process will, to some extent, be unique for every state and each project.

2. INTRODUCTION TO RECURRING COMMUNITY IMPACTS

A. WHAT ARE RECURRING COMMUNITY IMPACTS?

Community impacts may be defined as any effects on the quality of life of people living in communities or as part of social groups resulting from a project. As defined in the Federal Highway Administration's (FHWA) National Community Impacts Assessment (CIA) Course, there are seven key issues in assessing and addressing community effects:

Effects in these key areas, whether positive or negative, can greatly influence a community's quality of life. Therefore, the community impact assessment process is crucial to making balanced transportation decisions that preserve, protect, and enhance quality of life.

Recurring community impacts occur when a community has been affected in any of the ways listed above more than once over time by past public and private actions. Although a proposed action might appear to have relatively minor direct impacts on communities, the impact of the action might be significant in the context of past actions. The process of assessing recurring community impacts is an integral component of the defined CIA process.

Recurring community impacts are specifically focused on the impacts of a proposed action in the context of past actions.

Cumulative impacts are typically defined as those effects on the community that have resulted from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, whether publicly or privately undertaken. Within this, recurring community impacts are specifically focused on the impacts of a proposed action in the context of *past* actions.

Recurring community impacts might be particularly troubling to communities yet often are easily overlooked in the environmental review process for transportation projects. The effects of these recurring impacts on the psyche of those affected can be an important factor during the public involvement process and could influence the level of public cooperation during project development.

B. TYPES OF POTENTIAL RECURRING IMPACTS

Although recurring impacts can occur in many different ways, they often arise in two situations, described below:

Past Impacts Not Adequately Addressed

In some cases, when a community was originally impacted, environmental regulations (NEPA, etc.) were not in place, so past impacts might not have been identified to the degree they now would be. For instance, highway projects that were built in the 1950s and 1960s might not have addressed even severe community impacts, such as major disruptions to access, barrier effects, increases in noise, and degradation of aesthetics. A new transportation project that affects the same community might seem to have a minor direct impact. However, the analysis should take into consideration past impacts that were not addressed.

Example: In 1968, a highway was built through the middle of an urban area, effectively dividing a low-income neighborhood in half, with resulting displacements and a range of adverse impacts with regard to noise, community access, and cohesion. Forty years later, there is a proposal to widen this highway to alleviate severe traffic congestion. Although the widening itself might appear to have a relatively minor impact on the community as it exists now, this widening project might have important recurring impacts with regard to noise, property values, and other factors in the quality of life of the community when considered in the full context of the community's history.

Past Impacts Relatively Minor But Important in Combination

In other cases, a transportation project might have had an impact that was not judged significant in a prior analysis, but when combined with the effects of later actions, the cumulative impact could be significant. For instance, a past transportation action might have resulted in one or two displacements, generally considered as a small impact. However, a later transportation action resulting in one or two displacements in the context of the prior action and current community conditions might represent a tipping point for that community. The subsequent action could result in greater impacts when added to past impacts and might affect other overlapping key areas, such as the economy, community cohesion, and land use considerations. This includes other actions taken by non-transportation agencies, which also could have impacted the community, and therefore should be taken into account in the analysis.

Example: In 1990, a suburban major arterial roadway adjoining a neighborhood was expanded and improved to address growing traffic in the corridor. In 1996, the neighborhood was affected again when the connecting interstate highway was expanded from four lanes to six lanes. Currently, it is proposed that one of the highway interchanges be reconfigured to improve traffic flow and eliminate an unsafe merge area on a ramp abutting the neighborhood. Although each of these individual projects was identified as having minor impacts on noise, the community might be concerned about the cumulative impacts of these projects on noise levels.

C. WHY ADDRESS RECURRING COMMUNITY IMPACTS?

Legal Basis for Consideration

Federal law requires consideration of community impacts as a part of proposals for major transportation projects. The National Environmental Policy Act (NEPA) requires federal agencies to assess the impacts of their proposed actions on the natural and human environment. The NEPA process for decision-making is designed to ensure that all direct,

indirect, and cumulative effects are considered, and challenges federal agencies to incorporate national environmental policy into decisions—including transportation project decisions—that might significantly affect the quality of the environment.

The Council on Environmental Quality's (CEQ) regulation for implementing the procedural provisions of NEPA specifies that the analysis should account for direct, indirect, and cumulative impacts, and defines cumulative effects as the "incremental effect of the action when added to other past, present, and reasonably foreseeable actions." CEQ's guidance publication, *Considering Cumulative Effects Under the National Environmental Policy Act*, specifically charges agencies "to conduct cumulative effects analysis on human communities as part of their environmental assessment." As defined in this guide, recurring community impacts is a subset of cumulative impacts and would be appropriate to include in the analysis.

Section 6 lists a wide range of laws and regulations that deal directly with CIA and cumulative impacts.

Making Better Project Decisions

Incorporating CIA into decision-making greatly improves community acceptance and creates solutions that meet both transportation and community needs. Often, past actions that have affected a community are important to community members, and failure to recognize these past impacts can be a source of distrust or contention with regard to a new project proposal. If the community feels that the DOT is insensitive to past effects, it is less likely to support a current project. Understanding the recurring nature of impacts therefore is important to engaging the community and helps to ensure that the resulting analysis accurately reflects consideration of impacts on a community over time.

The community impact assessment process identifies affected communities and describes the "human context," alerts affected communities and residents, as well as transportation decision-makers, to the likely consequences of a project in the community context, and provides a basis for addressing human values and concerns during project development. Therefore, CIA is important not only for assessing potential impacts on communities but also for helping to shape context sensitive project decisions.

As CIA has received growing attention over the past decade or more, state DOTs have increasingly incorporated the concept of Context Sensitive Solutions (CSS) into the transportation planning and development process. The goal of CSS is to balance transportation needs with community values and the human and natural environments.

Developing *Context Sensitive Solutions* requires an understanding of not only the current context of a community but also how past actions have affected it. Examination of recurring

community impacts leads to more productive and robust transportation decision-making and potentially can avoid costly and time-consuming obstacles later in the process.

It is important to recognize that it may be impossible or impractical to undo harm that has occurred in the past. Still, understanding the ways in which a community has been impacted in the past can help transportation agencies do a better job of avoiding or minimizing additional future impacts, and might bring to light opportunities to enhance the project to address longstanding community issues.

D. WHO'S RESPONSIBLE?

Identification of recurring community impacts is a primary responsibility of community impact assessment specialists as part of the CIA process. With the range of issues and potential community effects, a multidisciplinary team is critical to obtaining a complete assessment of community effects. This is also a crucial part of integrating CIA into transportation planning and decision-making. Project planners and engineers spearheading the planning and project development process have a leading role in integrating the CIA process into the overall decision-making process.

While transportation agencies are responsible for analyzing recurring community impacts, it is important to note that there are limitations in how an agency might be able to address recurring community impacts given limitations in funding or scope of the project. The assessment of recurring community impacts might identify effects from actions outside the agency or effects of past transportation actions (such as the original construction of a highway) that would be impossible or impractical to address. Therefore, community impact analysts must be careful in how communities are engaged in the process so the agency does not reopen old wounds or issues from the past that cannot be addressed through the process. The transportation agency might be able to suggest possible actions by others, such as local governments and planning agencies, to address community issues related to local infrastructure (e.g., schools and parks) and engage other responsible parties in the process.

CONTEXT SENSITIVE SOLUTIONS

- **Address the transportation need**
- **Be an asset to the community**
- **Be compatible with the natural and human environment**

Source: Utah Department of Transportation

3. Guiding Principles for Considering Recurring Community Impacts

This section notes some guiding principles to help shape the overall CIA process and ensure appropriate consideration of recurring community impacts.

A. INTEGRATE INTO TRANSPORTATION DECISION-MAKING

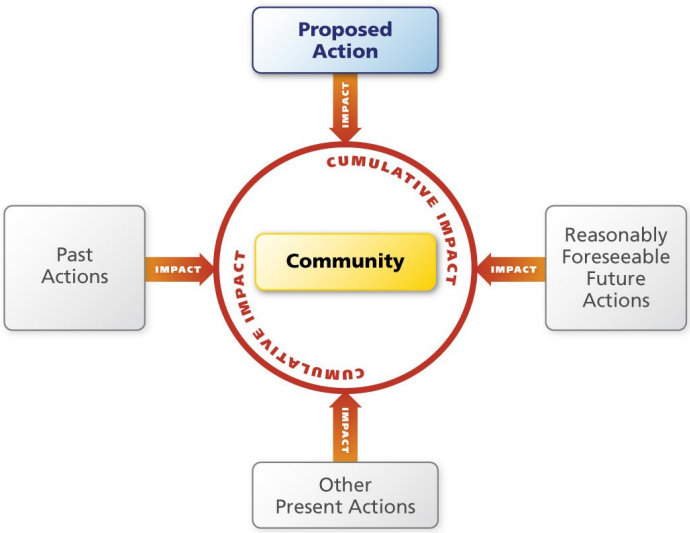
It is important to make exploration of recurring community impacts an integral part of the project development and environmental analysis process. According to the Web survey conducted as background to these guidelines, the two most significant barriers to conducting this analysis were lack of staff time/resources and difficulty gathering data necessary for the analysis. Placing a priority on examining potential recurring community impacts will help to ensure that analysts do not overlook past impacts given limited time, budget, and data.

Moreover, community impact assessment, including the analysis of recurring community impacts, should be fully integrated into all facets of transportation decision-making during the NEPA process. This includes incorporating data from these analyses during scoping, documentation of impacts, evaluation of alternatives, and determinations of mitigation for the project. Throughout Section 4 of the guide, these decision-making points and this integration are highlighted.

B. TAKE A COMMUNITY RESOURCE PERSPECTIVE

A traditional impact analysis process looks at a project and says, "What impact will this project have on communities?" A resource-based perspective takes a different approach by looking at a community as a resource holistically and how it has been affected over time (See diagram). Instead of starting with the project and trying to identify its direct and indirect effects, it looks first at a community, asking "What is the

Taking a Community Resource Perspective to Identify Potential Recurring Impacts



current condition of this community? How has it been affected in the past? And how does this project affect it, in the context of past actions and likely future actions?"

Much like examining natural resources and ecosystems in a cumulative impacts analysis, a community resource perspective enables identification of potential recurring community impacts.

C. MAKE COMMUNITY OUTREACH A CENTRAL COMPONENT

> **Recognize the public's perception of impacts. If the public identifies issues, then review and research these particular issues.**
>
> **- FHWA, *Community Impact Assessment: A Quick Reference for Transportation***

Awareness of past actions and their impacts on communities typically arises through scoping and public involvement. Since it is often difficult to determine how far back to look in conducting an analysis of recurring community impacts, listening to community members is critical for determining past actions that might have affected communities. People often have a long history with a community and might identify past transportation projects and other actions that continue to have effects on them. There might be lingering issues that affect their perceptions of project impacts.

D. BE FLEXIBLE AND OPEN TO CHANGE

As in any CIA process, the analysis of recurring community impacts requires flexibility. It often involves an interdisciplinary team and approach, since CIA addresses a range of both quantitative issues (such as noise, vibration, localized air pollution, and safety) and more qualitative issues (such as community cohesion and quality of life). Adding to this complexity, the analysis of recurring community impacts might raise questions about how far back to look, and what constitutes a significant recurring impact. It will be important to be flexible in the process, to explore issues that might emerge but were not identified in initial scoping, and to work with specialists across a range of topic areas.

4. INCORPORATING RECURRING COMMUNITY IMPACT ANALYSIS INTO THE CIA PROCESS

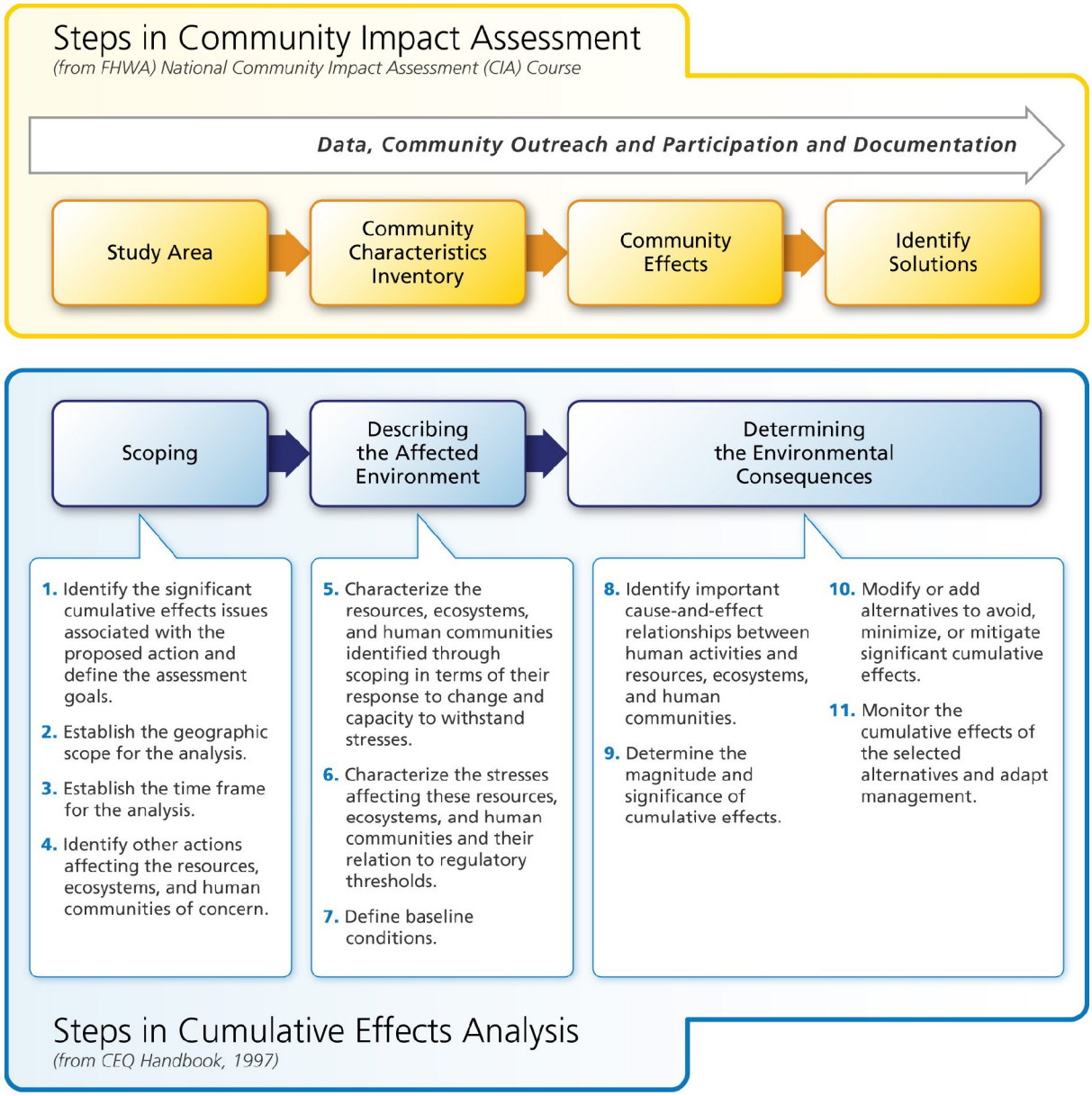
Identifying and analyzing recurring community impacts occurs at the nexus of two processes that often are considered independent: CIA and cumulative impacts assessment. While separate parts of an environmental document typically are focused on these two issues, there are clear linkages between these two types of analysis.

Assessing recurring community impacts is an integral component of the community impact assessment process.

The FHWA publication, *Community Impact Assessment: A Quick Reference for Transportation,* is the primary national reference document on community impact assessment and provides a framework for community impact analysis that can be used not only for direct and indirect effects but also for cumulative effects. The CIA process, as delineated by FHWA, includes a set of steps as part of an iterative process beginning with (1) defining an initial study area, (2) developing a community characteristics inventory, (3) evaluating community effects, and (4) identifying solutions, as shown in the gold steps below.

The CEQ Handbook, *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997), is generally considered the most authoritative resource on assessing cumulative impacts on resources, including "human communities." It divides assessment of cumulative impacts into 11 steps to be addressed in the three primary components of environmental impact assessment, as shown in blue in the figure below.

