

TRANSPORTATION IMPACT STUDY GUIDELINES

AMADOR COUNTY TRANSPORTATION COMMISSION

Development projects that have the potential to substantially affect Amador County's transportation system are required to prepare a Transportation Impact Study (TIS). In all cases, the TIS must be completed prior to action on the proposed Project. This document describes the Amador County Transportation Commission's (ACTC) recommended practice for preparing such studies for development projects within the County (including development projects within the County's five cities).

What triggers the need for a Transportation Impact Study?

A TIS is required for any proposed development for which at least one of the following criteria is met:

1. It would generate 200 or more daily trips. If the Project has the potential to affect a State highway facility, a TIS may be required at a lesser peak hour trip generation level as set forth by the Caltrans *Guide for the Preparation of Traffic Impact Studies*, which can be found at: <http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>
2. It is inconsistent with the General Plan land use and/or zoning designations, and could potentially generate greater levels of traffic than the General Plan land use; or
3. It would generate greater levels of traffic than assumed for the area within the 2025 Amador County Traffic Model.

If none of these cases apply, a TIS may not be necessary unless the lead agency¹ deems that special circumstances require analysis (e.g., existing traffic congestion, safety concerns, public controversy, etc.) In certain cases the lead agency may require a less extensive analysis, which might include obtaining traffic counts, preparing signal warrants, a focused TIS, etc.

How is it determined that these criteria are met?

The following describes the process for determining if each of the three criteria is met.

1. Trip Generation – Compute the daily trip generation for the development based on the recommended approach described below. Consult the Caltrans *TIS Guide* and Caltrans, District 10, Inter-Governmental Review (IGR) staff. .
2. General Plan/Zoning Consistency – Check with the lead agency planning/community development department.
3. 2025 Traffic Model Consistency – Check with the ACTC.

When does an existing Transportation Impact Study need to be updated?

A TIS requires updating when the amount or character of traffic is significantly different from an earlier study. Generally a TIS requires updating every 18 months. A TIS may require updating sooner in rapidly developing areas and not as often in slower developing areas. In these cases, consultation with the lead agency is necessary for a determination.

¹ "Lead Agency" refers to the public agency that has the principal responsibility for carrying out or approving a project. Defined in Section 21165 of the Public Resources Code, the California Environmental Quality Act, and Section 15367 of the California Code of Regulations.

What is the TIS Review Process?

A draft of the TIS must be submitted to the lead agency for review and comment. Once its comments are addressed, the lead agency will then distribute the draft report to other affected agencies including adjacent jurisdictions, the ACTC, and Caltrans. The other agencies will have the opportunity to submit comments on the draft report, which will be addressed in the final report.

What should the study include?

Exhibit 1 details the minimum contents of traffic impact study report. The sections presented below provide important details on the minimum requirements for specific elements of the TIS. If the Project has the potential to impact State highway facilities, those facilities should be analyzed in the TIS in accordance with the requirements of the Caltrans *Guide for the Preparation of Traffic Impact Studies*.

Project Definition

The TIS must contain the following information for each proposed development project: size, location and planned land use, special features that could affect trip generation, and a site plan showing the circulation, access and parking.

Selection of Study Roadways and Intersections

As a rule, the analysis must include any intersection or roadway segment, regardless of jurisdictional boundaries, to which at least 10 project trips to any lane would be added during the morning or evening peak hour (or 100 daily trips). Projects just meeting the threshold for traffic impact analysis will normally require analysis of only the intersection(s) or roadway segment(s) adjacent to the site. Larger developments will require the analysis of more intersections. In addition to off-site intersections, it is important that the TIS address the intersections/driveways proposed to provide access to the site. The lead agency must approve the study intersections and roadways to meet its own needs, with input from other potentially affected agencies such as the ACTC, adjacent jurisdictions, and Caltrans.

Data Collection

New traffic counts must be collected at any study intersection for which the previous counts are more than 18 months old. Daily road segment counts can be estimated from the peak hour counts by estimating the proportion of peak traffic to daily based on historical data. Daily counts along State highway segments may be obtained from Caltrans. Depending on the issues to be addressed in the study, the analyst may need to collect historic accident data, which can be obtained from the local agencies, the California Highway Patrol, or Caltrans (for State highways).

Trip Generation

Trip generation data has been developed for a wide variety of land uses. These are summarized in the latest edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE), as well as reports by the San Diego Association of Governments. The TIS must report the trip generation rates used and the sources for those rates. In cases where published trip generation rates are based on very limited data or do not adequately represent the proposed land use(s), trip generation rates should be verified through local field observation of similar uses, if possible.

Published trip generation rates represent an average for a number of observed projects. A particular project, however, may include specific characteristics that call for adjustments to the rate to reflect its trip generation characteristics adequately. Trip generation adjustments may be justified to account for pass-by trip reductions for retail uses or trip rate reductions for multi-use commercial centers, where the mix of uses could reasonably be expected to attract multi-purpose trips. Great care must be taken when adjusting trip generation rates. All trips, including pass-by trips, must be included in the analysis of the Project's driveways. The analyst must document the basis for proposed trip rate adjustments and receive approval from the lead agency.

