CHAPTER V - ENVIRONMENTAL STUDIES

2.0 Social Environment

2.1 Land use

The purpose of this section is to describe the existing and proposed land uses for a project corridor and to determine whether or not the proposed action would alter the land use patterns planned and if so, identify the areas where change would occur and whether the changes are consistent with future land use plans. This discussion should detail how the proposed project will assist the county and/or state in meeting its growth management objectives as set out in the State Comprehensive Plan, local land use, and transportation plans.

The Metropolitan Planning Organization (MPO), Regional Commissions (RC) or local level officials can provide land use plans. The long-term land use plan is called the Regional Development Plan, a document that details the MPO's regional priorities and vision. Local governments may have comprehensive plans. The transportation plans include the Statewide Transportation Plan, the Regional Transportation Plan (RTP), the State Transportation Improvement Program (STIP), and the Transportation Improvement Program (TIP). These plans are produced with the input of the MPO, local government officials, including the Georgia Department of Transportation (GDOT), the private sector, and the public. Transportation plans generally discuss regional goals on travel demand management, including upgrades to their public transit system, roadway classifications (highway, urban collector, etc.), as well as future bike lanes and sidewalks. Other sources of land use information may include environmental documents for other types of projects in the area, master plans, the area chamber of commerce, and newspaper articles. The following website provides a link to local and county comprehensive plans:
http://www.dca.state.ga.us/development/PlanningQualityGrowth/programs/currentplans.asp.

2.1.1 Analysis

Contacting the MPO, RC or local planning officials is essential in assessing compatibility of the proposed project with land use. Analysis should consist of the breakdown of land use types, discussion of the development trends, including the name of developments, the status of each development (i.e., existing, under construction, proposed), and the size of each development.

The analysis should include an explanation of the proposed project's consistency with the existing and future land use planning. If land use controls such as growth management or economic incentives are part of the local planning, then they should be discussed here. The discussion should ultimately demonstrate how the local plan and growth strategies relate to the planning at the state level and why the project is compatible with these plans. The discussion should provide references to the plans. If there are inconsistencies between land use at the local and state levels, then these should be discussed.

The land use section should discuss the effect of the proposed project on local land use and community development, especially in the context of indirect (also referred to as secondary) impacts. One example would be planned or unplanned growth. The type of growth and the facilities and services should also be included (more detailed information provided in the Indirect and Cumulative Impacts discussion in Chapter V.7). Existing and future land use maps should be included and referenced. The discussion should indicate whether land use changes shown are effects of the project.

2.1.2 Consultant deliverables

Land use analysis does not require a separate report; analysis and findings will be submitted as part of the National Environmental Policy Act (NEPA) document.

2.1.3 Reference/guidance

http://www.dca.state.ga.us/index.asp - Georgia's Coordinated Planning Program

Potential Data Sources

- Churches
- Existing land use plan
- Proposed future land use
- Transportation plans
- Local and regional development plans
- MPOs
- RDCs
- County and local officials

2.2 Community Impact Assessment (CIA)

2.2.1 Overview

Community Impact Assessment (CIA) is the process that evaluates the potential impacts of proposed transportation projects on a local community and its sub-populations throughout the transportation decision-making process. The goal of CIA is to focus on the quality of life of the community. Topics that fall under the CIA heading include: access, mobility, social isolation/splitting of neighborhoods, history of the community, new development impacts, changes in the quality of life, changes in neighborhood identification, changes in property values, separation of the neighborhood from community facilities, displacements, impacts on community centers of activity whether formal or informal, noise, visual, urban renewal, removal of urban blight, joint land use, and disruption of the natural and human environment.