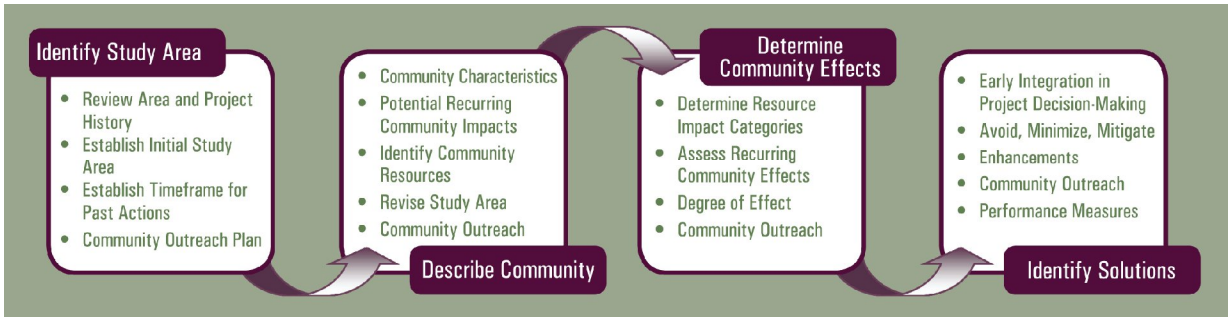
Relationship between Community Impact Assessment and Cumulative Effects Analysis



As shown in this figure, the steps in the CIA and cumulative impacts analysis are somewhat parallel. Conducting steps in the CIA process should, therefore, be integrated with cumulative effects analysis to identify and address potential recurring community impacts. CIA and Indirect and Cumulative Effects (ICE) analysts should share information on past actions and potential recurring community impacts early in the process. Throughout the process CIA and ICE analysts should continue to share data and confirm assumptions.

The CIA process steps are shown below, with a focus on how considerations of recurring community impacts are incorporated.

Elements of Recurring Community Impacts Assessment



Developing the ***study area*** is tied to the "scoping" process and involves identifying potentially significant recurring impacts and issues and defining the geographic and temporal boundaries of the analysis. It includes the following:

Describing the community is the next step, which involves developing a community characteristics inventory for "describing the affected environment." The description of the community should account not only for the current conditions in the community but should describe how it has changed over time. Further, the description should identify past transportation and other public and private actions that have affected the community.

The analysis of ***community effects*** should examine not only direct and indirect impacts of the proposed project but should describe impacts of the proposed action in the context of past actions. This analysis should recognize that even if direct or indirect impacts are minor, their effects might be considered significant due to past actions that created a recurring impact.

Finally, ***identifying solutions*** should examine not only how to address direct and indirect effects but also should examine ways to modify or add alternatives to avoid, minimize, or mitigate recurring community impacts.

The following subsections of this guide discuss these four steps in the CIA process, with a focus on identifying, documenting, analyzing, and addressing recurring community impacts.

A. IDENTIFYING STUDY AREA AND POTENTIAL RECURRING IMPACT AREAS

Identify Study Area

- Review Area and Project History
- Establish Initial Study Area
- Establish Timeframe for Past Actions
- Community Outreach Plan

Effective integration of recurring community impact analysis into the overall CIA process begins with early identification of past actions that have affected the area as part of the planning or scoping process.

Information sharing between the CIA and indirect and cumulative effects analysis process should begin in the early scoping stage. Since cumulative impact analyses have traditionally focused on the natural environment, such as water resources and habitats of endangered species, there might be a need to raise awareness among staff charged with analyzing indirect and cumulative impacts about recurring community impacts. This should include discussions regarding the significant past actions that have generated cumulative effects on communities and the geographic scope and timeframe as they relate to these actions and initially identified community resources of concern.

Role of Identifying the Study Area and Potential Impact Areas in Project Decision-Making

Identification of the study area and potential recurring community impacts will integrate with early NEPA project scoping.

For example, if a proposed action would pass through a community with significant recurring community impacts, this might affect the Purpose and Need for the project by expanding or focusing the issues addressed, or it might affect the development of initial alternatives.

The steps involved in this process are described below.

Review Area History and Project Information

At the start of the CIA process, community impact analysts should conduct research (using publications, the Internet, etc.) and begin discussing area history with local staff and known community leaders. Analysts should review information on past projects in the area and the historical relationship of the community with local and state governments or those from the private sector who have undertaken past actions. In addition, any history on the development of the current proposed action and public comment should be taken into account.

The focus in reviewing past actions should be to identify those actions that have played a meaningful role in shaping the condition of the community today, both physically and socially. Community perception plays a major role in how impacts are viewed. While major

actions might affect the physical infrastructure of the community, analysts also must consider the consequences to social infrastructure in order to develop a complete picture of present community conditions and the functioning of the community.

How do you identify past actions that should be included in the analysis?

The CIA analyst can identify relevant past actions through various means. Common approaches include the following:

- Talk with local planners;
- Gather input from community leaders and neighborhood groups;
- Review past transportation and environmental documents; and
- Research community history through publications such as community newspapers, books or articles by local residents, the Internet, past mapping of the area, or conversations with local historians.

The need to further investigate these past actions and their effects should be reflected in specific recommendations within the community outreach plan for the project as discussed later in this section.

Determine Initial Study Area and Timeframe for Past Actions (Geographic and Temporal Boundaries)

Information from this scoping effort should be incorporated into development of the CIA study area, the geographic region that includes the communities expected to be affected by the proposed action. This information also should be used to define the timeframe for capturing past actions. These geographic and temporal boundaries should reflect early input from local planners and community leaders and should be refined based on additional research, project alternatives, and community outreach and participation.

How far should the study area extend?

Various factors should be considered in developing the initial CIA study area. Specific considerations that can influence the study area boundaries include:

- Neighborhood boundaries as defined by homeowners associations, style and time-period of development, real estate system definitions, or area residents;
- Service area boundaries of community facilities, such as schools, parks, and recreational areas, and social service organizations;
- Membership of community institutions or focal points, such as churches and civic organizations;
- Police, fire, and EMS service districts;

- Physical barriers that define or separate communities;
- Employment centers and their commute sheds;
- Travel sheds or typical patterns of travel activity;
- Cultural, ethnic, and socioeconomic characteristics; and
- Census boundaries.

It is important to note that communities may be defined not only by geographic boundaries but also by shared backgrounds or historical ties. More than one community might be impacted by an action. Any of the listed considerations might define the study area and the communities that will be subject to effects from the proposed action or that have been meaningfully affected by past actions.

How far back should recurring community impacts analysis go?

The temporal boundaries for analyzing recurring community impacts might be difficult to define initially. It is often not easy to determine how far back the analysis should go, and at what point past actions are too distant in time to be meaningful in current project decisions. As a general guide, the timeframe should be based on the characteristics and history of the community and will depend on factors such as these:

- How long the community has existed,
- How long community members have lived there,
- The timing and magnitude of past projects, and
- Perceptions of community members on this collective history.

Timeframes thus will be unique for each project and study area. Results of the survey of practitioners conducted in the development of this guide indicate that a substantial percentage of agencies do not review past actions and only a small percentage of those that do review past actions look beyond 10 years.

It is recommended that agencies establish minimum timeframes (for example 10 or 20 years) to ensure that community impact analysts are looking back at past projects and their effects, while encouraging analysts to look as far back as appropriate

Determining Time Frame for the North Shore Road Project

The CIA for the North Shore Road EIS (North Carolina) considered impacts from public actions dating back nearly 70 years to the creation of Fontana Dam and associated land acquisition, expansion of Great Smoky Mountains National Park, and a 1943 agreement that originally proposed a road to replace one that had been flooded. The purpose of the EIS was to resolve the 1943 Agreement with respect to the proposed road. Thus, the analysis encompassed several of these actions that occurred in the years leading up to the agreement.

to identify potential recurring impacts. In some cases, this might require going back 50 or more years. It should be noted that while it will often not be possible to undo past harms to a community, such as the original construction of a highway that might have severely impacted a community, understanding these impacts can be important in helping to shape alternatives to avoid or minimize future impacts.

Incorporate Recurring Impact Considerations Into Community Outreach Plan

The community outreach plan for the project should be developed in coordination with the CIA process. Key elements of the community outreach plan include the following:

- Stakeholder identification;
- Selection of meeting approaches and communications techniques tailored to the community and project issues;
- Outreach roles and responsibilities;
- Evaluation measures; and
- Stakeholder input into the outreach plan.

How do you identify and involve the appropriate stakeholders in the process?

While stakeholder involvement should begin early and occur often, this is even more crucial in eliciting and addressing recurring community impacts. During the initial conversations with local planners, officials, or any other community contacts, analysts should request the names of community leaders knowledgeable in the history of the area. However, planners should go beyond this initial cut and conduct research to determine social, religious, or other community groups in the area and leaders of these organizations. Outreach to these groups and leaders will also lead to the identification of additional community members to involve in the process of identifying and addressing recurring community impacts. **The key in all these efforts with respect to recurring impacts is to find individuals who are consistently mentioned by other members of the community and appear to be respected and trusted to relate the history of the area and help the project team.**

To involve stakeholders in addressing recurring community impact considerations in the outreach plan, community impact analysts can employ a number of techniques to enhance outreach efforts, including the following:

- Stakeholder interviews or conversations,
- Small group meetings,
- One-on-one meetings, and

- Questionnaires or surveys to gather information on past actions and probe their effects.

Phone calls and one-on-one meetings might be required to fully unearth underlying issues and history in the community, especially if community members are reserved and hesitant to disclose these issues in larger groups, or if there are significant differences in how community members experienced or perceived past projects. The effects of recurring community impact considerations on the outreach plan will be unique to each project but will center on the question of what information and input is needed by the agency, as well as by the community, to effectively assess and address these impacts during project development. This is done as a part of the coordination of the CIA process with the outreach plan.

B. DESCRIBING THE AFFECTED COMMUNIITES

- Community Characteristics
- Potential Recurring Community Impacts
- Identify Community Resources
- Revise Study Area
- Community Outreach

Describe Community

Preliminary scoping should be followed by more in-depth data collection and community outreach to identify community characteristics, describe community resource conditions as affected by major past actions, and refine the study area and community boundaries, as well as the timeframe for considering past actions. The description of affected communities as relates to potential recurring community impacts is prepared as a part of the CIA process, rather than independently.

Role of Describing Affected Communities in Project Decision-Making

Describing the affected communities is important in order to identify potential recurring community impacts and how they have shaped community resource conditions. This is an important component of describing the Affected Environment under NEPA.

Input from this phase of the CIA analysis may be used to refine Purpose and Need or play a role in the development or evaluation of alternatives.

Identify Community Characteristics and Potential Recurring Community Impacts

Communities are defined by a wide array of variables, which can include shared geography, similar demographic and/or economic characteristics, shared community resources and activities, and common lifestyles and behaviors. Some communities are defined by historical ties such as shared heritage or cultural background. This shared background might include major past public and private actions in the area that shaped current community conditions for all residents.

Community characteristics data, including demographics, community facilities, social networks, and community boundaries, are collected as part of the CIA process. Community outreach is an integral part of this data collection. With recurring community impacts, the focus should be on the history of the community and shared conditions or characteristics that can be attributed to recurring/past actions.

What steps should analysts take to explore past actions and how these actions have influenced community characteristics?

In order to identify potential recurring community impacts, the analyst should do the following:

- Identify and talk with community leaders knowledgeable of area history, past projects, and their effects;
- Collect historical demographic data to review trends and influence of past actions;

- Gather historical photographs, aerials, and mapping of the community to compare with recent materials;
- Use community outreach to verify or refine the data collected and confirm or add to social histories.

Community characteristics should be inventoried to identify not only what the community looks like now but what it was like before earlier actions affected it. Often this can be done in the form of a fact sheet or profile document that identifies how the community has changed over time.

Developing this profile of the community will involve collecting information on the elements identified above, such as demographic data, photographs/aerials, mapping, and summary descriptions of community conditions from research and discussions. This information can be compiled as snapshots of community characteristics at various points in time, with a focus on conditions preceding and following major past actions.

Describing the Communities of the North Shore Road

The North Shore Road project originated with the creation of Fontana Dam in western North Carolina 65 years ago and illustrates how communities can be defined by historical ties and define themselves today by public actions that have affected them in the past.

As part of dam construction, flooded land and isolated properties north of Fontana Lake were acquired by the Tennessee Valley Authority (TVA) and ultimately transferred to become part of Great Smoky Mountains National Park. An agreement between the federal government, Swain County, and the state included a provision to replace a flooded road with a road running north of the lake within the park and in proximity to formerly settled lands and remaining family/community cemeteries.

The National Park Service constructed 7 miles of the road over several decades, but construction was halted in 1972 due to lack of funding and environmental concerns. Those who lived on the land and their descendants have advocated for construction of the road to access cemeteries where family members are interred in this area of the park.

Many residents who were relocated during the creation of Fontana Dam have relatives buried in cemeteries north of Fontana Lake. Since the 1970s, former residents and their descendants have organized annual "Decoration Days" in the cemeteries in the park. Former residents have even formed numerous groups to celebrate their shared heritage including the North Shore Road Association, North Shore Cemetery Association, and North Shore Historical Associations. The associations of the North Shore provide community members forums to publish stories, pictures, and poems expressing the significance of the shared heritage of the communities of the North Shore.

What kinds of data sources can be used to profile how a community has changed over time?

When a potential recurring community impact is identified, the community impact analyst should look for information to provide a picture of what the community looked like prior to the previous action and to understand how the community was affected in the past. Examples of data sources for historic and trend data that can be used include the following:

- Population, housing, economic, and geographic data from the U.S. Census Bureau;
- State agencies and data centers for information such as state and regional economies, health statistics, and human services data;
- Local sources for information including land use, housing and development, crime rates, utilities, and major public works projects;
- Federal sources for specific topics on project issues (e.g. Department of Justice/Federal Bureau of Investigation Uniform Crime Report data);
- Archival maps from the U.S. Geological Survey (USGS) of the U.S. Department of the Interior;
- Archival aerial photography from the U.S. Department of Agriculture (USDA) Soil Survey;
- State DOT archival aerial photography; and
- NEPA documents and corridor studies from past transportation projects.

Identify Community Resources Affected by Recurring Community Impacts

This step is critical in creating the resource-based perspective discussed in Section 3 on Guiding Principles. Community characteristics in the previous step should be presented in a way that describes the communities that may be affected and how local resources function within the communities. It is important to note that more than one community might be affected.

The FHWA National CIA Process identifies seven Key Issue Areas, as shown in Section 2. These areas can help guide the review of how community resources are currently functioning, how they have been affected by major past actions, and how they might be affected by the proposed action. Community resources might include **facilities and physical infrastructure** such roads and transit (as relates to access and mobility), parks, churches, social services, job banks, police stations, firehouses, hospitals, safe houses, community centers, grocery stores, and shopping centers, as well as **social infrastructure** such as neighborhoods, social networks, clubs, and community groups. This list is just a representation of the types of community resources that might be evaluated in the CIA process. Those resources that have been impacted or shaped by major past actions and the ways in which those past actions have shaped current resource conditions should be described as part of the evaluation of recurring community impacts.

What techniques can analysts use to identify the influence of major past actions on the current community context?

Examples of specific techniques analysts can use to identify potential recurring community impacts include:

- Focus questions/structured discussions at workshops;
- Town/neighborhood meetings;
- Questionnaires and surveys (informal, formal);
- Walking audits of neighborhoods with long-time residents;
- Interviews to record oral histories (phone, in person); and
- Comparative analyses, using current and historical data.

Revise Study Area and Community Boundaries

The story of the community developed in the previous steps should be reflected in an updated map that visually represents the community characteristics. The input in this phase, including the location and influence areas of past actions, should be used in refining the study area and community boundaries established in the initial review. There might be a neighborhood school or local grocery just outside the initial study area that was not captured in the initial review, and these resources might have been impacted by past actions such as road realignments, closures or extensions, or even public or private actions that affected the economics of the area (possibly reducing customer volumes to the grocery in the past).

Revisions to the temporal boundaries established at the time of the initial review also should be documented if additional identified past actions have extended the timeframe. The steps in these sections will ensure that the inventory and mapping of community characteristics documented in summary reports for the CIA reflect all appropriate recurring/past actions.

Use Community Outreach and Participation

Community outreach and participation is an important part of this step of the CIA process in describing affected communities. During this step community members might help in the following ways:

- Provide input on community preferences;
- Validate community characteristics data;
- Verify and/or identify additional community facilities and resources, as well as their function within the community;
- Identify concerns related to the key issue areas; and
- Help further refine study area and community boundaries.

As noted above, coordination with community leaders and outreach to the community play important roles in collecting information on recurring community impacts. Leaders who have been long-time residents of the community can provide an oral history of the area, either

formally through ethnographic studies, or informally through discussing and bringing to light past projects to provide observations on the changes they perceive from those projects. Community involvement at this stage also will ensure that the evaluation of recurring impacts for an action is focused on those effects that are truly meaningful and relevant to a community.

C. DETERMINING RECURRING COMMUNITY EFFECTS

Determine Community Effects

- Determine Resource Impact Categories
- Assess Recurring Community Effects
- Degree of Effect
- Community Outreach

Once the affected communities have been described and initial potential recurring community impacts have been identified, the community impact analyst can determine the potentially impacted resource categories that are meaningful and relevant and evaluate the impacts on those resources. Community outreach should play a critical role in determining relevant impacted resources and evaluating recurring community impacts. This assessment of recurring community impacts is undertaken as an integral part of the overall CIA process, not as a stand-alone process.

