Chapter 4 Land Use, Farmland, and Growth

4.1 Introduction

This chapter walks the practitioner through the process of assessing land use impacts in the context of the community impact analysis. This chapter focuses on direct impacts and indirect growth-related impacts. Cumulative impacts are not addressed herein.

Transportation and land use are intricately tied together. Transportation plans and projects can influence development by providing or improving access to undeveloped areas. Land use decisions can influence transportation systems by creating a demand that exceeds the existing capacity of the system. Predicting the effect of transportation plans or projects on land uses and land use planning is an important part of the community impact assessment and is critical to developing context sensitive solutions for transportation projects.

The analysis of the impacts of transportation plans and projects on land use is both an iterative and a collaborative process in which agencies involved in preparing land use plans and making land use decisions should be consulted. Consultation should occur during both the land use inventory and the analysis of project impacts, which includes determining if the transportation project is consistent with local plans and programs. If inconsistencies are found or adverse impacts are anticipated, these agencies and the communities they serve should be actively engaged in the development of measures to address these issues.

The analysis of land use impacts for transportation projects is guided by FHWA Technical Advisory T 6640.8 and the CEQA Guidelines. The relevant portions of those guidance documents that describe the topics that an assessment of land use impacts should cover are similar and are introduced below.

The results of the land use, farmland, and growth analysis should be shared with the public during the public involvement process, e.g., at community advisory committee meetings, scoping meetings, etc. Public input should be considered by the analyst and if necessary, the findings of the analysis should be revised to reflect information gained through the public involvement process.

4.1.1 Federal Guidance

The FHWA Technical Advisory T 6640.8, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, states:

> This discussion [of land use] should identify the current development trends and the State and/or local government plans and policies on land use and growth in the area which will be impacted by the proposed project.
>
> The land use discussion should assess the consistency of the alternatives with the comprehensive development plans adopted for the area and (if applicable) other plans used in the development of the transportation plan required by Section 134. The secondary social, economic, and environmental impacts of any substantial,

> foreseeable, induced development should be presented for each alternative, including adverse effects on existing communities. Where possible, the distinction between planned and unplanned growth should be identified.

4.1.2 State Guidance

The CEQA Guidelines (15126(a)) specify that an EIR for a proposed project include a discussion of

> …changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, scenic quality, and public services. The EIR shall also analyze any significant environmental effects the project might cause by bringing development and people into the area affected.

4.2 Analyzing Land Use Impacts

The following are the basic steps in analyzing land use impacts as part of the community impact assessment process:

1. Inventory the existing land use patterns (including undeveloped land), development trends, and transportation systems.
2. Determine whether the project is consistent with local and regional policies that govern land use and development.
3. Assess the changes that would occur in land uses and growth with and without the project.
4. Develop measures to avoid, minimize, and/or mitigate potential adverse effects.

4.2.1 Inventory Existing Conditions

This first of these steps was discussed in Chapter 3, *Involving the Public and Developing a Community Profile*. The inventory of existing land uses should include the following land use types: residential, commercial, industrial, recreational, institutional, public services, community services, emergency services, transportation, utilities, agriculture, and undeveloped land in the study area. The study area should include the surrounding community that is generally associated with the project area within which community impacts could occur. The inventory should also address development trends and identify recent developments in the study area to include the development's name, size, status (planned, built, under construction), and the jurisdiction in which it is located. A map showing the location of existing and planned land uses in the area should also be prepared.

4.2.2 Consistency with State, Regional, and Local Plans and Programs

For the consistency analysis in step 2 above, the land use policies and programs that were identified in the development of the community profile are analyzed in light of the objectives and anticipated outcomes of the proposed project. The policies and programs considered in the analysis should include:

- transportation plans and programs (MTPs/RTPs and MTIPs/RTIPs),

- regional growth plans,
- habitat conservation plans and similar regional conservation plans,
- general plans and community plans that establish land use and growth management policies for the study area, and
- any specific development proposals such as specific plans and tentative maps.