2.2.2 Analysis

Conducting a CIA includes public involvement, defining the project area and the area of impact, determining the community composition, analyzing impacts, and identifying solutions. This can be accomplished in a number of ways. Census data can be used at the block group level to determine the composition of the neighborhoods in the proposed project area. By holding public involvement sessions, the transportation officials can discuss the proposed project with the community and obtain valuable information, such as level of support for the project, areas of

controversy, and key stakeholders. A Citizens Advisory Committee (CAC) may be involved in a CIA (see Chapter IV and GDOT's Context Sensitive Design Manual). In addition to general public involvement sessions, interviews with social services agencies and employers in the area can assist in characterizing the needs and wishes of the community. The communities and neighborhoods should be defined. An on-site investigation combined with census data can assist in defining the community, determining the number of owner-occupied residential units, owner-occupied business units, tenant-occupied residential units, tenant-occupied mobile homes, and tenant-occupied businesses that would be displaced. A CIA should also include the number of residences that would exceed the noise abatement criteria with the proposed project (see Chapter V.6). A discussion of the project's visual effects on the community should be discussed (see Section 2.5 of this chapter). The CIA should identify any parklands or public areas, which have either a formal or informal significance for the community. The CIA should weigh the benefits and burdens of the proposed transportation facility against impacts on the local community and users of the facility. This discussion should cover both Environmental Justice (EJ) (see Section 2.2.4 of this chapter) and non-EJ communities. A CIA should also identify residents who not only live in the community, but who may commute from outside to work in the community. The CIA should determine the impact of the proposed project on emergency vehicles, community facilities, and other public services.

2.2.3 Social Impacts Assessment (SIA)

A Social Impacts Assessment (SIA) is an element of the CIA. The SIA should focus on impacts of the proposed project on specific groups of individuals within a community.

The following groups should be given special consideration when analyzing the impact of a transportation project:

- Elderly persons;
- Handicapped persons;
- Non-drivers and transit dependent persons;
- Minorities (see also Section 2.2.4 of this chapter); and
- Welfare-to-work, Temporary Assistance for Needy Families (TANF) Program recipients, and low-income persons (see also Section 2.2.4 of this chapter).

A SIA should include the size of the population, the neighborhood boundaries, and community cohesion. A description of the relevant ethnic/income data for the census tracts affected, the character of the adjacent communities, and the value and availability of housing should be included. Unemployment rates of the community should be noted. The SIA should discuss the location, types, and access to community facilities, including principal hours of use. In the SIA, the relevant housing characteristics should be identified, such as, type of occupancy (e.g., renters or owners), density of housing, condition of housing, and occupancy rate. The age and ethnic distribution of the community should also be part of the SIA. An SIA should consider public facilities (e.g., police/health), the school districts, recreation areas, churches, medical facilities, and community centers. The discussion should identify these services, define the service areas, discuss the relationship with the community, and determine if these might be adversely affected by right-of-way requirements, noise, construction activities, traffic diversion,

changes in land use, and changes in tax and revenue base. The potential displacements should be determined. The SIA should consist of mitigation options to eliminate, reduce, or minimize adverse socio-economic effects.

2.2.4 Environmental Justice (EJ)

Overview

Analysis of EJ in relation to transportation projects funded by the federal government has been mandated by Title VI of the Civil Rights Act of 1964, NEPA, Federal-aid Highway Act of 1970 (23 United States Code 109(h)), Executive Order (EO) 12898, United States Department of Transportation (USDOT) Order to "Address Environmental Justice in Minority Populations and Low-Income Populations," (DOT Order 5610.2) and FHWA's Order to "Address Environmental Justice in Minority Populations and Low-Income Populations," (FHWA Order 6640.23, December 2, 1998). Under Title VI, "each federal agency is required to ensure that no person, on the ground of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance." The EO 12898 mandates that "each federal agency identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The concept of EJ resembles such issues as transportation equity, community impacts, and accessibility.

According to FHWA Order 6640.23, minority means a person who is Black, Hispanic, Asian American, American Indian, or Alaskan Native. It further defines a person having low-income as a person whose household income is at or below the Department of Health and Human Services poverty guidelines (66 FR 17083, Mar. 29, 2001).