Role of Determining Community Effects in Project Decision-Making

Determining recurring community effects might impact Evaluation of Alternatives, as well as options to address impacts for a given alternative, whether through avoidance, minimization, or mitigation, as well as the potential for enhancement.

Determine Community Resource Impact Categories

As discussed in Section 3 on Guiding Principles, a resource-based perspective is essential to recurring community impacts analysis. The analysis considers communities as a whole, while focusing on those community resources that have been specifically affected by past projects and might be affected by the proposed action. While other community resource impacts might be noted or briefly discussed, more in-depth analysis and review should be focused on the most relevant resource categories.

Specific community resource impact categories within the seven Key Issue Areas of FHWA's National CIA Process that might be affected by recurring impacts include community cohesion, economics, safety, and public health. For a community that was divided in the past by one or more highway projects, community cohesion is likely to be an issue of concern for a proposed widening project along one of those highways; this is especially true where the majority of residents have lived in the area for a long time and were there at the time of the earlier projects. Another concern area for such a community might be noise, particularly if an earlier highway project was implemented before uniform criteria and guidance on implementation of noise walls.

As illustrated by the examples above, the identification of resource impact categories might relate either to the magnitude of the effect of the current project on the affected resource or weigh more heavily on the recurring effects if they have been cumulatively significant over time. If a community resource is already strained, it might be sensitive to even small changes and therefore warrant closer analysis.

For example, a community that bears the impacts from a toxic waste dump, an electrical power plant, and an extensive warehouse development could be greatly impacted by a road widening project. Each incremental recurring impact is stressing the sustainability of that community.

Wilson Lee Boulevard – Statesville, NC

The CIA for a proposal to improve Wilson Lee Boulevard in Statesville, NC, identified a number of community resources and impacts from past and current transportation projects in the area.

- Community members and local staff noted that US 70 running from east to west had previously divided the community.
- A rail line ran along the north side of the community, and during the EA process a proposal was implemented to close a street level crossing that provided access to the community.
- The project to improve Wilson Lee Boulevard and raise it over the railroad ran north-south through the community.

Issues for these longstanding communities from past projects and the proposed project included:

- Physical barriers reducing community cohesion,
- Ongoing concerns with crime and perceived safety,
- Isolation, decreasing economic opportunities in these low-income neighborhoods,
- Relocations,
- Adjacent historic districts,
- Statesville Housing Authority efforts in the area, and
- Potential impacts on a church in the community.

Assess Recurring Community Effects

CIA focuses on the condition of community resources and the health and viability of the community and sustainability over time. The process can be viewed as analogous to ecosystem analysis with community resources and facilities having specific functionality within the human community and social setting. For the overall assessment of community impacts, the community impact analyst should employ the fullest range of relevant indicators of community conditions. This analysis should focus in more detail on the most relevant resource impact categories to a given community as identified in the preceding step.

Many of the challenges to analysis of recurring community impacts mirror challenges for community impact analysis overall. These include data availability, especially for past actions; methods for evaluation of more qualitative effects; and the role of community perception, even within a single community. Although cumulative impact analysis techniques for aquatic/wildlife communities are fairly well-developed, cumulative community impact analysis is not developed to the same degree. Challenges in refining cumulative community impact analysis techniques include the range and complexity of community resources, potential for interaction across resources, and range of factors (e.g., social, economic, technological) that influence human behavior.

What should be the baseline for analysis?

As noted earlier, determining the timeframe of past actions to include in the analysis of recurring community impacts can be difficult. Once the important past actions have been identified, the baseline for the analysis of recurring community impacts should discuss conditions prior to these past actions that had major impacts on the community. For instance:

> **What was the condition of the community prior to past projects? Was it a cohesive, stable community? Was it a community with a lot of pedestrian activity? Did prior projects displace people and businesses? Did certain population or economic groups experience a disproportionate share of negative impacts?**

CIA Analysis Techniques that can be used to Assess Recurring Community Impacts

- Visioning
- Questionnaires
- Surveys
- Interviews
- Structured meeting techniques—consensus building, focus groups
- Evaluation tables and matrices
- Trend analysis
- Modeling
- GIS and overlay mapping

To the extent possible, community conditions prior to those recurring/past actions should be described. Typically, analysis approaches often look at conditions under "no-build" and "build" scenarios to determine the significance of the proposed action, and the "no build" scenario is often based on the current transportation network and community conditions. However, if past transportation projects also have impacted the community, such as by creating adverse visual impacts, creating barriers to access, or displacing residents, an appropriate baseline might be the "no-build" condition for the community prior to when it was initially impacted. A substantial cumulative, or recurring, impact might be overlooked if the analysis does not adequately consider conditions prior to past, or recurring, community impacts.

Relationships of past actions and current community conditions to the present action should be evaluated. If recurring community impacts are potentially significant, the current action should be evaluated in relationship to these recurring impacts regardless of whether the effects of the current action are significant. **As outlined by CEQ, while the effects of the present action may be insignificant, they may relate to cumulatively significant impacts.** The function of individual community resources, as well as their collective and integrated role in a community, should be evaluated with a focus on the capacity of the resource and the community as a whole to withstand additional effects.

How should significance be determined?

Analysis of the community effects and the interrelationship with effects of past projects may be qualitative or quantitative. These effects should take into account the severity and context (geography, duration, frequency) of the recurring effects, as well as the interaction between effects to produce a cumulative degree of effect. Are effects additive, off-setting, or synergistic?

While community quality of life effects often are perceived as a soft or qualitative science, current research and practice is showing how the interconnectedness of these issues plays into the overall community well-being through use of quantitative methods. Current research and tools, applications, and technologies are being developed to support community impact assessment for both qualitative and quantitative analyses. For more information on quantitative methods of analysis, see NCHRP 8-36 *Improved Methods for Evaluating Social, Cultural, and Economic Effects of Transportation Projects*.

Public perception should feed into the assessment of severity and context of the effects and the resulting determination of cumulative degree of effect, as well as whether effects are perceived as beneficial or adverse. Techniques to analyze recurring community impacts reflect the central role of public involvement in the process.

Example of Determination of Degree of Effect
From Florida DOT's Efficient Transportation Decision-Making Process

Potential Dispute	Project has potentially severe negative effect on the affected community. Project is not in compliance with local comprehensive plans and/or affects Title VI compliance.
Substantial/ Notable	Project has potentially substantial adverse effects on the affected community and faces substantial community opposition. Intensive community interaction with focused public involvement is required during project development to address community concerns. Project will need substantial mitigation to gain public acceptance.
Moderate	Project has adverse effect on some elements of the affected community. Moderate community opposition to the planned project. Public involvement is needed to seek alternatives more acceptable to the community. Moderate community involvement is required during project development. Some mitigation or minimization is needed to gain support from the community.
Minimum/None	Project has minimum adverse effect on elements of the affected community. Minimum community opposition to the planned project. Little or no mitigation is needed.
Enhanced	Project has positive effect on the community. Affected community supports the proposed project.

When are more detailed or quantitative techniques essential to evaluate recurring impacts?

More detailed or quantitative techniques should be applied to key recurring community impacts/issues specific to the community and the project. For example, if data indicate that public health as related to air quality (indicated by asthma, ozone action days, or presence of sensitive populations such as children or elderly) is a concern for a community due to past actions such as highway projects and/or industrial operations generating pollution in the area, more detailed analyses of air quality and health impacts may be appropriate. This analysis would be presented in the air quality portion of the project document and incorporated in the CIA, as well as the Indirect and Cumulative Effects analysis, for the project. Similarly, technical analyses of noise and other impacts might need to be conducted and documented if noise or other effects that require technical analyses are identified as potential recurring impacts.

Incorporate Community Outreach and Participation

Community outreach and participation are essential throughout the CIA process. They are particularly important when determining community effects since CIAs must address the subjective perception of effects. Questions for community impact analysts to ask the community include the following:

- How important (or what level of priority) is a community impact resource category to this community? Potential impacts on a given resource might be a substantial concern in one community but not a concern to another community.
- What is the function of a given community resource to the community? What do they see as the net effects of identified past actions on that resource? How the resource functions within the community provides a foundation for the assessment of the current action.
- How do they perceive potential effects that might be added to the effects of past/recurring actions? An issue perceived in one community as significantly adverse might be tolerated or even seen as desirable in another.

Community assessment of effects can be used both to validate quantitative approaches and to provide input for more qualitative impact assessment techniques. Integration of community involvement will again ensure that the evaluation of recurring impacts for an action is focused on those effects that are truly meaningful and relevant to a community.

D. IDENTIFYING SOLUTIONS AND INTEGRATING INTO DECISION-MAKING

- Early Integration in Project Decision-Making
- Avoid, Minimize, Mitigate
- Enhancements
- Community Outreach
- Performance Measures

Identify Solutions

An effective transportation decision-making process will not only identify potential recurring community impacts, but it also should develop solutions to address these potential impacts.

This section discusses some of the issues specifically related to developing solutions to potential recurring community impact issues. Note that although addressing identified impacts is typically described as the last step in the CIA process, the entire CIA process is iterative, helping to shape decisions throughout planning and project development. Consequently, information gathered through initial scoping and public involvement can be incorporated into developing the project Purpose and Need statement, development of alternatives, and evaluation of alternatives. As such, the CIA process, including consideration of potential recurring community impacts, helps to produce a project that fits better into the community, recognizing its history and context, and should help to inform decisions from the initial stages of project planning and analysis.

Develop Solutions for the Community

FHWA's document, *Community Impact Assessment: A Quick Reference for Transportation* (1996), outlines the basic steps for addressing community impacts. Addressing recurring community impacts takes place within this same process with greater awareness of addressing project impacts in the context of previous actions. When adverse impacts are identified, community impact analysts should identify strategies to address not only direct effects but also consider the impacts previously borne by the community.

FHWA's guidance for assessing community impacts identifies four key strategies to be generally considered in sequence:

(1) Avoidance, or altering the project to avoid causing an impact;

(2) Minimization, or adjusting the project to have the least effect possible;

(3) Mitigation, which is an approach to offset the impact of the project on the community; and

(4) Enhancement, or the addition of a positive feature for the community.

Each of these strategies is described below.

1. Avoid the impact.

Ideally, community outreach during systems-level planning will help the community impact analyst identify the potential recurring impacts that a transportation project might have on communities, so that plans can be made to avoid these impacts. It is important to recognize that it is not possible to avoid what has already occurred. However, being cognizant of past community impacts, the transportation agency can make efforts to avoid future impacts that add to stresses already placed on a community. For instance, if a community has previously been affected by construction of a limited access highway that blocks off access to certain areas, it might be especially important in the development of alternatives to ensure that none of the alternatives creates additional barriers to access.

Ideally, the transportation planning process should consider whether a project is in harmony with the community's vision and whether cumulative impacts on the human environment warrant development of an alternative that can avoid a recurring impact on the community. Any commitments made during the planning process need to be carried forward to the NEPA process. Some metropolitan planning/regional planning documents and community comprehensive plans, however, might not identify a community vision or include significant outreach to segments of the population such as minority and low-income communities. Therefore, the community impact analyst should rely on information beyond what is in planning documents to identify potential recurring impacts.

An avoidance alternative can be identified as part of the project development process. Once the scoping process is complete, community input is used to shape the reasonable range of alternatives. Based on the key priorities and constraints identified by the community, designing an alternative to avoid recurring impacts may be prudent. Also note that some communities may not desire an avoidance alternative, as that might result in the loss of the opportunity for mitigation of past impacts.

Examples of avoidance strategies include the following:

- Shift an alignment to avoid displacing residents and businesses;
- Redesign a road segment as an underpass to avoid segmenting a cohesive neighborhood; and
- Shift an alignment to avoid taking an important community resource such as a park, church, or other community gathering place.

Avoidance of a Potential Recurring Community Impact: Georgetown, CO

When improvements were needed to Guanella Pass Road, the historic town of Georgetown, CO, which had been substantially impacted by the original construction of nearby I-70, opposed yet another transportation project that would adversely affect the community. In response to the community's concerns, FHWA and the Colorado Department of Transportation eliminated four realignment options that would bypass Georgetown, which is part of the Georgetown-Silver Plume National Historic Landmark District. All four of the realignment options were eliminated because of "substantial criticism from the Georgetown business community....concern over the negative economic impact (a) bypass would create...." and most were considered to be "visually intrusive to the character of the community."

In addition, mitigation efforts were included in the project, including limitations on materials hauling activities, extensive coordination with local businesses, developing staging and materials source areas within the Guanella Pass Road corridor to reduce the amount of construction truck traffic through the historic town, designation of a haul route in Georgetown that reduces the amount of construction traffic through the town, and construction of a new bridge to route construction traffic from the haul route through town to the road corridor. "The bridge is a permanent structure built to fit into the context of the historic town and that assisted the town in its future traffic management needs."

Rick Cushing
Environmental Planning Engineer
FHWA, Central Federal Lands Highway Division

2. Minimize—Modify the project to reduce the severity of an impact.

As with avoidance, minimization of project impacts on a community can be done in both the planning and the project development phases. It is reasonable to present a range of feasible solutions that correspond with the range of community values, but the alternatives should be flexible enough to incorporate community input. Minimization strategies developed early in the process are an efficient and effective use of resources, including time and budget. An agency can avoid unnecessary delays due to analysis and design of alternatives that will either be eliminated or redesigned due to public opposition late in the process.

Minimizing a potential recurring community impact will likely be more important to a community than simply addressing a direct impact. For example, if a community lost business access due to a previous project, it will likely be more important to minimize future adverse impacts on business access. Examples of strategies to minimize community impacts include the following:

- Reroute or shift a highway segment to reduce displacing residents and businesses,
- Limit interchanges to minimize incompatible land use development,

- Phase the project construction to minimize impediments to business access during peak periods,
- Shift an alignment to increase the distance between the facilities and residences to minimize noise impacts,
- Reduce speed limits or install traffic calming measures to reduce noise impacts,
- Design colors of structures to complement the natural landscape and to reduce aesthetic problems, and
- Reduce color contrast through rock staining in areas of new rock cuts.

ODOT Minimized Community Impacts on the US 24 Corridor

With input from the communities along the US 24 corridor, the Ohio Department of Transportation (ODOT) made several design changes to address public concerns, particularly in the context of how previous road projects had divided farms.

- ODOT used the existing railroad corridor or paralleled the existing railroad to prevent US 24 from further dividing farms and communities.
- To maintain connectivity from one side of the corridor to the other, ODOT scaled back the project from a freeway to an expressway, thereby providing more at-grade intersections.
- ODOT designed the alignment to follow property lines or the edges of fields wherever possible to minimize impacts on farmland and individual property owners.

Source: US 24 New Haven to Defiance Draft Environmental Impact Statement. July 2003. www.us24.org/Indiana-Defiance/index.htm.

3. Mitigate—Undertake an action to alleviate or offset an impact.

The CEQ regulations note that mitigation can include restoration of the affected resource, reducing or eliminating the impact by preservation, and replacing or providing substitute resources. While mitigation for a recurring community impact could potentially be similar to that for a direct impact (e.g., noise barriers to address a noise problem), the identification of the need may be more complex. In some cases, mitigation can address impacts that occurred due to the original construction of a roadway or other past action, as well as new impacts.

Examples of mitigation include the following:

- Set aside land for a park or add to public recreation areas to replace lost facilities,
- Erect sound barriers such as noise walls or landscaped berms to mitigate noise to surrounding communities,

- Provide a bicycle/pedestrian overpass or underpass for access to public facilities,
- Enhance access, e.g., frontage roads, to major employment centers, and
- Provide pullouts for school buses to ensure safety.

Caltrans Developed Air Quality Mitigation Strategies in Planning

I-710 is a heavily congested 28-mile freeway located in one of the most urban parts of Los Angeles County. Significant congestion and aging infrastructure on I-710 created adverse quality of life issues for local communities. Nevertheless, plans to address safety and congestion problems were met with strong public opposition by citizens concerned about health impacts due to the potential for increased degradation of air quality in the vicinity of the corridor.

The Los Angeles County Metropolitan Transportation Authority (MTA), the Southern California Association of Governments (SCAG), Caltrans, and the Gateway Cities Council of Governments (GCCOG) formed a partnership to fund a study to assess alternatives to address safety, congestion, and environmental problems on I-710. The agencies worked with a wide range of stakeholders to develop an air quality action plan. Strong public involvement will continue to ensure that the results of the action plan are used to inform the NEPA studies.

Responsibility for mitigation, particularly for recurring community impacts, is a complex issue for which there is very little guidance. Consistent with existing FHWA regulations, mitigation proposals must be both reasonable and related to project impacts. The sponsoring agency will have to decide whether the issue is within or outside its control, but the agency should balance its responsibility to maintain and improve the mobility and safety of the transportation system with the values of the community. During mitigation, practitioners should work with local agencies that can influence and promote safety and land use planning into overall strategic goals, taking into consideration public interest and jurisdictional authorities.