If applicable, this analysis should also include a discussion of consistency with the Coastal Zone Management Act of 1972, California Coastal Act of 1976, the National Wild and Scenic Rivers Act (16 USC 1271) and the California Wild and Scenic Rivers Act (Pub. Res. Code Sec. 5093.50 et seq.).

The consistency analysis is a subjective process that requires a working knowledge of transportation and land use planning as well as an awareness of the political and socioeconomic context in which the project is being proposed. The consistency analysis should focus on those policies and programs that are relevant to the proposed action. Identifying the range of plans and programs that are applicable to the proposed action and narrowing down the list of policies and objectives that should be considered is a task best accomplished in cooperation with the staff of those agencies whose plans and programs would be potentially affected, such as local and regional planning departments, community and economic development agencies, water management districts, and regional transportation planning agencies.

After preparing a preliminary list of relevant plans, policies, and objectives to be considered in the analysis, the planner should meet with staff of the various agencies to review the list to determine if it is complete and revise the list as necessary. This meeting would be an excellent opportunity to learn of any specific land use or transportation issues that should be considered in the consistency analysis.

The next step is to consider the nature of the proposed project and its likely outcomes and identify any potential inconsistencies with the applicable policies. Each project alternative should be considered separately since the results may be different. An effective way to present this information is to use a table that presents a matrix of the project alternatives and the relevant land use and transportation policies. The cells of the table should contain a conclusion regarding consistency and a brief explanation to justify the findings. The following table illustrates this approach.

Table 4.1. Consistency with State, Regional, and Local Plans and Programs

Policy	Alternative A	Alternative B	No Project Alternative
County General Plan			
Policy 2.5: To sustain the viability of County agriculture by restraining division and use of land which is harmful to continued agricultural use of non-replaceable land resources.	**Consistent.** Alternative A would acquire narrow strips of farmland along the sides of the existing roadway, but these acquisitions would not result in the subdivision of agricultural parcels; appreciably diminish the size of agricultural parcels; or change the existing use, designation, or zoning of agricultural parcels.	**Not Consistent.** Alternative B would require the acquisition of two agricultural parcels resulting in a permanent conversion of farmland to non-agricultural uses. Alternative B would also require fragmentation of two agricultural parcels leaving small remnants that would not be viable for agriculture.	**Consistent.** The No-Project Alternative would not result in conversion of farmland to non-agricultural uses.
City Redevelopment Plan for Project Area			
Policy 6.1: Designate expeditious routes for freight trucks between industrial and commercial areas and the regional and state freeway system to minimize conflicts with automobile traffic and incompatibility with other land uses.	**Consistent.** Implementation of Alternative A would create an efficient route for freight trucks between the state highway and industrial areas to the south that would reduce conflicts with automobile traffic and reduce truck traffic on residential streets.	**Consistent.** Implementation of Alternative B would create an efficient route for freight trucks between the state highway and industrial areas to the south that would reduce conflicts with automobile traffic and reduce truck traffic on residential streets.	**Not consistent.** Under the No-Project Alternative, no changes to the existing roadways would occur in the project area. This alternative would not provide an efficient route for freight trucks between the state highway and industrial areas that would minimize conflicts with automobile traffic and incompatibility with other land uses.

If the policy consistency analysis for a specific policy is inconclusive or highly controversial, the agencies responsible for implementing the policies and local stakeholders should be consulted and their input should be used to revise the analysis as needed. This will assure that the analysis reflects the local context and that potential issues are addressed early in the process.

When an alternative is found to be consistent, then the findings should be documented in the report and no further analysis or action is necessary. When an alternative is found to be inconsistent with a policy or program, then consideration must be given to modifying the alternative to make it consistent, or measures to address the inconsistency must be developed.

4.2.3 Assessing Land Use Impacts

As was noted in Chapter 2, environmental effects have three components: direct, indirect, and cumulative effects.