The EJ analysis expands on the community impacts and social/economic demographic analyses by focusing on minority and low-income populations, or traditionally underserved populations. The identification and addressing of EJ is a requirement through all stages of federal processes and decision-making, including planning of alternatives and mitigation. Public involvement, a key component in the USDOT order, ensures that procedures are inclusive for all people.

The legal EJ precedents consist of Supreme Court, Court of Appeals, and District Court cases regarding land use impacts such as landfills and highway construction. The transportation sector has the responsibility of addressing EJ at various levels: the transportation facility, the corridor, and the region. An EJ study evaluates disproportionately high and adverse impacts to minority and low-income populations, considers alternatives, conducts public involvement, and develops mitigation efforts. A disproportionately high and adverse effect pertains to significant individual or cumulative effects.

Analysis

Qualitative and quantitative methods of EJ analyses are used to evaluate transportation projects with respect to social, economic, environmental, and public health matters at both local and corridor levels. A quantitative data source is the Census. Quantitative approaches also include geographical information systems (GIS), statistics, and modeling. One qualitative approach is public involvement (see Chapter IV for a discussion on Public Involvement). The EO specifically

states that minority and low-income persons not be disproportionately impacted by a proposed federal action. The analysis also may consider other factors such as whether the project may result in displacements, community isolation, destruction of community cohesion, disruption of community economic vitality, air/water pollution, or destruction of natural resources. In addition, the analysis may take into account how the project may affect handicapped, elderly, non-drivers, transit dependent.

In accordance with the USDOT Order 5610.2 and EO 12898, an EJ evaluation should address the issue of possible disproportionate impacts to racial and socio-economic minority groups. An important element in conducting an EJ study is determining a reference population. The population in the area of impact should be compared with the city, county, state, and/or country in order to evaluate the status of disproportionate effect.

There are numerous ways to conduct an EJ analysis. The most important item to remember is that, although the federal government has provided no "official" or prescriptive guidance to analyze EJ, documentation is necessary. The census data, which is easily accessible, can be used to perform a preliminary quantitative analysis to determine if a project may have a disparate impact for minorities and persons of low-income that would be affected by the proposed project. The most detailed data available to the public is provided at the level of the block group (BG). However, the BG will likely be larger than just the corridor of the proposed project.

Several methods can be used to determine if a project area includes an EJ community:

- Early coordination letters (see Chapter II, Section 3.0),
- Field surveys.

No Disproportionate Impacts

If it is determined that there are no disproportionately high and adverse impacts, then the EJ analysis can be augmented with any information acquired at the Public Information Open House (PIOH) or Public Hearing Open House (PHOH). In addition, if there are data, analysis, documentation, and/or knowledge from the regional or statewide planning level, or through GDOT planning that has reviewed EJ for a proposed project area, then this information should also be included in the NEPA document EJ section. Once the documentation provides evidence that there would be no disproportionate impacts to low-income or minority groups, the EJ study would be complete.

Disproportionate Impacts

If the data demonstrate that there may be a disproportionately high and adverse impact to a minority or low-income community, then additional public involvement must be conducted. Public involvement can define the community, as well as the community's the needs and wishes, determines the community's views towards a project and project alternatives, and identify programs that may serve as mitigation for project impacts. In these public involvement activities, local minority leaders, local religious leaders, and local community leaders are good points of contact. With respect to the finding of a disproportionately high and adverse impact to a minority or low-income group, USDOT Order Part 8.d. states the following:

"Operating Administrators and other responsible DOT officials will also ensure that any of their respective programs, policies or activities that will have a disproportionately high and adverse effect on populations protected by Title VI ('protected populations') will only be carried out if:

1. A substantial need for the program, policy or activity exists, based on the overall public interest; and
2. Alternatives that would have less adverse effects on protected populations (and that still satisfy the need identified in subparagraph (1) above), either (i) would have other adverse social, economic, environmental or human health impacts that are more severe, or (ii) would involve increased costs of extraordinary magnitude."