Working closely with the community is likely to identify both traditional and non-traditional forms of mitigation and enhancement. While some of the approaches are eligible for federal funding, others will require collaboration with other agencies, local governments, developers, and others to fund mitigation techniques and enhancements.

4. Enhance—Add a desirable or attractive feature to the project.

Enhancements are not designed to replace lost resources in lieu of avoidance, minimization, or mitigation. Instead, enhancements provide agencies an opportunity to provide positive, added features to projects that might be especially relevant in addressing recurring community impacts if an agency wants to demonstrate that it acknowledges past effects

that cannot be readily compensated. These efforts might help the agency create goodwill and build or rebuild public trust.

Examples of enhancement include the following:

- Provide signage to recognize specific cultural or historic resources,
- Develop bicycle trails or paths adjacent to roadways,
- Plant trees and add park benches,
- Add public artwork or a facade to a transportation facility to match the aesthetic design goals of a community,
- Install decorative bridge railing, planters along sidewalks, and decorative light poles, and
- Construct bus shelters.

Enhancements Address Past Impacts in Grand Rapids, MI

In January 1998, the Michigan Department of Transportation (MDOT) discovered that a pier supporting a heavily traveled urban bridge had suddenly settled several inches. The bridge, part of the "S-Curve" that runs through downtown Grand Rapids, required immediate emergency repairs and required a more permanent solution.

Initially, MDOT proposed to rehabilitate and reconstruct the damaged bridge; however, locals were not receptive to an "as is" replacement. As talk of a reconstruction project surfaced, it highlighted the fact that the old S-Curve, originally constructed between 1959 and 1961, had been poorly planned. It divided the downtown area and, with age, had become an eyesore. Local officials pushed for an aesthetically pleasing centerpiece for the city, as well as a design that improved street circulation patterns below the bridges. In addition, the adjacent Grand Valley State University wanted the final designs for the S-Curve to facilitate access throughout the campus and complement its plans for expanding campus facilities. The university also wanted to address student safety during construction by including safe pedestrian routes that connected campuses but skirted work sites.

MDOT worked with the city, the university, downtown businesses, and other organizations to contribute funding for aesthetic designs for the S-Curve structure and to address other community concerns. Two city streets were connected to restore cohesion of the downtown area, excess state-owned property was converted to much-needed downtown parking, and a new walkway to accommodate pedestrian traffic was added along with other sidewalk and landscaping improvements. Additionally, one of the distinctive arches of the new S-Curve serves as a major bus stop for the nearby Grand Valley State University campus.

Incorporate Community Outreach and Participation

Just as community outreach is a vital component in identifying potential recurring community impacts, the community will be critical to include in the development of

solutions and design of appropriate avoidance, minimization, and mitigation solutions, as well as potential enhancements.

This can be accomplished through the use of focus groups, design charrettes, neighborhood meetings, or other techniques described in the community outreach plan. Some of the most challenging issues in addressing recurring community impacts deal with the extent to which transportation agencies are responsible for addressing past "sins." In many cases, it will be impossible or impractical to mitigate for substantial impacts that might have occurred, such as due to the original construction of a highway. However, through the CIA process, the community impact analyst should gain a comprehensive understanding of the areas of concern related to historical impacts and the community's vision for restoration and the desired characteristics of the community as a whole.

Use Post-Project Assessments

With rising demands on public infrastructure and limited funding, transportation professionals, political leaders, and other decision-makers increasingly are focusing on measuring the performance of transportation projects. There is particular interest in determining the worth of proposed solutions including mitigation and enhancements that might be viewed as "extras" by some, particularly where specific legislation or regulation has not required these features.

Post-project assessments provide a potential approach to assessing the performance of solutions that are implemented for community impacts and should be integrated into the CIA process to complete the planning process and identify lessons learned for future plans and projects. Post-project assessments can be especially relevant for recurring community impacts, particularly if there is a desire to improve community conditions or restore them to a state that existed before the recurring impacts.

There is a wide range of CIA issue areas for which performance measures might be developed; however, meaningful post-project assessment should involve evaluation of measures for those key community issue areas that are most relevant and/or most impacted by a plan or project. Performance measurement is emerging as an important topic for state DOTs across the country, and there are some specific applications such as the post-project example presented below. Resources for performance measurement that include measures related to community impacts also are available, such as *NCHRP Document 69: Performance Measures for Context Sensitive Solutions—A Guidebook for State DOTs.*

Post-Project Assessment for Mitigation and Enhancement
Route 21 in Passaic County, NJ

In 2002, the New Jersey Department of Transportation (NJDOT) contracted with the New Jersey Institute of Technology (NJIT) to perform a five-year post-project assessment (PPA) related to the completion of 1.8 miles of Route 21 in Passaic County, which became operational in December 2000.

This study was unique in that a formal attempt was made to evaluate the accuracy of projections made in the Environmental Impact Statement prepared for the project. Highlights of the PPA include:

- Post-construction evaluations involved traffic counts, noise readings, assessed valuation of properties surveys, and personal interviews with local elected and appointed officials, merchants, and residents.
- Amenities including a tot park, a nature walk, a roller skating rink, extensive landscaping, aesthetically enhanced noise barriers, and other features were provided to the communities (in the cities of Passaic and Clifton). Users of those amenities were surveyed for their reaction regarding their value to the community.
- Photographs were reviewed and compared for pre- and post-project conditions.

Source: A Post-Project Assessment of Route 21 in Passaic County, New Jersey. Transportation Research Board Annual Meeting 2007 Paper #07-0787. January 2007.

Documenting Results

Given the overlay of recurring community impacts between CIA and indirect and cumulative effects analysis, the results may be presented in the environmental document section on community or socioeconomic impacts, or they may appear as part of the indirect and cumulative impacts analysis. The results also could appear as part of a resource-specific section of the document (e.g., noise). It is likely that the particular section assignment of the analysis will vary by state agency. However, it is important to stress that the documentation should make clear that the analysis accounted for recurring impacts, regardless of where the discussion is included within the environmental document.

In many cases, agencies develop a separate community impact assessment document. If important recurring community impacts are discovered during the assessment, it is advised that a distinct section under socioeconomic effects be devoted to recurring impacts. The impacts also should be referred to in the section of the document discussing indirect and cumulative impacts.

5. CASE STUDIES

Below are two case studies that provide examples of identification and assessment of recurring community impacts and development of solutions.

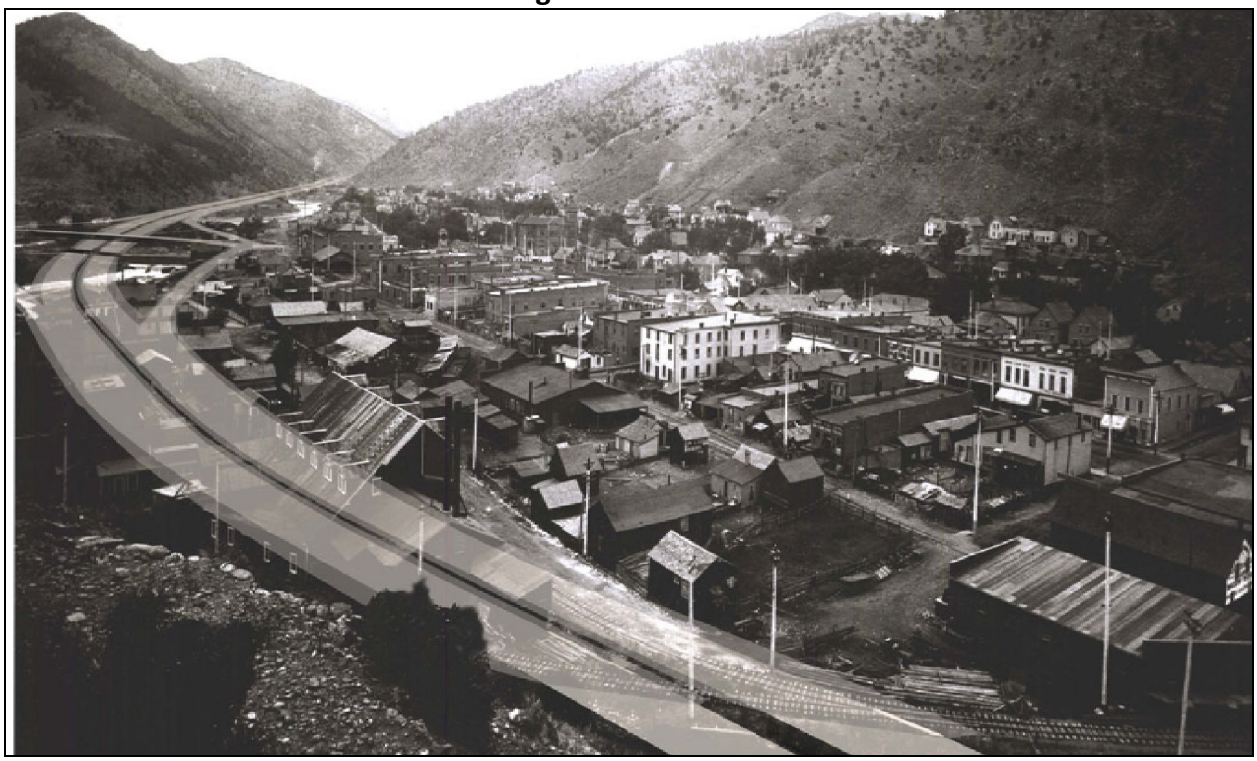
I-70 Mountain Corridor, Colorado

Setting

The 1-70 mountain corridor in Colorado connects the Denver metropolitan area to world-class ski resorts and many of Colorado's most popular winter and summer recreation destinations. In between these destination areas are the small, rural mountain communities of Silver Plume, Georgetown, Lawson, Downieville, Dumont, and Idaho Springs in Clear Creek County. These communities were established during the Colorado gold and silver rush that began in 1858 with placer mining and continued for the rest of the nineteenth century and into the early twentieth century. Today, the county's economic base is tied to tourism and recreation, but the communities retain their historic look and feel. The Georgetown-Silver Plume area is a National Historic Landmark District representing one of the most scenic and historic of all of Colorado's mining districts. The Idaho Springs Commercial District contains various late-nineteenth century commercial buildings focused on Main Street; the entire setting encompassing the town is a historic area that is considered eligible for the National Register of Historic Places.

The sense of place shared by the communities of Clear Creek County is strongly tied to the landscape setting and historic context. Historic preservation is a central focus of the lifestyle of these communities, and the towns take an active stewardship role in the preservation of the local historic heritage. Lifestyle and socioeconomic values are a part of the historic districts in which these people reside. While each community area is unique in its history, events, structures, people, and reactions to events, there are common threads of experience when related to the impact of initial construction of I-70 between the late 1950s and early 1970s. Approximately 35 acres of Clear Creek County's developed lands were lost due to I-70 construction, and an estimated 80 historic structures were removed.

Simulation of Direct Impacts to Historic Structures in Idaho Springs Due to the Original Construction of I-70



Source: Colorado Department of Transportation. Revised Reconnaissance Survey of the Interstate 70 Mountain Corridor Between Glenwood Springs and C-470 in Colorado Prepared in Partial Fulfillment of Section 106 Requirements for the I-70 Mountain Corridor Programmatic Environmental Impact Statement Revision Date January 2005. http://www.i70mtncorridor.com/documents/recon_report_final.pdf

In the mid-1990s, the Colorado Department of Transportation (CDOT) began studies to widen I-70 to address rapidly increasing congestion. The Draft Programmatic Environmental Impact Statement (PEIS)[1] identified minimal direct impacts to historic properties (loss of structures and property encroachment) associated with any of the transportation improvements being evaluated. Nevertheless, stakeholders strongly objected to any additional impacts, including noise and aesthetic impacts, without reparation for past impacts as well as impacts from the new project.

Mitigation Strategies

As of this writing, the final PEIS is in progress, but CDOT has tentatively identified the following mitigation and enhancement strategies to be carried out during the project level NEPA studies:

[1] I-70 Mountain Corridor Draft Programmatic Environmental Impact Statement. 2004. http://www.dot.state.co.us/I70mtncorridor/

- Develop historic context documents for the Mountain Corridor, including an assessment of existing site records and eligibility determinations to be used to evaluate National Register eligibility and provide information for interpretive materials.
- Survey and evaluate historic buildings and features not already documented.
- Reevaluate the National Historic Landmark boundary to identify any previously unrecorded historic features.
- Evaluate the potential for construction-related vibration and blasting to impact historic properties.
- Consider cumulative visual impacts, visible air and light pollution, shadow effects, and impacts from other mitigation measures such as noise walls on the quality of historic properties.
- Consider cumulative noise impacts on a variety of heritage tourism activities.
- Identify ways to minimize economic impacts on tourism during construction activities.
- Develop guidelines to establish design elements that are compatible with the historic character of the Mountain Corridor.
- Develop an interpretation plan that might include roadside exhibits, a book or documentary on the highway and its impacts, gateway development for historic communities, educational materials for schools, and solar-powered, short-range transmitters broadcasting brief historical vignettes to car radios or cell phones.

For More Information

Region 1 Transportation Director, Colorado Dept. of Transportation
18500 E. Colfax Aurora, CO 80013
(303) 365-7001

I-395 in the Overtown Community, Florida

Setting

Interstate 95 (I-95) and I-395 intersect northwest of downtown Miami and provide access to the international airport, the Port of Miami, and Miami Beach via I-395. These highways also run through Overtown, a historic black community. Overtown is one of Miami's original settlements and was the only platted area where black residents could purchase land in the late 1800s. By the mid-1900s it had grown into a vibrant, thriving community. Overtown featured numerous churches, schools, businesses, the Lyric Theatre, and other

entertainment spots that were well-known not only by residents but also by others in the region as a center of black culture in the south. In the 1960s Overtown was impacted by urban renewal projects and construction of I-95 and I-395. I-95 and I-395 together divided Overtown in the north-south and east-west directions and took 30 square blocks of the land area in the community. More than 12,000 residents were displaced by the projects, and another 5,000 residents left the area, reducing the community's previous population of more than 30,000 by 51 percent. Numerous businesses were displaced, and approximately 100 closed by the 1970s, impacting approximately one-third of the business community. The implementation of the Metrorail system in the 1980s took additional land in the area but serves the community via the Historic Overtown/Lyric Theatre Metrorail Station.

Aerial View of I-95/I-395 Intersection in Miami

Photo courtesy of Metric Engineering.

The highway projects, as well as the rail, housing, and other public and private projects, have combined with other pieces of Overtown's heritage and influenced the community in many ways. The physical presence of I-95 and I-395 (including the vacant areas underneath the expressway) remain significant in the community. Overtown has not approached the economic vibrancy it experienced through the mid-1900s. Since the 1970s, businesses continued to decline, along with housing conditions. Approximately 55 percent of residents in Overtown were identified as living below the poverty level in the 2000 Census and more than 90 percent identified themselves as Black or African-American. The Overtown community has worked together to acknowledge and celebrate the heritage of the area including the renovation of the Lyric Theatre and broader efforts to

Lyric Theatre in Overtown Community

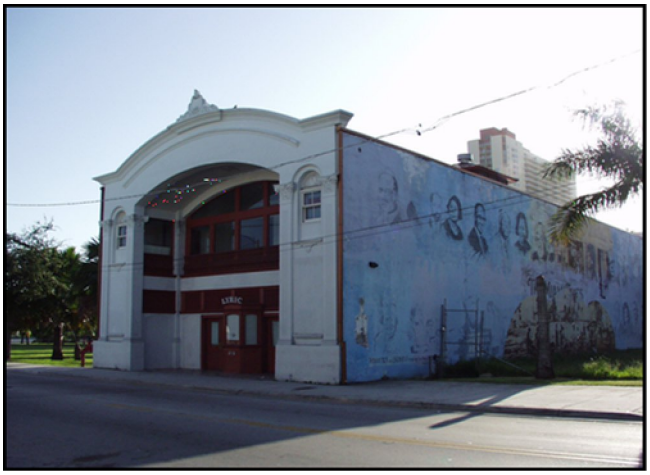


Photo courtesy of Janus Research.

redevelop the Overtown Folklife District. Several historic properties remain in the community, and there are a number of historic churches in the area with active, longstanding congregations. The Overtown Collaborative is a joint effort of three community-based development corporations and the Black Archives, working in close partnership with the Local Initiatives Support Corporation, the Collins Center, the Knight Foundation, the Trust for Public Land, and others to revitalize the Overtown community.