- Direct land use impacts include physical changes in the community such as displacement of structures, changes in access to homes or businesses, loss of parking or setbacks, conversion of farmland to non-agricultural use, and conversion of timberland to other uses.

- Indirect land use impacts generally occur outside of the study area and may occur over a longer time period than direct impacts. Examples of indirect land use impacts include changes in regional development patterns and growth-related changes.
- Cumulative impacts result from the combined effects of past, present, and future actions. Examples of cumulative land use impacts include permanent conversion of farmland to non-agricultural uses, and growth-related impacts that result from the combined influence of several transportation projects that increase accessibility to undeveloped areas.

The key to understanding the relationship between indirect and cumulative land use impacts and transportation is accessibility; however, improving accessibility to an area does not necessarily lead to changes in land use (National Cooperative Highway Research Program [NCHRP] Report 423A). Development decisions are based on a number of factors that include the circumstances of the local and regional economy, the existing road network and transit systems, zoning, existing infrastructure, and market trends. In general, larger transportation projects have a greater potential to induce land use changes than smaller projects.

4.2.4 Assessing Direct Impacts

Direct land use impacts generally result from acquisition of right-of-way or the need for temporary construction easements. Using an aerial photo showing existing and proposed right-of-way and parcel boundaries can assist greatly in determining how individual parcels will be affected by a particular action. An effective way to track a project's impacts is to prepare a table that lists each affected property, the amount of right-of-way that will be acquired for each alternative, whether the effects are permanent or temporary, the existing land use and owner, and a description of the direct impacts on the parcel (e.g., structural displacement, relocation of tenants, or loss of frontage, landscaping, or signage). Field surveys are highly recommended as a means to ground truth the anticipated effects of the project. A summary of the direct land use impacts should be prepared to complement the data contained in the table.

This section discusses effects on three primary categories of land use: parks and recreational facilities, farmland, and timberland.

Effects on Parks and Recreational Facilities

Any impacts on parks and recreational facilities, including equestrian trails, recreational bikeways, and other recreational trails should be identified in this summary. For projects with federal USDOT involvement (funding, right-of-way, action), a Section 4(f) evaluation may need to be completed if the project would result in a "use" of publicly owned parks, recreation areas, or wildlife and waterfowl refuges. A use occurs when:

- the property is acquired for a transportation project,
- there is an occupancy of land that is adverse to the preservationist purpose of Section 4(f), or
- there are proximity impacts that substantially impair the purpose of the land (constructive use).

Temporary construction easements do not normally result in a use for purposes of Section 4(f). If a Section 4(f) evaluation report is prepared, it will normally be included as an appendix to the ED and reference to that appendix should be made in the community impact assessment.

Effects on Farmland

Local farmland preservation policy is typically implemented through the planning policies and development regulations of local jurisdictions, and is therefore addressed in the general plan, locally adopted CEQA guidelines, and zoning ordinances. Most counties treat agricultural land protection in the open space, land use, or conservation elements of their general plans. Some counties have a separate agricultural element. Even in those jurisdictions where an agricultural element has not been formally adopted, local governments have often achieved some protection of farmland through traditional zoning techniques, such as placing restrictions on use, imposition of minimum parcel sizes, designating spheres of influence through Local Area Formation Commissions (LAFCOs), establishing urban growth boundaries, and placing limitations on residential density.

In California, farmland is classified under the Farmland Mapping and Monitoring Program (FMMP) based on its physical and chemical characteristics. Land with the best combination of physical and chemical features to sustain long-term production of agricultural crops is classified as "prime farmland." Chapter 23 of the Caltrans Environmental Handbook Series, Volume 1 provides definitions of the various farmland classifications. In general, more scrutiny is paid to the protection of prime farmland; however, as noted below, farmland need not be considered "prime" in order to be placed under provisions of the Williamson Act. All lands defined by the state as "prime farmland," "other than prime farmland," and "open space land" are eligible for coverage by a Williamson Act contract. Land other than prime farmland and open space land can be placed under contract if the lands are located in an area designated by the county or city as an agricultural preserve. The California Department of Conservation (DOC) estimates that more than half of the state's irrigated (mostly prime) farmland is protected by the Act. The Williamson Act provides a separate definition for "prime agricultural farmland" which is also available in Chapter 23 of the Caltrans Environmental Handbook Series, Volume 1.