The USDOT Order, therefore, does permit a transportation project to proceed even if it would have a disproportionate and adverse impact to a low-income or minority group. However, the agency must demonstrate that (1) and (2) above holds true. Documentation to this effect would be required.

Once the EJ study is completed, it is advisable to look back at the Conceptual Stage Study (CSS) (Section 2.3, below) and ensure that the two analyses corroborate each other and do not have conflicting information.

2.2.5 Economic Impacts Assessment (EIA)

Analysis

An Economic Impacts Assessment (EIA) also should be considered part of the CIA. The EIA focuses on the following:

- General employment data (i.e., local businesses, unemployment rate, type of employment, employment distribution, dominant businesses, stability of businesses, ownership of businesses);
- Per capita income levels;
- Economic generators, activities, markets;
- Property values;
- Tax base and revenues;
- Orientation of local and regional businesses;
- Number of employees;
- Growth trends; and
- Income distribution.

Data sources to obtain information about the economic status of a community can include community contact or secondary sources. The local business newspaper, the MPOs, the RDCs, local government, and businesses are suitable sources to obtain the information for an EIA. An EIA should identify the potential problems that a project would bring, such as potentially decreasing the tax base of the community through the acquisition of right-of-way.

2.2.6 Consultant deliverables

Community impact analysis does not require a separate report; analysis and findings will be submitted as part of the NEPA document.

2.2.7 Reference/guidance

Community Impact Assessment Program
http://www.dot.state.fl.us/emo/pubs/Phys_Soc/Phys_Soc_Sci.htm

FHWA Citizen's Guide to Transportation Decision-making.
http://www.fhwa.dot.gov/planning/decisionmaking/

Community Impact Assessment, A Handbook for Transportation Professionals, Florida DOT and the Center for Urban Transportation Research (November, 2000)

Community Impact Assessment Strategic Plan, Florida DOT in cooperation with FHWA (September, 1999)

National Community Impact Assessment Research Design Team Recommendations for Development of the Strategic Plan, Prepared for FHWA by the Center for Urban Transportation Research, University of South Florida (April, 1999)

Community Impact Mitigation Handbook Case Studies, Publication No. FHWA-PD-98-024 (May, 1998)

Flexibility in Highway Design, Publication No. FHWA-PD-97-062

Community Impact Assessment, A Quick Reference for Transportation, Publication No. FHWA-PD-96-036 (September, 1996)

US Bureau of Census
http://factfinder.census.gov/servlet/BasicFactsServlet
http://www.fhwa.dot.gov/planning/census/data.htm

Georgia Department of Community Affairs
http://www.dca.state.ga.us/snapshots/default.asp

Rural Community Empowerment Zones/Enterprise Communities
http://www.ezec.gov/

FHWA- DOT Order, Executive Order, other documentation
http://www.environment.fhwa.dot.gov/guidebook/chapters/V2ch16.htm

http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm

FHWA- Background, history, guidebook on EJ
http://www.fhwa.dot.gov/environment/ej2000.htm

U.S. Department of Health & Human Services Poverty Guidelines
http://aspe.hhs.gov/poverty/index.shtml

2.2.8 Legislation

- Highway Beautification Act of 1965

- National Environmental Policy Act of 1969 (P.L. 91-190)
- Federal-aid Highway Act of 1970
- Environmental Quality Improvement Act of 1970 (P.L. 91-224)
- Farmland Protection Policy Act, Title XV of the Agriculture and Food Act of 1981 (P.L. 98-98)
- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
- Surface Transportation and Uniform Relocation Assistance Act of 1987, (STURRA, P.L. 100-17)
- National Highway System Designation Act of 1995 (P.L. 104-59)
- Transportation Equity Act for the 21st Century-Section 1221
- U.S.C. 4201-09
- 23 U.S.C. 109, 109(h), 109(i), 109(n)
- 23 U.S.C. 128, 131, 133, 134, 135
- 23 U.S.C. 138, 143, 217, 315
- 42 U.S.C. 4321-4347
- 42 U.S.C. 4371-4374
- 42 U.S.C. 4601 et seq.
- 49 U.S.C. 303