The Overtown community has come out in opposition to a number of redevelopment plans since the late 1980s as well as a number of proposed improvements along I-95 and I-395, which have stirred up concerns for the degree of impact of past major public works projects. As downtown Miami has begun to grow northward, a number of redevelopment projects have been built or proposed for the area. The Miami Arena was built in the Overtown community in the late 1980s for the Miami Heat but was replaced by a new arena to the east, leaving a major arena in the community that is mostly inactive except for occasional arena football games across from a major redevelopment project at the Metrorail station serving Overtown. The redevelopment projects in the area, both those built and proposed, have had mixed reception from the Overtown community. Some residents have expressed concern that gentrification will ensue, thus rendering housing unaffordable in the area; while at the same time, lack of code enforcement in the area has impacted the existing housing stock.

According to FDOT, many current and former residents and community leaders feel Overtown historically has shouldered a disproportionate amount of negative impacts from past transportation projects. Several FDOT proposals to make improvements to SR 836/I-395 (1990s) and ramps along I-95 (2001–2005) were met with opposition from members of the Overtown community. In 2003, community leaders submitted a letter to FDOT citing environmental justice concerns and requesting that FDOT make a comprehensive effort to keep Overtown residents informed on transportation projects in the area, including assigning a community liaison to the area. Several of the I-95 projects did not go forward to final design. A new study was begun for the I-395 project in 2004 with a substantial public outreach program and more substantial urban design component.

Incorporation in Project Decision-Making

A number of elements have been employed to incorporate the Overtown community into project planning for the I-395 Project Development and Environment Study that began in 2004.

Identified stakeholders

Stakeholders identified for involvement include the following:

- Government—Elected officials (local, state, federal), public schools and community college, police and fire departments, community redevelopment agency;
- Business and trade organizations;
- Civic groups and nonprofits;
- Homeowners associations;
- Churches; and
- Overtown Advisory/Community Oversight Board.

Outreach Strategies

Some of the outreach strategies being employed include the following:

- Community group meetings;
- One-on-one meetings with the stakeholders (70 in 13 months);
- Community liaison with experience in Overtown community;
- Project Advisory Group; and
- Public outreach office opened by FDOT in Overtown.

FDOT opened the public outreach office in December 2006 (FHWA funded) in the heart of Overtown and staffed it with local residents. The project team held monthly briefings on the project, and general information is provided at the center on all Overtown-related transportation projects. The office also has evolved into a multipurpose resource center where jobs are posted, a donated computer is available for preparation of resumes, and job applications and community program meetings are held. The office is to continue during the SR 836 project (funded by the Miami-Dade Expressway Authority).

Community Issues

Some of the community issues identified through the outreach include the following:

- Safety of children;
- Potential for increased noise and air pollution;
- Preservation of historic sites, both registered and locally important sites;
- Acquisition/relocation of homes and businesses;
- Effects to economic/community redevelopment;
- Opportunities for affordable housing; and
- Job creation/training.

As of this writing, the FDOT I-395 PD&E study is still underway. Project staff members indicate that an important part of the outreach was learning from local residents with (family) history of living in area and weeding out interference from vocal non-locals. FDOT has identified a number of lessons related to addressing recurring community impacts and working with communities on current projects in this context. These include the following:

- Recognizing past projects and their effects;
- Acknowledging that consensus might not be viable, especially in fractured communities;
- Accepting that the community liaison's role might be misinterpreted;
- Making genuine efforts to build trust (via repetition and staff continuity); and
- Keeping an open perspective.

For More Information

Catherine B. Owen, Environmental Manager
Florida Department of Transportation Planning & Environmental Management Office
1000 NW 111th Avenue, Room 6109, Miami, FL 33172
(305) 470-5399

6. RESOURCES

The following resource and guidance documents address community impacts and/or cumulative effects and might be valuable resources for transportation staff who are looking for more information on issues relevant to recurring community impacts:

American Association of State Highway and Transportation Officials. (2004). 2004 AASHTO Secondary and Cumulative Impacts Workshop: Who, What, Where, and Most Importantly, How? Washington, DC. (presentation).

Buffington, Jesse L., Herndon, Cary W., and Weiss, Michael E. (1978.) Non-User Impacts of Different Highway Designs as Measured by Land Use and Land Value Changes. Texas Transportation Institute Research Report 225-2.

Burbank, Cynthia and Charlotte Adams. (1999). Current Status of Environmental Justice Activities, Information Memo with Status Report of Environmental Justice (EJ) Activities attachment.

Burbank, Cynthia and Charlotte Adams. (2000). FHWA/FTA Status of Environmental Justice Activities, Information Memo.

California Department of Transportation. (2003.) Environmental Handbook, Volume 4: CIA. Available at http://www.dot.ca.gov/ser/vol4/envhb4.pdf.

California Department of Transportation. (2004). Environmental Handbook, Volume I: Guidance for Compliance, Chapter 25: Environmental Justice. Available at http://www.dot.ca.gov/ser/vol1/sec3/community/ch25ej/chap25ej.htm.

California Department of Transportation. (2004). Environmental Handbook, Volume I: Guidance for Compliance, Chapter 24: Community Impacts. Available at http://www.dot.ca.gov/ser/vol1/sec3/community/ch24cia/chap24cia.htm.

Carlson, Dean. (1990). "Environmental Policy Statement Implementation Strategies," Memo.

Charlotte County-Punta Gorda Metropolitan Planning Organization. (2001). Secondary and Cumulative Impact Assessment in the Planning Process.

Colorado Department of Transportation. (2003). Sustaining Nature and Community in the Pikes Peak Region: A Sourcebook for Analyzing Regional Cumulative Effects.

Colorado Department of Transportation. Identifying True Cumulative Effects. (2004). Washington, DC. (presentation).

Cooper, T.A and Canter L.W. (1997). Documentation of Cumulative Impacts in Environmental Impact Statements. Environmental Impact Assessment Review 17.

Council on Environmental Quality (1996). Draft Guidance for Addressing Environmental Justice Under the National Environmental Policy Act.

Council on Environmental Quality. (1997). "Environmental Justice: Guidance Under the National Environmental Policy Act," Appendix A provides guidance for federal agencies on key terms in Executive Order 12898.

Council on Environmental Quality. (1997). Considering Cumulative Effects Under the National Environmental Policy Act. Available at ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm.

Executive Order 12092. (1994). Leadership and Coordination of Fair Housing in Federal Programs: Affirmatively Furthering Fair Housing.

Executive Order 12898. (1994). Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Federal Highway Administration and Federal Transit Administration. (1994). FHWA/FTA Policy and Guidance on Public Involvement.

Federal Highway Administration and Federal Transit Administration. (1996). Public Involvement Techniques for Transportation Decision-Making. FHWA-PD-96-031.

Federal Highway Administration and Federal Transit Administration. (2006). SAFETEA-LU Environmental Review Process Final Guidance. Available at http://www.fhwa.dot.gov/hep/section6002/index.htm.

Federal Highway Administration and Florida Department of Transportation. (1999). National CIA (CIA) Research Design Team Recommendations for Development of the Strategic Plan, dated April 1999.

Federal Highway Administration and Florida Department of Transportation. (1999). National CIA (CIA) Workshop Summary. The proceedings of the First National CIA Workshop, cosponsored by FHWA and Florida Department of Transportation in consultation with CIA Design Team; held September 15–16, 1998, in Tampa, FL.

Federal Highway Administration. (1993). FHWA ORDER 4720.1A. Civil Rights Responsibilities of Motor Carrier Safety Assistance Program (MCSAP).

Federal Highway Administration. (1994). FHWA Environmental Policy Statement, with message from Federal Highway Administrator Rodney E. Slater.

Federal Highway Administration. (1996). Memo and Video, ACTION: Distribution of HIGHWAYS and the ENVIRONMENT: Innovative Mitigation Video. FHWA Memorandum.

Federal Highway Administration. (1997). Flexibility in Highway Design. Publication FHWA-PD-97-062.

Federal Highway Administration. (1998). Community Impact Mitigation: Case Studies. FHWA-PD-98-024.

Federal Highway Administration. (1998). Order on Environmental Justice, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Federal Highway Administration. (1999). CIA Strategic Plan. In conjunction with FL DOT and the CIA Design Team.

Federal Highway Administration. (1999). Traffic Calming: State of the Practice. FHWA-RD-99-135.

Federal Highway Administration. (1976). FHPM 2-1-2, Federal-Aid Highway Program Manual 2-1-2, Civil Rights, Title VI Program and Related Statutes, Implementation and Review Procedures, Transmittal 233.

Federal Highway Administration. (1982). Memorandum, Guidance Material on Public Hearings and Other Public Involvement.

Federal Highway Administration. (1987). FHWA Technical Advisory T6640.8A, titled "Guidance for Preparing and Processing Environmental and Section 4(F) Documents," effective November 27, 1987.

Federal Highway Administration. (1992). FHWA Notice, Impacts of the Civil Rights Restoration Act of 1987 on FHWA Programs.

Federal Highway Administration. (1992). Position Paper: Secondary and Cumulative Impact Assessment in the Highway Project Development Process. Available at http://www.environment.fhwa.dot.gov/guidebook/content/Secondary_Cumulative_Impact_Assessmt.asp.

Federal Highway Administration. (1996). *Community Impact Assessment: A Quick Reference for Transportation*. (FHWA-PD-96-036; HEP 30/8-96(10M) P). Washington, DC. Available at http://www.environment.fhwa.dot.gov/projdev/tdmcia.asp.

Federal Highway Administration. (2002). Web page, Summary: Economic Impacts of Federal-Aid Highway Investment. Washington, DC. Available at http://www.fhwa.dot.gov/policy/empl.htm.

Federal Highway Administration. (2002). Web pages, Impact Methodologies. Washington, DC. Available at http://www.fhwa.dot.gov/planning/toolbox/framework.htm.

Federal Highway Administration. (2003). Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process. (Interim Guidance). Available at http://www.environment.fhwa.dot.gov/guidebook/index.asp.

Federal Transit Administration. (1995). Sourcebook on Transit-Related Environmental Regulations, Washington: Government Printing Office.

Florida Atlantic University/Florida International University Joint Center for Environmental and Urban Problems. (1998). Secondary and Cumulative Environmental Impacts of Transportation Projects. FL-ER-70-98.

Florida Department of Transportation, Central Environmental Management Office, URS Corporation, & Powell, Fragala, and Associates. (2004). Sociocultural Effects Evaluations: Interim Guidelines for the ETDM Process.

Georgia Department of Transportation. (2000). Plan Development Process—2000: Manual of Guidance 4050, TOPPS 4050. Last Updated March 2004.

Idaho Transportation Department. (2003). DRAFT: Environmental Process Manual: Section 2200: Secondary and Cumulative Impacts.

Indiana Department of Transportation. (2003). Procedural Manual for Preparing Environmental Studies. Available at http://www.ai.org/dot/pubs/manuals/envirStudies.

Kane, Anthony. (1988). "Highway Corridor Preservation and Early Right-of-Way Acquisition," Memorandum from Associate Administrator for Right-of-Way and Environment to Regional Administrators.

Kane, Anthony. (1991). "Questions and Answers on FHWA's Environmental Policy Statement (EPS)," distributed with February 28, 1991, memorandum from Associate Administrator for Program Development to Regional Administrators.

Linton, Gordon and Kenneth R. Wykle. (1999). Implementing Title VI Requirements in Metropolitan and Statewide Planning Action Memo with Assessing Title VI Capability Review Questions attachment, was distributed to FTA Regional Administrators and FHWA Division Administrators.

Maryland State Highway Administration. (2000). Maryland State Highway Administration's Secondary and Cumulative Effects Analysis Guidelines for Environmental Impact Statements and Environmental Assessments. Available at http://www.sha.state.md.us/ImprovingOurCommunity/oppe/scea/other/6-28-00Guidelines.pdf.

Maryland State Highway Administration. (2004). Maryland's Approach to Secondary and Cumulative Effects Analyses. Washington, DC. (presentation).

Moyer, Jennifer. (2004). Indirect and Cumulative Effects Assessment. Washington, DC. (presentation).

National Cooperative Highway Research Program. (1999). NCHRP Report 423A—Land Use Impacts of Transportation: A Guidebook. Prepared by Parsons Brinckerhoff Quade and Douglas, Inc., and Transportation Management and Design. Available at http://nepa.fhwa.dot.gov/ReNEPA/ReNepa.nsf/0/ccecf4d789db510e85256ce6006142a0/$FILE/land_use_guidebook.pdf or from the Transportation Research Board bookstore at http://www.nationalacademies.org/trb/bookstore.

National Cooperative Highway Research Program. (2001). NCHRP Report 456—Guidebook for Assessing the Social and Economic Effects of Transportation Projects. Prepared by David J. Forkenbrock, Public Policy Center, University of Iowa; and Glen E. Weisbrod, Economic Development Research Group, Boston, MA. Available at http://gulliver.trb.org/publications/nchrp/nchrp_rpt_456-a.pdf or from the Transportation Research Board (TRB) bookstore at http://www.nationalacademies.org/trb/bookstore.

National Cooperative Highway Research Program. (2002). The Use of Expert Panels in Analyzing Transportation and Land Use Alternatives. Prepared by Parsons Brinckerhoff Quade and Douglas, Inc.

National Transit Institute. (1996). Public Involvement in Transportation Decision-Making. Short Course Materials. New Brunswick, NJ: Rutgers University.

North Carolina Department of Transportation and North Carolina Department of Environmental and Natural Resources (NCDOT/NCDENR). (2004). Indirect and Cumulative Impact Assessment Guidance: Integrated NEPA/SEPA/401 Eight-Step ICI Assessment Process. Prepared by The Louis Berger Group, Inc.

North Carolina Department of Transportation. (2001). Guidance for Assessing Indirect and Cumulative Impacts of Transportation Projects in North Carolina, Volume I: Guidance Policy Report, and Volume II Practitioner's Handbook.

Oregon Department of Transportation. (2001). Final Report, SPR 327—A Guidebook for Evaluating the Indirect and Cumulative Growth Impacts of Highway Improvements. Prepared by ECONorthwest and Portland State University.

Ptak, Thomas. (1995). Nondiscrimination, Environmental Justice, and CIA in Planning and Project Development. FHWA memorandum from Associate Administrator for Program Development to Associate Administrators, Staff Office Directors, Regional Administrators, Federal Lands Highway Program Administrator, and Director of Joint ITS Program Office.

Sevin, Ali. (1985). The Director of the Office of Environmental Policy Memorandum to all Division Chiefs on "Nondiscrimination as an Integral Part of the Office of Environmental Policy's (now Planning and Environment) Daily Program Operation and Activities."

Still, Katherine and Sam Seskin (editors). (2003). Methods for Evaluating Secondary and Cumulative Land Use Impacts. Vol. 1, No. 1. Available at http://nepa.fhwa.dot.gov/ReNEPA/ReNepa.nsf/All+Documents/E5FA4540E7FA4F6E85256CD900464984/$FILE/impacts%20v1%20n1.doc.

U.S. Department of Transportation. (1995) Final Environmental Justice Strategy. Federal Register Vol. 60, No. 125, pp. 33896-33899.

U.S. Environmental Protection Agency. (1994). EPA Interagency Working Group on Standards and Definitions. Draft Guidance For Federal Agencies On Key Terms In Executive Order 12898.

U.S. Environmental Protection Agency. (1995). Memorandum, Draft Guidance for Addressing Environmental Justice in Reviews Conducted Pursuant to 309 of the Clean Air Act.

U.S. Environmental Protection Agency. (1996). Draft Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses. EPA Office of Federal Activities, Washington, DC.

U.S. Environmental Protection Agency. (1998). "Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses," from the Office of Federal Activities.

U.S. Environmental Protection Agency. (Undated). Draft Guidance for Consideration of Environmental Justice in Clean Air Act 309 Reviews.

U.S. Congress, House Committee on Commerce, Subcommittee on Oversight and Investigations. (1998). EPA's Title VI Interim Guidance and Alternative State Approaches. Hearing before the Subcommittee on Oversight and Investigations of the Committee on Commerce, House of Representatives, One Hundred Fifth Congress, Second Session, Washington: U.S. Government Printing Office.

U.S. Department of Justice. (1999). Policy Guidance Document, Enforcement of Title VI of the Civil Rights Act of 1964 and Related Statutes in Block Grant Programs.

U.S. Department of Transportation (1995). Proposed Order to Address Environmental Justice in Minority Populations and Low-Income Populations, published in Federal Register Vol. 60, No. 125, pp. 33899-33903.

U.S. Department of Transportation (DOT), Final Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations, [subsequent to draft in Federal Register, Vol. 60, No. 125, June 29, 1995, pp.33899-33903.] signed by Secretary Pena on February 3, 1997; published in Federal Register, Vol. 62, No. 72, April 15, 1997, pp. 18377-18381. Officially formatted into DOT Order 5610.2.

U.S. Department of Transportation, FHWA. *Community Impact Assessment: A Quick Reference for Transportation*. September 1996.

U.S. Department of Transportation. (1974). Social and Economic Effects of Highways.