Williamson Act

The California Land Conservation Act of 1965 (Cal. Govt. Code S.51200-51295), commonly known as the Williamson Act, provides contractual incentives through reduced property taxes for farmland owners to deter the premature conversion of agricultural and open space lands.

The Williamson Act, administered by the Division of Land Resource Projection within the DOC, offers use-value property tax benefits to farm and open-space landowners who voluntarily enter into contracts. These contracts specify that the owners will not convert their land to nonagricultural uses for at least ten years. At the end of each year within the ten-year contract period, the contract is automatically renewed for an additional year, unless the landowner or the local government moves to terminate the contract. Termination can occur in one of four ways: non-renewal, cancellation, eminent domain, or city annexation under certain circumstances.

The primary advantage to a landowner for placing their property under a Williamson Act contract is that the contracted land is assessed for county property tax purposes at its agricultural value rather than its full market value (e.g., what the value of the property would be if it were otherwise available for its highest and best use). Individual landowners enter into these restrictive use agreements with cities and counties. In California, 48 counties and 20 cities participate in Williamson Act programs. The State of California makes partial payments annually ("subvention entitlements") to local governments for lost local property tax revenues that

landowners would otherwise pay if the property was taxed at its market value. Fees are charged to landowners who prematurely cancel Williamson Act contracts.

CEQA

State CEQA Guidelines address farmland conversion impacts directly in two ways. First, cancellation of Williamson Act contracts for parcels exceeding 100 acres is an action considered to be "of statewide, regional, or area-wide significance," and thus subject to CEQA review (CEQA Guidelines Section 15206 (b)(3)). Second, Appendix G of the CEQA Guidelines states that a project that would "convert prime agricultural land to non-agricultural use or impair the agricultural productivity, would normally have a significant effect on the environment." Note that in either case, no set acreage of prime farmland conversion has been determined by case law or regulatory framework which would constitute a significant impact.

Projects with Federal Involvement

NEPA and the provisions of the Farmland Protection Policy Act (FPPA, USC 4201-4209; and its regulations, 7 CFR Ch. VI Part 658) require that before taking or approving any federal action that would result in conversion of farmland, the federal agency must examine the effects of the action using the criteria set forth in the Act, and, if adverse effects are found, must consider alternatives to lessen them. Neither NEPA nor FPPA requires a project to be modified solely to avoid or minimize the effects of conversion of farmland to nonagricultural uses.

A Land Evaluation and Site Assessment (LESA) is a tool for quantifying the merits of retaining in agricultural use parcels proposed for conversion. Originally developed by the USDA Natural Resource Conservation Service (NRCS), the farmlands assessment process results from requirements in the FPPA of 1981, and as amended in 1984 (guidance for implementation was issued by FHWA on August 7 and October 26, 1984, and January 23, 1985), with the Final Rule issued June 17, 1994. This process requires a system of numerical weights assigned to different characteristics of affected parcels, a description and classification of affected farmlands, as well as early consultation with the NRCS. Depending upon the project, processing of either Form AD 1006 (Farmland Conversion Impact Rating) or Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor Type Projects) is also necessary and can be accomplished on line.

Analysis of Farmland Impacts

Below is a general process for determining the impacts of a transportation project on farmlands.