Federal Regulations:

- CFR 658
- 23 CFR 450, 710, 750, 771, 771.111, 777
- 40 CFR 1500-1508
- 49 CFR 24

Executive Order 12898

2.3 Conceptual Stage Study (CSS)

2.3.1 Overview

The Conceptual Stage Study (CSS) documents displacements and probable displacements associated with a project and the anticipated method of relocation under the Uniform Relocation Assistance and Real Properties Acquisition Act of 1970. Although the complexity of the CSS will tend to mirror the complexity of the proposed project, the following information is standard in all CSS documents.

2.3.2 Analysis

For both residential and business displacements, the CSS will detail the number, type (owner or tenant occupied), and rental or fair market value of the residence or business structures to be displaced. The type of neighborhood in which the structure is located (residential, commercial, or mixed) also will be noted for all anticipated relocations. For business relocations, the CSS also will provide an estimate of the numbers of employees who will be affected and the estimated financial standing of the business.

When applicable, the CSS will provide the same information for probable displacements. Probable displacements are structures that are likely to be relocated due to consequential project impacts such as loss of access.

The CSS will take particular care to focus on the anticipated relocation of any public or non-profit organizations that provide services within the geographic area of the project and which therefore may require special relocation assistance (e.g., a fire station, post office, etc.).

When applicable, the CSS will include an estimate of the number of handicapped and elderly occupants or employees to be displaced (including elderly people who are not capable of self care) and discuss any special relocation services that may be necessary for these displacees.

A discussion will be included regarding the availability of decent, safe, and sanitary housing in the areas with residential displacements. This discussion will include price ranges, size, multi vs. single family, condition, availability and vacancy rate, occupancy rate, location with respect to the displaced structures, and the owner/tenant status. Local newspapers and Multiple Listing Service data may be consulted to determine the availability of housing. The CSS will discuss actions that would be taken to remedy insufficient relocation housing.

The CSS will include a discussion of Last Resort Housing. Last Resort Housing is used when there is no replacement housing available for sale or rent within the GDOT's current limitations. When Last Resort Housing becomes necessary, supplemental payments or other housing options, as determined by GDOT, can be implemented through procedure provided for in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

In the event there are no replacement sites available at the time of acquisition, or if relocation is not within their financial means, some businesses may qualify for "in lieu of" payments. An "in lieu of" payment is defined as a payment to be made to a business that: (1) cannot be relocated without a substantial loss of its "existing patronage"; and (2) is not part of a commercial enterprise having more than three similar establishments not being acquired by GDOT. Existing patronage is the average net annual earnings or clientele of the business during the previous two taxable years immediately preceding the taxable year in which the business is being displaced. Any such payment determined will not be less than $1,000 or more than $20,000.

The CSS will address each alternative under consideration by GDOT. Sources of information must be documented. If special considerations are to be made, then the GDOT Office of Right-of-Way (ROW) will be contacted for further discussion.

2.3.3 Consultant deliverables

For GDOT acquired projects, the Office of ROW will prepare the requested study and directly coordinate activities and information with the GDOT Office of Environmental Services representative, and when necessary FHWA. The request for CSS should be sent to the Right of Way Administrator, Attn: Relocation Manager.

For GDOT acquired projects, being handled through the Office of Program Delivery (OPD) (e.g., turn-key projects), the contracting consultant is responsible for submitting the CSS from a qualified preparer or subcontractor. This preparer must be qualified (i.e., on the Pre- Right of

Way Plans Consultant List). The consultant will deliver two copies of the CSS to the GDOT NEPA analyst who will forward with request (for review) to GDOT's Office of ROW.

For Local Government projects, the local government will prepare the CSS as directed and coordinated by the GDOT NEPA analyst. The preparer/consultant must be qualified (i.e., on the Pre- Plans Right of Way List). The CSS will be submitted to the Office of ROW for review and approval prior to its inclusion within the NEPA document. The completed study is to be sent to the Right-of-Way Administrator, Attn: Relocation Manager.