U.S. Environmental Protection Agency. (1999). Consideration of Cumulative Impacts in EPA Review of NEPA Documents. (EPA 315-R-99-002). Washington, DC. Available at http://www.epa.gov/Compliance/resources/policies/nepa/cumulative.pdf.

U.S. Environmental Protection Agency. (2000). Projecting Land-Use Change: A Summary of Models for Assessing the Effects of Community Growth and Change on Land-Use Patterns. (EPA/600/R-00/098). Washington, DC.

Washington State Department of Transportation. (2004). Environmental Procedures Manual-Revision 2004-1, Section 480: Secondary and Cumulative Impacts. Available at http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/EPM/480.pdf

APPENDIX A

WEB SURVEY RESULTS

Background and Summary

For NCHRP Project 25-25 (36), ICF International and Planning Communities conducted research to develop guidelines for addressing recurring community impacts in the NEPA process. As part of this study, the research team conducted a survey to gather information from state departments of transportation (DOTs), metropolitan planning organizations (MPOs), local planning agencies, FHWA Division Offices, and private consulting firms on practices related to analyzing recurring community impacts. The primary purpose of this effort was to gather basic information on perceptions and practices in recurring community impact assessment. Another goal was to identify agencies and organizations with more advanced procedures and experience implementing recurring community impacts analysis, thereby identifying candidates for phone interviews.

This Appendix summarizes the survey findings. The survey revealed some important information about the types of impacts being analyzed, staff involved, and methods used. It also was used to identify several case studies to be highlighted in the guidelines.

Methodology

This survey was designed to focus on state DOTs and their planning partners (MPOs, FHWA, private consultants) to explore their practices of evaluating recurring community impacts. Email contact information was obtained by utilizing the FHWA Community Impact Assessment (CIA) practitioner's group, state DOT and FHWA Division CIA contacts developed through previous NCHRP research projects, online MPO contact information (AMPO/FHWA), and the AASHTO Standing Committee on the Environment, resulting in an initial email mailing list of 714 contacts.

The survey was created as an online Web application with built-in reporting tools and was launched on the Web on October 16, 2007. Potential respondents were sent an email describing the research effort and inviting their participation in the survey (See Appendix A: Survey Email/Format for the email and survey instrument). Participants were given a two-week time period to respond by October 31, 2007. Seventy-three surveys were returned as undeliverable following the initial mailing. As a result, efforts were made to research the initially invalid emails. All undeliverables were resent, with 20 email address corrections made. No further attempts were made once the undeliverables were returned for a second time.

Following the goals outlined by the project panel, the survey examined the following issues and questions:

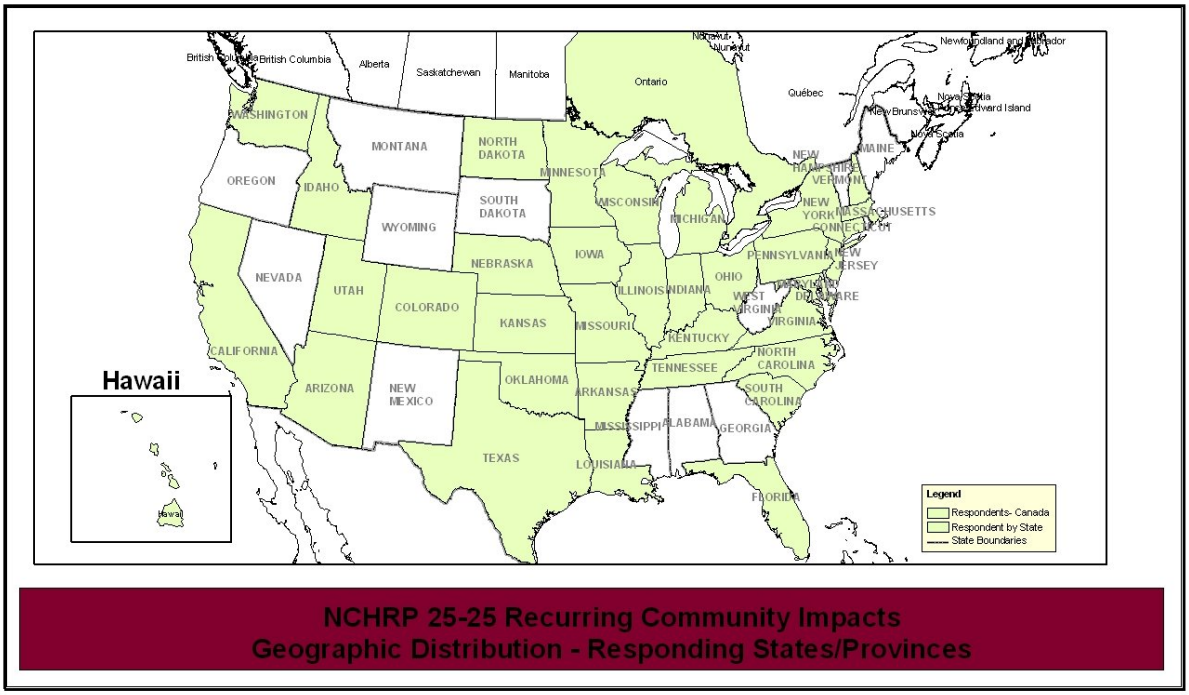
- Current CIA and Cumulative CIA Practices;
- Guidance, Tools, and Training for Evaluating Recurring Community Impacts;
- Integrating Recurring Community Impact Assessment Into Decision-Making; and
- Advancing Recurring Community Impacts Practices and Policies/Identification of Case Studies.

Results

Survey Response

The survey had a response rate of 12.2% (87 from the complete mailing list of 714). Although it was not the intent of the survey to generate statistically valid results, this response rate is quite good for a survey of this nature (which might typically have a response rate of 2% to 3%). The survey respondents were well-represented geographically with respondents from 35 states, the District of Columbia, and Canada (Ontario) (see Figure 1.1).

Figure 1.1: Geographic Distribution of Survey Responses



In addition to geographic distribution, the survey respondents are professionally diverse and representative of varied roles in the transportation industry with state DOTs, FHWA, MPOs, regional planning organizations, and private consultants. Some of those represented include

environmental, community, transportation, long-range and land use planners; section, program, and division managers, chiefs, and directors; and a DOT Secretary (A list of all respondents is provided in Appendix B: Survey Respondents).

Current CIA and Cumulative CIA Practices

This section of the Recurring Community Impacts survey was used primarily to assess current CIA and Cumulative CIA practices in project planning. Questions focused on who is involved in the process (including agency staff members, stakeholders, public), what types of issues are address, how recurring community impacts are reviewed within the process, and challenges involved in conducting CIA.

Definitions for "cumulative" and "recurring" community impacts were provided to participants in the introduction to this part of the survey. Cumulative impacts on a community are those effects that have resulted from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions whether publicly or privately undertaken. Recurring community impacts are specifically focused on the impacts in the context of past actions.

CIA Practices

The first series of questions in this section was established to evaluate current CIA practices, including who is involved in the process (staff and public/agency stakeholders) and what types of impacts are evaluated.

In this section, the first question asks respondents which disciplines in their organizations evaluate community impacts (respondents could select as many disciplines as were applicable). Although responses illustrate that a wide array of professionals are involved in evaluating community impacts, a substantial majority of applicants (78.4%) indicated that transportation planners performed such evaluations. Nearly half of respondents indicated that environmental planners (48.2%), engineers (45.4%), and community planners (42.3%) evaluate community impacts. Other disciplines respondents identified as involved in the evaluations included the following:

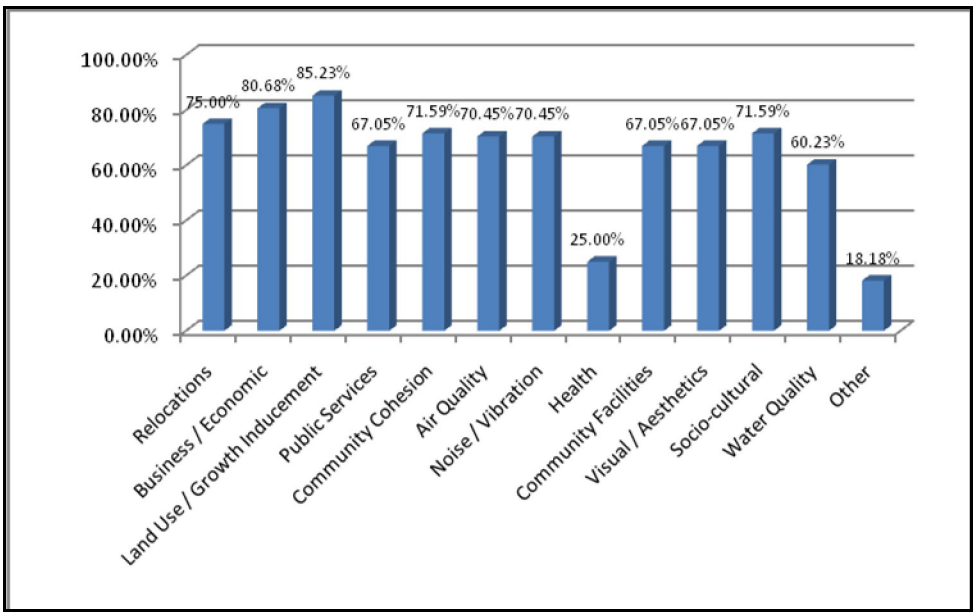
- Environmental scientists (28.4%)
- Transportation modelers (26.1%)
- Land acquisition specialists (R/W agents) (23.9%)
- Architectural historians (19.3%)
- Archaeologists (18.2%)
- Social scientists (14.8%)
- Landscape architects (13.6%)
- Construction professionals (12.5%)
- Economists (11.4%)

- Geologists (4.5%)
- Maintenance professionals (4.5%)

Disciplines included in the "Other" category (9.1%) are GIS professionals, public involvement specialists, land use planners, and NEPA support positions (consultants also were identified under "Other"). The recurring community impacts guidebook must account for the broad cross section of disciplines currently involved in CIA, as well as the fact that community planners do not appear to represent the majority of professionals involved in the analysis (nearly twice as many transportation planners were identified as involved, as well as more environmental planners and engineers than community planners).

Respondents were next asked what types of community impacts were considered when transportation project effects were being evaluated. Results are shown in Figure 1.2. Topics identified under the "Other" (18.2%) category include mobility, safety, multimodal issues, environmental justice, community goals, farmlands, prime soils, hazardous materials, cultural resources, including traditional cultural properties, and natural resources (wildlife, endangered species). The results underline the fact the guidance on recurring community impacts should address a wide range of impact topics and include basic definitions for all impact topics to increase practitioners understanding of the broad array of topic areas related to community impact assessment. Additionally, since only 1/4 of respondents indicated that their agencies considered health impacts of transportation projects, and given that community health conditions tend to reflect the aggregate of all circumstances affecting a community over time, the guidebook may want to discuss the relationship between health and recurring community impacts.

Figure 1.2: What types of community impacts does your agency typically consider when evaluating the effects of transportation projects on communities?



Respondents were asked which groups/individuals are typically included as stakeholders in the CIA process; the responses indicate that a broad representation of stakeholders is often included in the process. The respondents noted that a majority of the time communities are involved in projects through:

- local government officials/staff (93.2%)
- MPOs/RPOs (81.82%)
- community organizations/neighborhood groups (76.14%)
- key community leaders/liaisons (72.7%)
- environmental advocacy/interest groups (52.3%)
- community focus groups (51.1%)

Other stakeholders involved more than half of the time include federal agencies (75.0%), environmental resource/regulatory agencies (73.9%), and other state agencies (64.8%). Other stakeholders included in the responses are tribal governments (46.59%) and religious-based organizations (30.7%). The business community, economic development agencies, developers, emergency services, historic societies were also provided as "Other" (9.1%) stakeholders. A few responses (2.3%) were N/A.

Respondents noted that stakeholders are identified through various methods, including:

- geographic location (80.7%)
- local government input (79.3%)
- MPO/RPO input (77.3%)
- resource agency input (54.5%)
- standard DOT procedure/policy (46.6%)
- review of similar past projects (42.0%)
- and upper management decision (11.4%)

Stakeholder identification was identified as context driven/project specific a majority of the time (64.8%) and respondents presented Other (6.8%) methods including the public involvement program/community outreach, project facilitator, stakeholder interviews, and informal leaders and N/A (2.3%).

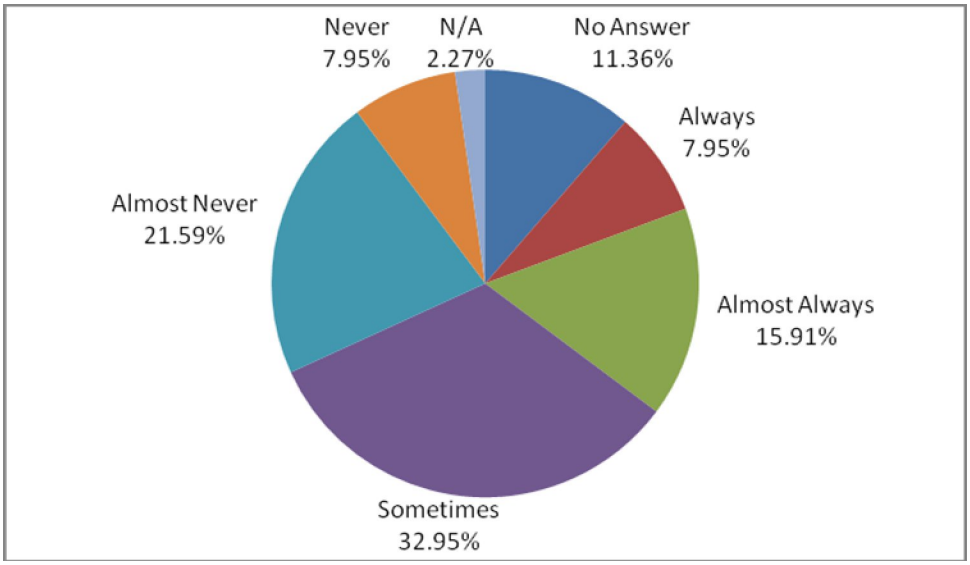
The level and scope of stakeholder involvement identified indicates potential resources for transportation agencies in identifying and evaluating recurring community impacts. These community stakeholders can play a vital role in providing information on past projects and impacts to a community.

Recurring CIA Practices

In addition to evaluating CIA practices in general, specific questions explored the evaluation of recurring community impact assessment.

Respondents were asked whether their CIA/NEPA process assessed the impacts of past (public or private) projects on communities. Results are presented in Figure 1.3. Just over 30% of respondents indicate that impacts of past projects are Never or Almost Never assessed in their process and another 1/3 of respondents indicated that assessment of past projects takes place Sometimes. Over one-quarter of the respondents indicated that they Always or Almost Always assess the impacts of past projects on communities, and the research team will follow up with a set of those respondents to gather information on their practices, since these are most likely to have the most advanced and established procedures.

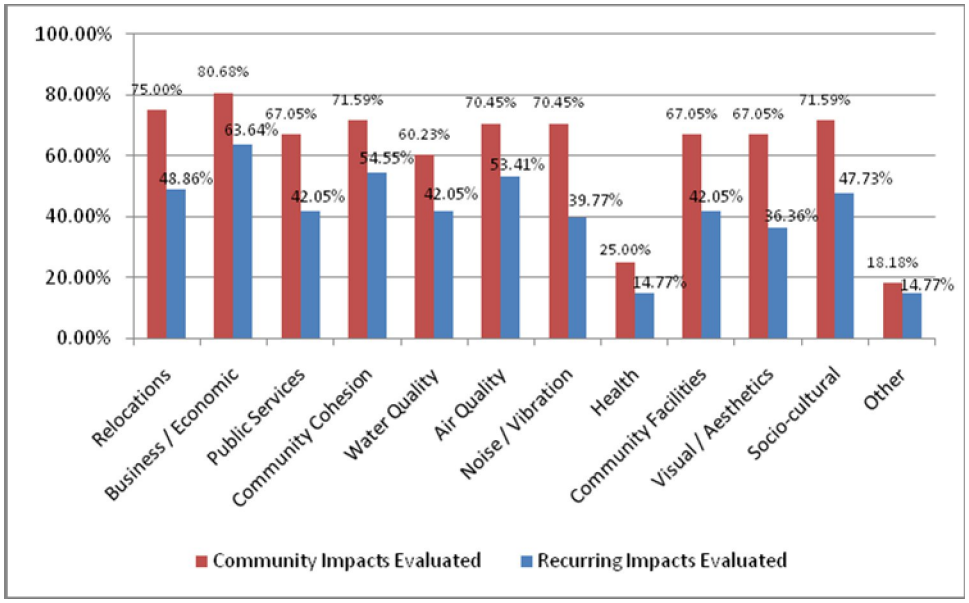
Figure 1.3: How often does your community impact assessment/NEPA process assess the impacts of past public and private projects on communities?