Determine if farmlands exist in the project area. What constitutes an urban area vs. farmland may be determined in a number of ways. First, a review of general plan maps and an assessment of existing conditions will establish if the study area potentially contains farmlands. If the area is undergoing development, or it is unclear what uses exist on a parcel, visiting the site and reviewing NRCS soil survey maps, USGS topographical maps, and FMMP maps and databases can help the planner distinguish farmland and urban uses. The State of California's Department of Conservation website contains links to available maps and information about the FMMP. Urban uses are shown as an urban tint outline or urban area map on USGS topographical maps, or shown as "urban/built-up lands" (D) on FMMP maps. In addition, FMMP databases can help planners distinguish between the differing agricultural land classifications (see these definitions listed in Chapter 23 of the Caltrans Environmental Handbook Series, Volume 1).

Any farmland (regardless of quality) which is already in or committed to urban development is farmland not subject to the FPPA. Where the proposed right-of-way for a transportation project is wholly within a delineated urban area, the completion and submittal of Form AD 1006 or Form NRCS-CPA-106 to NRCS is not necessary.

If viable farmlands are included in the project area, complete Form AD-1006 or Form NRCS-CPA-106 as appropriate.

Complete the Form AD-1006 or Form NRCS-CPA-106**:** The federal process to assess farmland impacts is guided by the provisions of the FPPA which calls for completing Form AD-1006 or Form NRCS-CPA-106 as appropriate. The process is an iterative one, with both the NRCS and Caltrans, acting for FHWA, or in some instances FTA, completing various portions of the form. The following is an overview of the process. Detailed instructions for completing the form are provided online by the NRCS (included with the Form AD 1006 documentation), along with definitions of agricultural land classifications (see also Chapter 23 of the Caltrans Environmental Handbook Series, Volume 1).

Except in cases where it is obvious there is no farmland, the Caltrans District Environmental Program submits the form to the NRCS office which handles that particular county and requests a determination as to whether the project location has farmland that is subject to the FPPA.

If the NRCS determines that the project does not involve farmland, the form is sent back to Caltrans to be placed in the environmental project file. No further evaluation is required. If the project location is subject to the Act, the NRCS will measure its relative value on a numerical scale. The NRCS will also include on the form numerical responses for the total amount of land that can be farmed, the percent of the jurisdiction that is covered by the Act, the percent that the project would convert, and other quantifiable data.

After Caltrans receives the form from NRCS with a score of each site's or corridor's (this is equivalent to project alternatives) relative value, Caltrans will assign point values by applying the site assessment criteria included with the instructions for completing the form. If a threshold score is reached, Caltrans will consider alternatives to avoid converting the farmland. This form should be included as an appendix within the ED.

Summarize the Findings. If farmlands exist in the project area, a brief description of applicable policies and regulations specific to the project area that address farmlands should be included in the community impact assessment report. As with the consistency analysis described previously in this chapter, be specific in describing the nature of the existing farmlands and document the extent to which the project would convert these uses. A brief text and/or table summary (see example below) that compares the effects of the alternatives should be included. Compare farmland conversion from the project alternatives to farmland conversion locally, in the county, or in the region, and the state,

including the percentage of the county's total agricultural land and prime farmland that would be lost or affected by the project.

Table 4.2. Farmland Conversion by Alternative

Alternatives	Land Converted (acres)	Prime and Unique Farmland (acres)	Percent of Farmland in County	Percent of Farmland in State	Farmland Conversion Impact Rating
A	242	131.4	0.47	0.25	153.2
B	713	139.1	0.15	0.05	188.0
C	226	59.0	0.20	0.05	136.4

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor-Type Projects).

If the project would take place entirely within an urbanized area with no farmland involvement, the following standard statement may be used in the ED:

> Through coordination with the Natural Resource Conservation Service, it has been determined by Caltrans that the project area, which is *located* in the urbanized area (*Name of urbanized area*) does not meet the definition of farmland as defined in 7 CFR 658. Therefore, the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

Alternatively, if the project would take place entirely within a non-urbanized area but it still has no farmland involvement, the following standard statement may be used in the ED.

> It has been determined by the Natural Resource Conservation Service that no farmlands as defined by 7 CFR 658 are located in the project vicinity.

Review the draft farmland determination with agency staff and study area stakeholders and revise the draft accordingly.