After receiving comments from GDOT, a disposition letter (including the comment and how it was responded to) should be attached to the hard copy of the submittal and emailed to the GDOT reviewer for their use in facilitating the review of the document.

For any approved document, consultants will provide a CD (with the requested hard copies of the document) that includes a pdf (or series of pdfs) and a Word copy of the complete approved document.

2.3.4 References

Uniform Relocation Assistance and Land Acquisition Policies Act of 1970
http://uscode.house.gov/download/pls/42C61.txt
http://www.fhwa.dot.gov/realestate/

2.4 Churches, cemeteries, and institutions

Public institutions typically found within a project study area include any public services provided by local government agencies and institutions such as fire and rescue, public safety, educational, and parks and recreational areas. Other examples of public institutions include religious institutions and cemeteries. Many of these land uses are closely associated with the quality of life within a community. Therefore, effort will be made to inventory their locations within a study area, involve institutional representatives in the transportation decision process, and consider the potential impacts any proposed project might have on their location and operation.

2.4.1 Institution identification

It is important that any churches and public service institutions located within the project's study area be identified early in the project's planning process. Identification of churches/institutional buildings can aid in the development of project alternatives that avoid or minimize effects to these facilities. While some buildings associated with institutional operation can be located through the use of United States Geological Survey (USGS) 1:24,000 topographic maps, a more detailed windshield survey of the study area is required. A key goal of any survey effort will be to ascertain proper names for the establishments (cemetery names, school names, church names, etc.). This will ensure appropriate environmental documentation.

2.4.2 Stakeholder identification

Because individuals and groups associated with many of these public institutions will be considered stakeholders in the public involvement process, the survey will also identify key decision-makers for the institution (principals, pastors, etc.). Efforts will be made to involve

these people in the coordination process to ensure that they understand the need for the proposed project and any potential effects the project might have on their operation. In addition, they should be informed of public opportunities to review and comment on the project (public involvement meetings, public hearings, and small group meetings).

2.4.3 Impact documentation

Because public institutions are often so varied in function and services provided, documentation of impacts will focus on the specific needs of the various facilities. The following is a recommendation of issues/questions to address for various public institutions. This list should not be considered exhaustive and should be modified to reflect unique project issues. It is important to consult with the facilities officials when determining whether the functions and services provided by it are impacted or impaired.

General Questions:

- Where is the facility located? (a map showing location relative to the project would be helpful with this question)
- What services does the facility provide?
- How long has the facility been in the area?
- What are the hours of operation for the facility?
- What is the approximate service area for the facility?
- Would the project require the relocation of that facility? If so,
    - Has this relocation been documented in the CSS?
    - What efforts have been taken to avoid this relocation?
    - Is a similar facility located in close proximity to provide service?
    - Has the public been made aware of this relocation through public involvement measures and what was their response? (controversy potential)
    - If not, would the project impact the facility in other ways?
- Is access affected?
- Is internal site circulation (e.g., bus routes) affected?
- Is there a noise impact?

2.4.4 Cemeteries

Cemeteries are a unique public institution with specific regulations that regulate their protection and care. Issues that should be addressed when documenting cemeteries should include the following:

- Where is the cemetery located? (a map showing location relative to the project would be helpful with this question)
- How long has the cemetery been in the area?
- What are the boundaries of the cemetery and where are the approximate locations of gravesites?
- Would the project require the relocation of the graves within the cemetery? If so,
    - What efforts have been taken to avoid this relocation?
    - What social/environmental factors exist that require the relocation impact?

- Has the entity that oversees the cemetery's upkeep been made aware of this relocation?
- Is there potential for controversy?