Responses indicate that stakeholders are asked to provide information on past (public and private) actions through informal discussions (54.5%) and formally structured questions/interviews (39.8%). Information on past actions is also obtained reactively when stakeholders bring up issues (50.0%)and is not collected at all in some cases (N/A – Information Not Collected, 12.5%). Methods for identifying past public and private actions will be key for the recurring community impacts guidebook and, as such, the formal and informal methods currently being used by practitioners for assessment will be investigated.

Respondents were next asked what types of recurring community impacts were considered when transportation project effects were being evaluated. Results are shown in Figure 1.4 and incorporated the results on which types of community impacts were evaluated in general from Figure 1.2. As would be anticipated based on the results of the question as to whether recurring community impacts are evaluated in the CIA/NEPA process as illustrated in Figure 1.3, the percentages for each community impact topic dropped in response to the specific question of whether recurring impacts were evaluated.

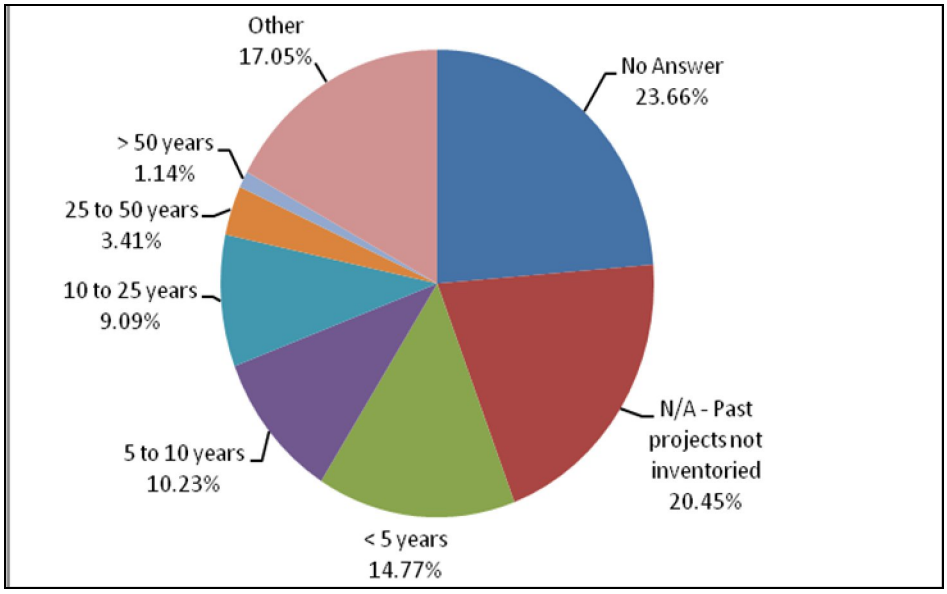
Figure 1.4: Which of the following key CIA issue areas are evaluated for recurring (cumulative) effects of transportation projects? (Presented with Figure 1.1 results for types of community impacts which are evaluated)



Responses indicate that recurring community impacts are evaluated about 2/3 as often as community impacts for any given topic (ranging from 56%-81% as a relative proportion). Respondents indicated that recurring community impact topics identified under the "Other" (18.2%) category included the same resource topics identified as "Other" community impact topics, as well as regional transportation network needs.

Respondents were asked how far back their agency's cumulative impact analysis looks to identify past projects impacting communities. Results are presented in Figure 1.5. A substantial portion indicated that past projects are not inventoried (20.5%) or provided no answer (23.7%). Responses detailed under "Other" (17.0%) indicated that selection of the timeframe depends on the project, the community and its history, key past events, input from stakeholders, the specific resources under consideration and availability of data; and may not be expressly defined.

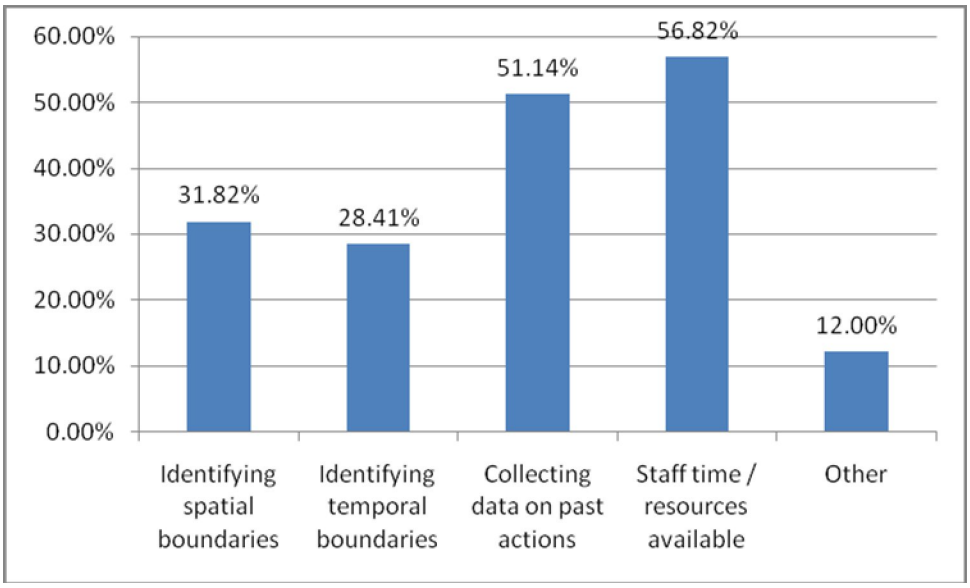
Figure 1.5: How far back does your agency's Cumulative Impact Analysis look to identify past projects that may have impacted a community?



The results of the questions on whether recurring community impacts are incorporated in CIA/NEPA analysis, which recurring community impacts are evaluated, and for what timeframes such impacts are considered indicate that recurring community impact practice is not as well-developed or broadly implemented as CIA overall.

Respondents were next asked to provide input on challenges encountered in the analysis of recurring community impacts. The results are presented in Figure 1.6 and indicate that respondents feel that constraints on staff and resources available (56.8%) and the effort of collecting data on past actions (51.1%) are the biggest challenges. Identifying spatial and temporal boundaries were also identified as challenging by about 30% of respondents. “Other” (12.0%) challenges identified included budget for analysis (particularly on smaller/less controversial projects), planned v. actual growth, concerns regarding responsibility for identifying past impacts, lack of adopted processes, training needs, insufficient focus on the topic and understanding the public’s point of view. The results of this question provide a number of useful considerations in the development of the recurring community impacts report and guidebook.

Figure 1.6 What issues are the most challenging in analyzing recurring community impacts?



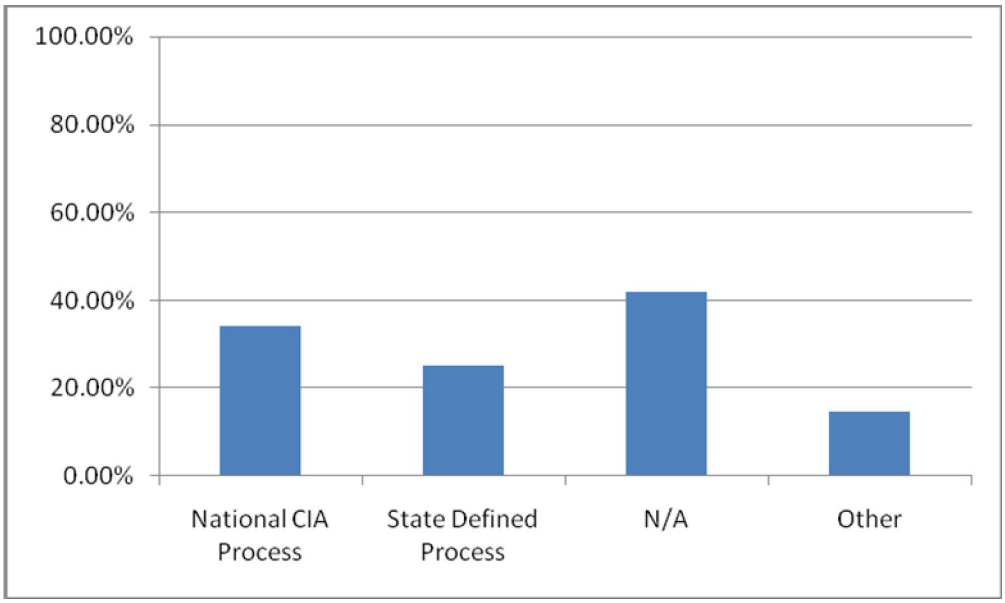
Guidance, Tools and Training for Evaluating Recurring Community Impacts

This section of the Recurring Community Impacts survey was used primarily to assess what guidance, process frameworks, and tools are being used for CIA and cumulative impact analysis, including aspects to address recurring community impact analysis.

The majority of respondents (54.5%) stated that their agencies use the FHWA CIA book ("The Purple Book"). Approximately 1/3 indicated that they use NCHRP 456 Guidebook for Assessing the Social and Economic Effects of Transportation Projects (35.2%), just over 1/4 use state DOT specific CIA guidance (27.3%) and a much smaller percentage use EPA's Community Culture and the Environment (9.1%). Cumulative impacts guidance being used includes CEQ Considering Cumulative Effects under NEPA (39.77%) and state DOT specific cumulative impacts guidance (30.7%). Nearly 20% stated that they use none of the guidance listed in the question and "Other" (11.4%) guidance identified included Florida's Efficient Transportation Decision-Making (ETDM)/Environmental Screening Tool (EST), community characteristics inventory, consultant-developed process, some combination of the listed guidance (varying by project), and even a Facilities Development Manual.

Figure 1.7 presents the responses regarding the process(es) used to evaluate community impacts. Close to 1/2 of respondents say that no defined process is used at their agency or organization to evaluate community impacts. Approximately 1/3 use the National CIA Process and 1/4 use a State Defined Process. "Other" processes identified by respondents include region-defined, CSS approach, project specific, consultant-developed, combination, ETDM/EST and the 11 step process for evaluating Indirect and Cumulative Effects.

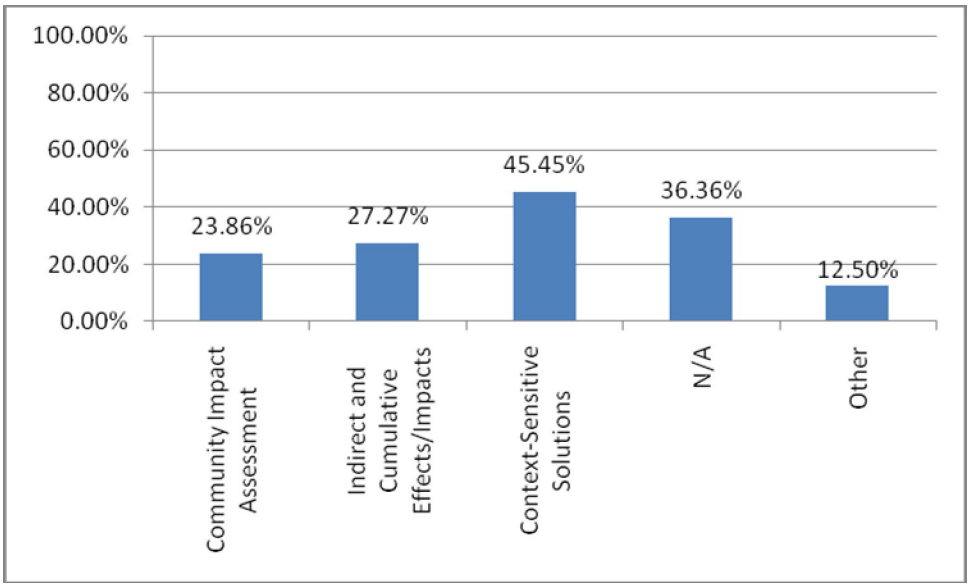
Figure 1.7: What process(es) does your agency / organization use to evaluate community impacts?



Only a limited number of respondents indicate the use of report templates for CIA (17.0%) or Cumulative Impacts (12.5%). The clear majority (65.9%) have no CIA or cumulative impacts report templates. "Other" responses (13.6%) included: the use of templates/example reports by others; adaptation of guidance to address issues at the system level for regional transportation plan; the ETDM process; mapping; International Association of Impact Analysis social impact assessment guidelines; and procedures, checklists and templates under development.

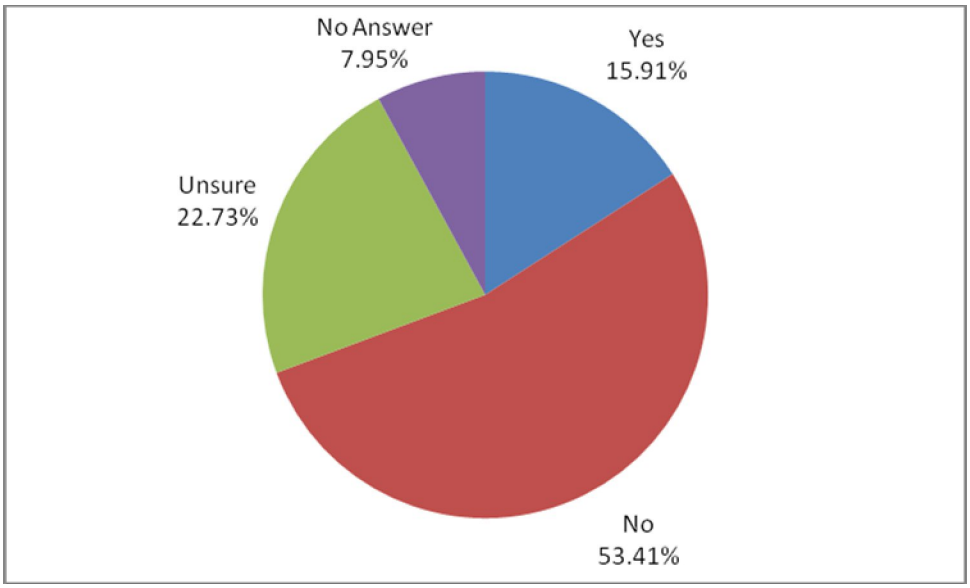
Respondents were asked about the types of training offered to their agency / organization that relate to the assessment of recurring community impacts. Results are presented in Figure 1.8. Only about 1/4 of respondents stated that their agency or organization offers CIA or Indirect and Cumulative Effects (ICE) training. However, nearly 1/2 said Context Sensitive Solutions (CSS) was offered. Just over 1/3 responded N/A (interpreted that no CIA, ICE or CSS training is offered). "Other" training identified included public involvement, cultural resource management, ETDM and environmental justice/Title VI. A few respondents said that their agency did use NHI/FHWA trainings, while others said that CSS training courses were under development.

Figure 1.8: Which types of training relevant to recurring community impacts, does your agency / organization offer?



Respondents were also asked whether specific modules in these trainings addressed procedures for the evaluation of recurring community impacts. Only a small percentage indicated that training programs did so. Follow-up with these respondents may be useful in development of the recurring community impacts guidebook.

Figure 1.9: Do any of your training programs specifically address procedures for examining recurring community impacts in training modules?

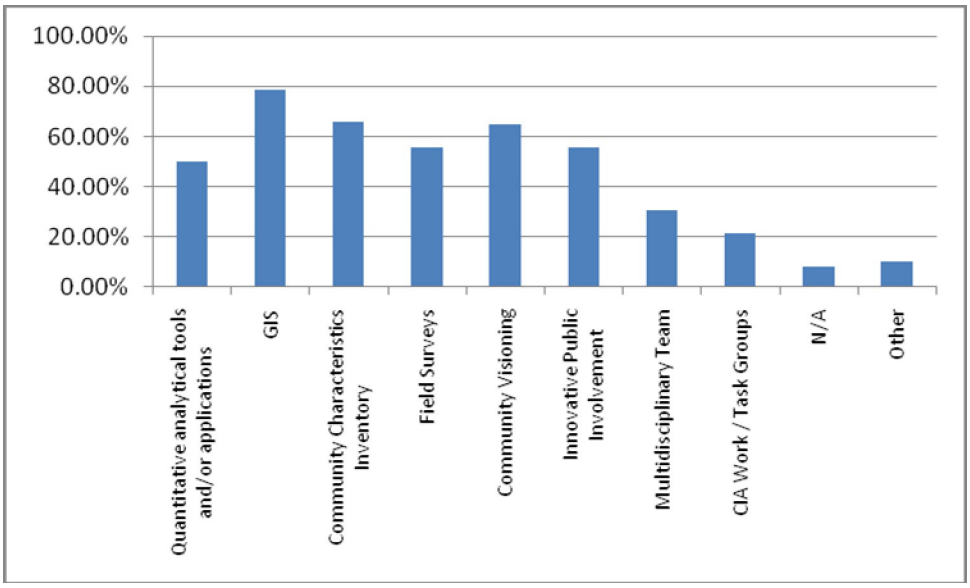


Applications/practices employed by respondents in CIA analysis are presented in Figure 1.10. Applications and practices used by at least 50% of respondents include:

- Geographic Information Systems (78.4%)
- Community Characteristics Inventory (65.9%)
- Community Visioning (64.8%)
- Innovative Public Involvement Techniques (55.7%)
- Community field surveys (55.7%)
- Quantitative analytical tools and/or applications (50%)

Other approaches include Multidisciplinary CIA Teams (30.7%), CIA Work / Task Groups (21.6%) and "Other" (10.2%) approaches such as community advisory teams, ETDM (community delineation module) and a combination of practices.