Conversion of Williamson Act Contract Land

Implementation of transportation projects will sometimes require Caltrans to acquire farmland currently under Williamson Act contracts for right-of-way purposes. The Act prohibits a public agency from acquiring prime farmland covered under the Act for the location of a public improvement if there is other land within or outside the preserve on which it is reasonably feasible to locate the public improvement. However, the law generally exempts existing state highways from this provision.

Also, the CEQA Guidelines consider cancellation of contracts for parcels exceeding 100 acres to be of statewide significance. Solely on the question of valuation, Government Code section 51295 states that when a project would condemn or acquire only a portion of a parcel of land subject to a Williamson Act contract, the contract is deemed null and void only as to that portion of the contracted farmland taken. The remaining land continues to be subject to the contract unless it is adversely affected by the condemnation. In such cases, the contract for the remaining portion may be canceled. Government Code Section 51291(b) requires an agency to notify the Director of the California Department of Conservation and the local governing body responsible for the administration of the preserve (usually the planning department) of Williamson Act

contracted land proposed for acquisition for a public improvement project (regardless of whether it is a state or federally funded project, or the amount of total acreage involved). Such notification must occur when land enrolled in a Williamson Act contract is being considered for acquisition by a public agency. Within 30 days thereafter, the Director of Conservation and the local governing body shall forward their comments which shall be considered by the public agency. This coordination should be mentioned in the ED. Separate notification must occur again within 10 working days upon completion of acquisition. Planners should also be aware that this process should be followed regardless of whether the project is covered under CEQA or NEPA; the FPPA and Williamson Act farmland policies are not mutually exclusive.

A Note on Agricultural Easements

Agricultural easements involve permanent restrictions on the use of land from more intensive purposes; the property ownership does not change. Usually administered by land trusts or other non-profit entities, easements are acquired either by purchase or as a mitigation for development approved on parcels elsewhere. Such conservation easements are increasingly being used by local governments to mitigate farmland loss, notably in Alameda, Solano, and Marin Counties. The Agricultural Land Stewardship Program, signed into law by Governor Wilson in 1995, established a Farmland Conservancy Program in the California Department of Conservation, which provides grant funding for projects which use and support agricultural conservation easements for protection of agricultural lands (Public Resources Code 10200, Division 10.2).

The conversion of agricultural land to other uses may be a significant impact that cannot always be mitigated. In those situations, to satisfy the findings requirement under CEQA, the decision makers would have to conclude that social or economic factors do not make it feasible to mitigate the conversion.

Effects on Timberlands

The Timberland Productivity Act of 1982 (covered in Government Code Sections 51100 et seq.) established “Timberland Production Zones” (TPZ) for the purpose of discouraging the premature conversion of timberland to other uses. TPZs are rolling ten-year contracts providing preferential tax assessments to qualified timberlands. Under this program, assessments on timber are based on the value of the timber at the time of harvest, rather than an annual assessment on the market value of standing timber. Land use elements of general plans are required to reflect the distribution of existing TPZ zoning (if applicable), and any timberland removed from a production zone is subject to approval by the local legislative body. Although existing state highways are exempt from provisions of the Timberland Productivity Act, the California Secretary of Resources and the local governing body should be notified in writing in the event new or additional right-of-way from a TPZ will be required for a transportation project.

Although there are no significance thresholds established in CEQA for conversion of timberland to other uses, by definition (14 CCR 1100 (g)(1)(C)), timberland conversion includes a division of timberland into ownerships of less than three acres. Therefore, creation of these smaller parcels constitutes a conversion to non-timberland use. For more information, contact the Forest Practice Regulation Unit of the California Department of Forestry and Fire Protection.

4.2.5 Assessing Indirect Growth-Related Impacts

In most cases, a community impact assessment prepared for a transportation project should discuss the potential for the project to result in growth-related impacts. For many transportation projects where growth is not an outstanding issue or there is no apparent controversy the topic is best treated briefly.