The Official Code of Georgia Annotated (OCGA), Section 36-72, addresses the conversion of land from cemeteries and, in instances where a cemetery (or isolated grave site) is located within the project study area a boundary needs to be established. The tax record and land deed will be obtained to determine if the cemetery boundary is legally defined. If the land records do not denote the cemetery boundary, an archaeologist will be consulted to determine the number and location of graves and establish a boundary. Refer to Chapter V.3 for application requirements.

2.4.5 Consultant deliverables

Institutional analysis does not require a separate report; analysis and findings will be submitted as part of the NEPA document. However, if the project requires the use of land from a cemetery or burial ground and the local government has adopted the provisions of the Abandoned Cemetery & burial Ground Act (OCGA 36-72), the consultant will submit two copies of a completed cemetery permit package in accordance with Section 3.1.6.E.2.

After receiving comments from GDOT, a disposition letter (including the comment and how it was responded to) should be attached to the hard copy of the submittal and emailed to the GDOT reviewer for their use in facilitating the review of the document.

For any approved document, consultants will provide a CD (with the requested hard copies of the document) that includes a pdf (or series of pdfs) and a Word copy of the complete approved document.

2.5 Visual impacts

Visual Impacts is a special study requirement for an Environmental Impact Statement (EIS) document. Visual Impacts should also be addressed in reports such as Section 4(f) Evaluations and in cultural resource discussions.

A description of the visual environment will assist in determining and understanding the level of visual changes that may arise from project implementation. When considering visual impacts, focus should be placed on the existing landscape, visually sensitive resources, and an individual's view in the study area.

2.5.1 Existing landscape

The existing landscape should identify the setting of the project area. The limits of the visual environment are generally established by an area of potential effect (APE) or determined view shed such as the surface area visible from the highway and areas from which the highway can be seen.

- Topography such as mountains, rolling hills, valleys, beaches, etc. should be considered in the visual assessment of a project.
- Water resources such as streams, creeks, lakes, marshes, wetlands, etc. should be discussed.

- Vegetative elements should be described to fully appreciate the existing environment. Some different vegetative types are as follows: coniferous or deciduous woods, scrubland, grassland, street trees, orchards, parks, pastures, etc.
- Manmade development should be discussed to determine the character of the existing environment.

2.5.2 Visually sensitive receptors

Resources such as topography, manmade development, vegetative elements, historic, or recreational facilities may be important to a local community. Although the resources may not appear to be visually exceptional, discussion should be provided that describes their local importance to a community.

2.5.3 Visual consequences

An EIS should include a discussion of the beneficial or adverse visual effects of project implementation. This should be accomplished with consideration being given to the changes the project will cause to landscape components that have been noted as visually sensitive.

Construction of a roadway whether on an existing or new alignment will always cause some degree of visual change. These changes may not be adverse and often are beneficial. Elements of a road project that may have impacts include, but are not limited to, the following:

- Cut Slopes
- Fill Slopes
- Pavement surface
- Retaining walls
- Curbing
- Vegetative clearing
- Noise barriers
- Structures
- Lighting
- Fencing
- Median breaks
- Guardrails

2.5.4 Mitigation

The project features referenced above in addition to the overall project effects should be identified as positive or negative effects. If the effect is negative, mitigation measures may be required. Mitigation includes the enhancement of positive effects as well as the minimization or elimination of negative effects. The mitigation measure discussion should address specific visual impacts associated with project alternatives, including the likelihood of the mitigation measure being implemented. The measures must be realistic to ensure their full realization.

2.5.5 Consultant deliverables

The consultant will submit two copies of the Visual Impact Assessment to GDOT's environmental office for review and approval.

After receiving comments from GDOT, a disposition letter (including the comment and how it was responded to) should be attached to the hard copy of the submittal and emailed to the GDOT reviewer for their use in facilitating the review of the document.

For any approved document, consultants will provide a CD (with the requested hard copies of the document) that includes a pdf (or series of pdfs) and a Word copy of the complete approved document.

2.5.6 References

Visual Impact Assessment for Highway Projects, FHWA, Contract DOT-FH-11-9694