Figure 1.10: Which of the following CIA applications / practices does your agency / organization employ?



The variation (including low percentages in many cases) in the amount of guidance, definition of the process, use of templates for reporting, and training in CIA and ICE indicates that the Recurring Community Impacts Guidebook will need to present some basic introduction to some of the guidance that exists, including links to these existing resources. Those states in which the process has been more defined and linked between CIA and ICE as well as to the National CIA Process may prove instructive in providing a general framework for the guidance on recurring impacts. The range of applications and practices which are used for CIA analysis also will be important to review in terms of those which can be readily adapted to elicit information and conduct analysis on recurring community impacts.

Integrating Recurring Community Impact Assessment into Decision-Making

In order to develop a practical guidebook on recurring/cumulative community impact assessment, it is important to understand how CIA and recurring community impact analyses are integrated into the decision-making of agencies and organizations. The survey questions in this section address the timing of community impact analysis, the scale of projects which trigger cumulative impact analysis, and the extent to which recurring community impact analysis has influenced decision-making.

Community impacts may be addressed at multiple points during the planning and project development process. The following table identifies responses on whether community impacts are addressed at several key phases in the process as identified in the table.

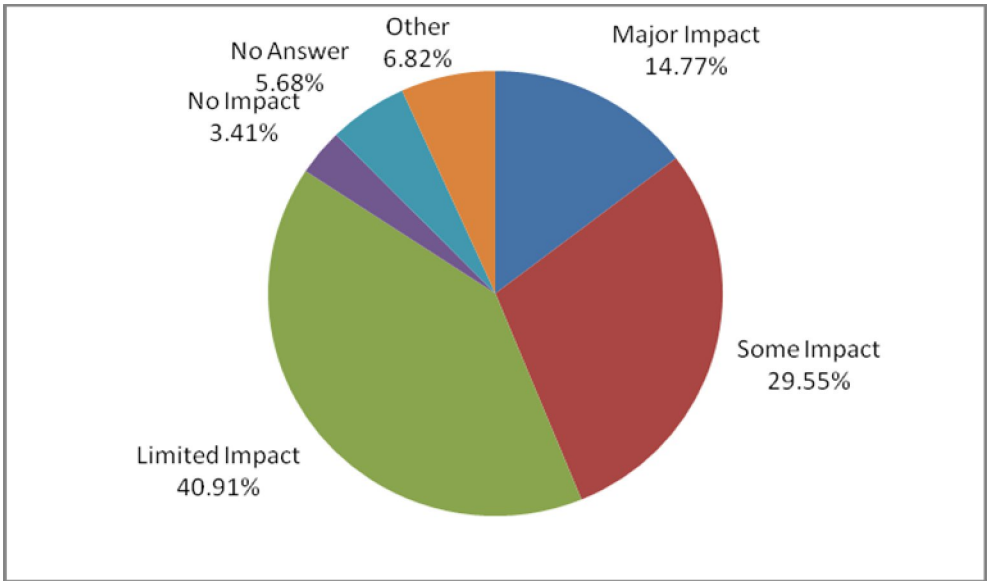
Table 1.1: At what point(s) in the process, are community impacts are addressed?	
Long Range Planning	**52.3%**
Programming	**26.1%**
NEPA Scoping	**65.9%**
Existing Conditions	**45.4%**
Environmental Consequences	**61.4%**
Other:	**9.1%**

Community impacts may be evaluated for projects with varying levels of environmental documentation or types of studies. The results of the question as to what types of project documents/studies address recurring impacts is shown in Table 1.2. When reviewed against the results of the question as to whether the CIA/NEPA process assesses the impacts of past projects (presented in Figure 1.3), these figures appear to overstate the frequency of analysis of recurring community impacts even when the level/type of study or document is taken into account.

Table 1.2: For what types of project documents are recurring impacts addressed?	
Environmental Assessments	64.8%
Environmental Impact Statements	65.9%
Categorical Exclusions	22.7%
Feasibility Studies	29.5%
Corridor Studies	39.5%
Other:	11.4%
N/A	11.4%

Finally, participants were asked the extent to which recurring community impact analysis has influenced decision-making. Nearly 1/2 of respondents stated the recurring community impact analysis has had limited or no impact. Approximately 30% say the analysis has had some impact, while 15% say the analysis has had major impact. Those who responded "Other" said the degree of impact is project dependent and depends on the level to which issues are raised by the community.

Figure 1.11: To what extent has recurring community impact analysis influence decision-making?



The results indicate that the type and scale of project, as well as the degree of public interest or controversy play a role in whether recurring community impacts are addressed. It makes sense that as shown in Table 1.2, projects requiring Environmental Assessments and Environmental Impact Statements and to a slightly lesser extent Corridor Studies are the most common type of project documents or studies in which recurring community impacts

Case Studies

Finally, respondents were asked to provide potential case studies which involved the evaluation of Recurring Community Impacts. These case studies, combined with survey results, research literature findings, planned follow-up phone interviews, and established evaluation criteria may be used to profile specific examples in the Recurring Community Impacts guidelines.

Table 1.3 displays the examples provided by respondents

.

Table 1.3: Recurring Community Impacts Case Studies			
Agency	**Project Name**	**Project Location**	**Description**
North Carolina DOT	(1) R-3302 Pender, (2) R-2414 Camden, (3) R-2582/84 Northampton	(1) Pender County (Burgaw), NC, (2) Camden County, Camden, NC, (3) Northampton County (Garysburg), NC	(1) economic effects of bypass project (2) socio economic impact of business relocation (3) socio-economic impacts to minority community from major widening/multi relocations.
FDOT Central Environmental Management Office	FM# 25167012101 / PD&E Study of I-395 from just west of the Midtown Interchange to the MacArthur Causeway	City of Miami / Miami-Dade County/ Florida	Overtown, historically a thriving black community, was greatly impacted by construction of I-95 & I-395. This has affected various FDOT project efforts due to further perceived impacts by FDOT to this area. The original I-395 PD&E Study and several other PD&E Studies (new ramps off I-95) in the Overtown area were terminated by the FDOT/MPO due to strong opposition, including a 2003 letter from community leaders noting this was an "environmental justice" area. The current I-395 PD&E Study includes several innovative techniques to build trust, better involve the community, and address their concerns. These are the use of a locally experienced community liaison, numerous one-on-one meetings with various stakeholders, a project advisory group, and the use of a public outreach office in Overtown (staffed by Overtown residents), where people can visit for information daily, or attend monthly briefings by the project team. Although there is still some opposition, the I-395 Public Workshop and resident surveys have indicated support for one (elevated) build alternative. The FDOT project team has promised to be open and honest with the community, and feels that a good deal of progress in this community has been made.
Louisiana DOT	I-10 (Mississippi River Bridge to I-10/I-12 Split)	Baton Rouge, Louisiana	Additional capacity necessary in the original I-10 corridor in Baton Rouge.
California DOT	I-15 Gap Closure. Century Freeway. Eureka-Arcata Corridor Improvements	San Diego. Los Angeles. Humboldt County CA.	n/a
Champaign County Regional Planning Commission	IL130/ High Cross Road Corridor Study	Urbana, Champaign County	n/a

Table 1.3: Recurring Community Impacts Case Studies			
Agency	**Project Name**	**Project Location**	**Description**
Colorado DOT	IM 0252-156 SA 12831/I-25 Improvements to the New Pueblo Freeway EIS	Denver, CO	Evaluation of impacts from when I-25 was first built through Pueblo. Innovative community outreach including using disposable cameras to develop aesthetic information from the community, an ice-cream social use to gather community input on noise wall heights and acceptance, and a community process for evaluating, minimizing, and mitigating impacts to 4(f) parks. Evaluation and modification of Purpose and Need to reflect larger community needs. Cooperative development of project alternatives and alternatives evaluation. Another project I-70 East should also be considered.
Sarasota Manatee MPO	Interstate 75 PD&E	Manatee and Sarasota County, Florida	Proposed widening of Interstate 75
US DOT FHWA	Mon/Fayette Expressway	Pittsburgh, PA	Cumulative impact analysis on community in conjunction with new, toll facility through neighborhood
Kentucky Transportation Cabinet	Newtown Pike extension	Lexington, KY, Fayette County www.newtownextension.org	The project listed above impacts an environmental justice area. Steps have been taken to mitigate for the impact. The EIS is viewable from the noted Web site.
FHWA Arkansas Division	Northbelt Freeway EIS	Central Arkansas, Pulaski County	EIS currently being conducted for the project
JF Sato & Associates	Powers Boulevard EA	Colorado Springs, Colorado	Powers Boulevard is a major north-south transportation corridor that serves the eastern portion of the city of Colorado Springs. Traffic is expected to more than double over the next 20 years. Group and individual meetings held with stakeholders to develop context sensitive design. Cooperative efforts between city, county and local developers addressed stormwater management.
Ontario Ministry of Transportation	QEW Widening, Hwy 406 to the Garden City Skyway	St. Catharines, Ontario	This project involved the widening of the Queen Elizabeth Way from 4 to 6 lanes through an urban area where homes were situated just outside the right of way. Structures needed to be replaced and/or widened, one of which was a heritage structure. A number of service roads and side-streets needed to be redirected and as a result, there were a number of public meetings. This is the first MTO project where a "corridor vision" was developed to improve the appearance of the corridor by incorporating a number of design initiatives through public and agency involvement.

Table 1.3: Recurring Community Impacts Case Studies			
Agency	**Project Name**	**Project Location**	**Description**
Tri-County Regional Planning Commission	Regional 2030 Transportation Plan Supplement-- SAFETEA-LU Compliance Report	Tri-County Regional Planning Commission	Extensive GIS mapping and qualitative assessment of system level analysis, adaption of the CIA process to address SAFETEA-LU environmental mitigation requirements which include CIA techniques and considerations-- but not a CIA or project level NEPA CIA analysis; attempts have been made to do a back-inventory of historical transportation projects and there is not consistent data set that includes all of that information uniformly
New Jersey DOT	Route 18, 2F	New Brunswick/Middlesex County/NJ	Roadway reconstruction project for a 1.8 mile section through New Brunswick along the Raritan River from Route 1 to just north of Route 27. The scope includes widening, resurfacing, removal of median and installation of concrete barrier, safety upgrades, intersection and ramp improvements, replacement and reconstruction of 4 bridges and 3 pedestrian overpasses. CSS was employed. A Community Partnering Team was established during project development to address the needs of the City, several communities, Rutgers University, and major corporations in the area.
Metropolitan Council	Twin Cities Region	St. Paul/Minneapolis, Minnesota	Several projects in the Twin Cities region, including a low income minority neighborhood with impacts from the original highway footprint, now concerned about a transit project.
NHDOT	Salem - Manchester, 10418-C	Salem, Windham, Derry, Londonderry, Manchester	Widening of I-93 from 2-lanes in each direction to 4-lanes in each direction.
Arizona DOT	SR 179	Sedona, Arizona	This project is showcased on the AASHTO Web site and on the context-sensitive solutions.org site
Oklahoma DOT	STP-019A(314) SH 66 in Sapulpa Oklahoma from SH 117 west 1.5 miles	Sapulpa, Oklahoma/Creek County/Oklahoma	n/a
CH2M HILL	US 36	Denver, Colorado	n/a

APPENDIX B

PHONE INTERVIEWS

Based on the results of the Web survey, several agencies and organizations stood out as having indicated they have applied relatively advanced practice of recurring community impact analysis.

Of 12 agencies and organizations we contacted, eight responded to a request for a phone interview to gather more specific information about useful approaches, challenges, and lessons learned about assessment of recurring community impacts to help inform the development of these guidelines. These included five State DOTs, one MPO, and two consultants:

- Arizona Department of Transportation (Tammy Flaitz, Environmental Program Manager)
- Colorado Department of Transportation (Yates Opperman)
- Kentucky Transportation Cabinet (Tony Vinegar)
- North Carolina Department of Transportation (Steve Gurganus and Tim Gardiner)
- Louisiana Department of Transportation and Development (Vincent Russo, Project Development Director)
- Sarasota-Manatee MPO, Florida (Michael Maholtz, Transportation Planner)
- HNTB (Susan Fisher)
- JF Sato & Associates (Larry Young, Project Manager)

While the interviews were useful in gathering more detailed information, they further highlighted the limited standard procedures and guidelines for conducting analysis of recurring community impacts. The term “recurring community impacts” is new to most practitioners who typically defined recurring community impacts as part of cumulative impacts. There is no standard definition but one respondent defined it as a “second dip”.

None of the agencies interviewed currently have a policy or guidance for addressing recurring community impacts. The closest example most have is limited guidance for addressing impacts to an environmental justice community. Respondents generally believe the potential for recurring community impacts raises the bar for both the community impact analysis and the cumulative impacts analysis. The most frequently cited limitations to conducting a more comprehensive analysis include the need for guidance for defining spatial and temporal boundaries, funding to conduct the analysis, and readily available tools for collecting the necessary data. Respondents requested that

this guidance document include case studies to provide examples of how other agencies analyzed and mitigated recurring community impacts.

APPENDIX C

TRAINING COURSES RELEVANT TO RECURRING COMMUNITY IMPACTS

One way to bring the information on recurring community impacts analysis to transportation practitioners and to help advance practices for analyzing recurring community impacts is to incorporate information contained in this guidebook into existing training courses. There are a wide range of training courses available to transportation practitioners that address the National Environmental Policy Act (NEPA) process and planning and project development procedures, which could potentially be updated to include information on recurring community impacts. Below is a list of potential courses to consider for further incorporation of information on recurring community impacts. This listing of courses does not include State DOT specific courses, and is not necessarily comprehensive, but identifies nationally available courses sponsored by the U.S. Department of Transportation and offered by private organizations. It is designed to be a good starting point for disseminating information on the concepts, procedures, and methods for analyzing and addressing recurring community impacts.

Federally-Funded Courses

Federal Highway Administration, Headquarters and Resource Center

- Community Impacts Assessment Course
- Indirect and Cumulative Effects Analysis Workshop
- National Environmental Policy Act (NEPA) Executive Briefing
- Context Sensitive Solutions Workshop
- Highway Traffic Noise Workshop
- Environmental Justice for MPOs Seminar
- Environmental Justice and Project Development
- EJ/Title VI Technical Assistance
- Transportation and Land Use Seminar
- Linking Planning and NEPA Executive Seminar
- Linking Planning and NEPA Managers Workshop
- Public Involvement in Transportation Decision-Making
- Public Involvement Workshop

For more information, see: http://www.fhwa.dot.gov/hep/training.htm

National Highway Institute (NHI)

- NEPA and Transportation Decisionmaking

- Context Sensitive Solutions Course
- Fundamentals and Abatement of Highway Traffic Noise
- Fundamentals of Title VI/Environmental Justice
- Transportation and Land Use Course

For more information, see: http://www.nhi.fhwa.dot.gov

National Transit Institute (NTI)

- Managing the Environmental Process
- Coordinating Transportation and Land Use
- Linking Planning and NEPA (cooperative effort with the Federal Highway Administration and the Federal Transit Administration)
- Public Involvement in Transportation Decision Making
- Introduction to Statewide Transportation Planning (cooperative effort with the Federal Highway Administration and the Federal Transit Administration)
- Metropolitan Transportation Planning (in coordination with the National Highway Institute)
- Statewide and Metropolitan Transportation Programming

For more information, see: http://www.ntionline.com/

Privately-Offered and Other Courses

Duke Environmental Leadership Program

- Accounting for Cumulative Effects in the NEPA Process
- Preparing and Documenting Environmental Impact Analyses
- Implementation of NEPA

For more information, see: http://www.nicholas.duke.edu/del/continuinged/

Environmental Impact Training

- Environmental Impact Assessment
- Cumulative Effects Assessment
- Environmental Justice: Principles and Practices Related to the NEPA Process
- Review of NEPA Documents
- Advanced Topics in EIA

For more information, see: http://www.eiatraining.com/

Environmental Training & Consulting International

- Essentials for the NEPA Practitioner
- EAs with FocusTM
- Positive Public Involvement

- Assessing Cumulative Impacts
- Bulletproofing your NEPA Documents
- Advanced NEPA Topics

For more information, see: http://www.envirotrain.com/

The Shipley Group

- Applying the NEPA Process
- Cumulative Impact Analysis and Documentation
- Overview of the NEPA Process
- Transportation NEPA for Department of Transportation Specialists

For more information, see: http://www.shipleygroup.com/