Growth inducement is defined as the relationship between the proposed transportation project and growth within the project area. This relationship is often difficult to establish with a high degree of precision. The relationship is sometimes looked at as either one of facilitating planned growth or inducing unplanned growth. Both types of growth, however, must be evaluated because they will each have varying degrees of beneficial and adverse effects.

Section 15126.2(d) of the CEQA Guidelines states that a growth-inducing impact could occur if:

> …the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in the service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Caltrans has prepared a guidance document, *Guidance for Preparers of Growth-related, Indirect Impact Analysis*, which focuses on growth-related, indirect impact analyses for transportation projects in California that are subject to NEPA and CEQA. The guidance specifically deals with indirect effects associated with highway projects that encourage or facilitate land use or development that changes the location, rate, type, or amount of growth. Not every project will need a growth-related impact analysis; such an analysis typically will be needed in the EDfor those highway projects that are built along a new alignment and/or provide new or substantially expanded access.

Growth-related impacts and the need for analysis should be considered early in project development. Where such impacts are identified, appropriate and reasonable steps to avoid or minimize such impacts also should be considered early and incorporated into the project and theED. A growth-related impact analysis assists with complying with the requirements of NEPA and CEQA in two ways: by considering environmental consequences of project actions in the planning process as early as possible, and by providing a well-documented and sound basis for government decision making.

Analysis

The analysis of growth should consider what local officials and planning documents say, but the conclusions should express the analyst's own judgment based on an analysis of all the information available. Information should be quantified where possible, conclusions should be as

clear and specific as possible, and uncertainty should be described where it needs to be. Judgments should be based on and supported by facts, not personal opinions. The conclusions should help readers of the ED and decision makers determine what the project's effect on growth would be and whether the effects of that growth would be significant in the context of the region's plans, natural setting, and growth patterns.

Please Note: With respect to Caltrans-sponsored projects, any draft conclusions that a proposed project may be judged to be growth inducing must be discussed with the Environmental Office Chief and the Project Manager.

A Note on Growth and Agricultural Land

Some people believe that any project that would increase access to agricultural land should be considered growth inducing, regardless of whether local land use plans and current zoning show that the agricultural land is not proposed to be urbanized. Certainly the analysis should discuss the basic land market dynamics in the area where the project is located. If there is little pressure for urbanization, the project is unlikely to be growth inducing.

4.2.6 Assessing Cumulative Land Use Impacts

CEQ regulations require all federal agencies to consider the cumulative effects of all proposed agency actions. A cumulative impact analysis is required whenever an ED is prepared (i.e., an Environmental Assessment or Environmental Impact Statement). Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

Caltrans has developed guidance for analyzing the cumulative impacts of transportation projects that should be consulted prior to undertaking the cumulative impact analysis. This guidance describes an eight-step approach for analyzing impacts that should be followed whenever preparing environmental assessments for Caltrans projects. The analysis of cumulative impacts should not be postponed until the analysis of direct and indirect project effects is well underway. Early consideration of cumulative impacts may facilitate development of project alternatives that will avoid or minimize the cumulative impacts of the project. The Caltrans Guidance for Preparers of Cumulative Impact Analysis is available on the Caltrans Standard Environmental Reference website.

4.3 Addressing Project Impacts

When it is determined that a project will have an adverse effect on the environment, measures need to be developed to address those impacts. The community impact assessment should document these measures and the process used to develop them. Developing measures to address impacts provides an opportunity to involve the community and other stakeholders in the problem-solving process to develop solutions that are acceptable to the affected parties and consistent with the local context. This approach will increase the probability that approaches can be found to address project impacts in ways that also address community problems or issues.

The FHWA's *Community Impact Assessment: A Quick Reference for Transportation* (1996), identifies four methods for addressing potential impacts:

- Avoidance – Altering the project to avoid a potential impact
- Minimization – Modifying the project to reduce the severity of an impact
- Mitigation – Undertaking an action to alleviate or offset an impact or to replace an appropriated resource
- Enhancement – Adding a desirable or attractive feature to the project to make it fit more harmoniously into the community (not designed to replace lost resources or alleviate impacts caused by the project)

The following examples discuss how these methods can be implemented with respect to land use effects.

- Avoid
    - Change an alignment to avoid displacing residents or businesses
    - Redesign a roadway or interchange to avoid taking land from a public park or wildlife refuge
- Minimize
    - Alter an alignment to increase the distance between the roadway and residences to minimize noise impacts
    - Phase project construction to minimize interference with business access during peak periods
    - Modify the project to minimize the use of farmland
- Mitigate
    - Contribute to a land bank for preservation of prime farmland or establishment of a conservation easement for timberland
    - Contribute a fair share of the cost of an intersection improvement to offset project-related delays at the intersection
    - Set aside land for a park or add to public recreation areas to replace lost facilities
- Enhance
    - Add landscaping and widen sidewalks to enhance pedestrian access to businesses
    - Provide interpretive signs to recognize natural, cultural, or historic resources
    - Develop shared-use paths adjacent to roadways
    - Add public artwork to a transportation facility that is consistent with the aesthetic design goals of the community

As discussed in Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impact Analysis*, there are a number of tools to avoid or minimize growth-related impacts. If avoidance or minimization of adverse effects to resources is not possible, then other mitigation strategies will need to be considered in the ED. It is suggested that a dialogue be initiated with the appropriate local agencies and resource agencies regarding other mitigation strategies.

Making a determination that mitigation is required for a growth-related, indirect impact can be complicated because there are many factors that contribute to growth. Because these effects usually occur in combination with other actions by local agencies and private entities, Caltrans is not required to mitigate indirect effects that are outside of its control. Project-induced land development is almost always under the control of local governments and the private sector. The most effective way to mitigate or reduce the potential adverse resource effects from changes in land use is through the application of controls by local governments. Local governments have the authority to reject land use proposals that are inconsistent with local goals, surrounding uses, future plans, or zoning.

Despite these limitations, Caltrans is uniquely qualified to exercise a leadership role in environmental planning and stewardship. The following approach for transportation projects could minimize the need for mitigation (other than avoidance or minimization) of growth-related indirect impacts.

- Early collaborative planning between federal, state, and local agencies (see FHWA's web site on scenario planning, an approach that integrates land use and transportation)
- Incorporating reasonable avoidance and minimization opportunities for identified resource impacts
- Thoroughly documenting analysis results
- Ensuring consistency with regional habitat/restoration planning efforts
- Identifying opportunities for project stakeholders to become involved in regional planning efforts

4.4 Additional Resources

- Caltrans. *Guidance for Preparers of Growth-Related Indirect Impact Analysis*. ND. Accessed January 2011. Available: http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/GRI_guidance06May_files/gri_guidance.pdf
- FHWA. "Section 4(f) Policy Paper." 2005. Accessed January 2011. Available: http://www.environment.fhwa.dot.gov/projdev/4fpolicy.asp#1
- Transportation Research Board. NCHRP Report 466: "Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects." 2002. Prepared for the National Cooperative Highway Research Program by The Louis Berger Group. Accessed January 2011. Available: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_466.pdf

- Transportation Research Board. *A Review and Synthesis of the Requirements for Indirect and Cumulative Impact Analysis and Mitigation under Major Environmental Laws and Regulations*. 2006. Prepared for the American Association of State Highway and Transportation Officials (AASHTO). Accessed January 2011. Available http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(11)_FR.pdf

- Transportation Research Board. *Land Use Impacts of Transportation: A Guidebook*. 1998. National Cooperative Highway Research Program (NCHRP) Report 423A. Prepared by Parsons Brinckerhoff Quade and Douglas. Accessed January 2011. Available: http://nepa.fhwa.dot.gov/ReNEPA/ReNepa.nsf/All%2BDocuments/CCECF4D789DB510E85256CE6006142A0/$FILE/land_use_guidebook.pdf