Trip Distribution and Assignment

The trip distribution and assignment assumptions for the Project may be developed based on the traffic counts in the vicinity of the proposed development and/or existing and projected distribution patterns of population and employment opportunities. For Cumulative conditions, the assumptions may be based on the 2025 traffic projections per the Amador County Traffic Model. In cases where a development would generate a substantial number of new trips, the analyst may choose to conduct a select zone assignment in the Traffic Model to determine the future trip distribution assumptions.

Analysis of Traffic Impacts

Analysis of levels of service (LOS) is required to establish compliance with LOS standards. The results of the analysis must be compared with the LOS criteria presented in the *Amador County Regional Transportation Plan/Circulation Element* or in the General Plan of the jurisdiction where the roadway facility is located. The TIS must include, as a minimum, consideration of the following scenarios:

- Ø Existing conditions
- Ø Existing + Approved developments (if there are any)
- Ø Existing + Approved + Projects
- Ø Cumulative (2025) conditions – ensure that cumulative conditions include regional development identified in the travel demand model plus traffic from approved/pending developments (if they are not already reflected in the model)
- Ø Cumulative + Project conditions

Additional scenarios may be required if the Project is large and is to be developed in phases. If there are other approved or pending developments in the vicinity, they must be identified and included in the appropriate scenario. Cumulative conditions include any developments that have an accepted application on file at the local agency. Cumulative roadway improvements shall include those that are consistent with the *Amador County Regional Transportation Plan/Circulation Element* and expected to occur by 2025 (with full funding). All programmed/funded capital improvements in the *Amador County Regional Transportation Plan/Circulation Element* that will affect traffic capacity of the study intersections and roadway segments can be considered in the cumulative traffic impact analysis.

Peak hour LOS must be calculated for each study intersection consistent with state of the practice procedures. In most cases, the weekday morning (AM) and weekday evening (PM) peak hours should be included in the analysis. For certain types of development (e.g., recreation facilities, churches, some retail uses, gaming developments) some peak hours may be added (e.g., midday or weekends) or eliminated (e.g., AM peak hour for low traffic generators) from the analysis, if approved by the lead agency. Unless determined otherwise by the lead agency, compliance with the LOS standards will be based solely on weekday AM and PM peak hour traffic analysis results. For unsignalized intersections, appropriate Caltrans signal warrants must also be checked for each scenario.

LOS must also be calculated for key roadway segments that are affected by project-generated trips. The Policy Element of the *Amador County Regional Transportation Plan/Circulation Element* (see Exhibit 2) provides roadway segment LOS criteria and analysis methods. This includes a determination of the volume, LOS, and percentage of reserve capacity consumed by the proposed development.

Evaluation of Transit, Bicycle, Pedestrian Facilities

In addition to the analysis of the roadway system, the TIS must include an assessment of the development's impact on transit (including park-and-ride), bicycle, and pedestrian facilities adjacent to the site. This assessment is generally qualitative in nature, and impacts are identified based on the development's consistency with applicable policies of the lead agency's General Plan, the *Amador County Regional Transportation Plan* and the Amador County Pedestrian and Bicycle Transportation Plan. The analysis must identify potential locations for transit stops and turnouts, where appropriate.

Significance Criteria

The results of the analysis must be compared to the significance criteria as established by the policies of the lead agency's General Plan and the *Amador County Regional Transportation Plan/Circulation Element*, if applicable. The following criteria are recommended:

A proposed project is considered to result in a significant impact if the proposed project:

- Ø Degrades operations from an acceptable LOS (based on RTP policy or General Plan policies to an unacceptable level; or
- Ø Increases delay at an unsignalized intersection operating at an unacceptable level by five or more seconds and the intersection satisfies the MUTCD peak hour volume warrant for traffic signal installation; or
- Ø Increases delay at a signalized intersection operating at an unacceptable level by five or more seconds; or
- Ø Increases the volume-to-capacity ratio on a roadway segment operating at an unacceptable level by 0.05 or more; or
- Ø The project is inconsistent with planned bicycle/pedestrian/transit facilities within the study area.

Mitigation Measures

Mitigation measures are required in all cases where the results of the TIS indicate that the development would either create a significant impact by itself or would contribute to a significant impact under the various scenarios analyzed. Levels of service at the study intersections and roadway segments must be calculated with and without the proposed mitigation measures. Mitigation measures must be feasible given physical, environmental, and political constraints. In cases where the development would contribute to an impact, the Project's percentage contribution to that impact must be identified in the TIS. The project applicant should work with ACTC staff and the lead agency to identify the appropriate Fair Share Contribution Method that should be used for the calculation.

The project applicant should work with ACTC staff and the local agency to identify preliminary cost estimates for identifying fair share estimates. The applicant should work with ACTC staff so that all fair share estimates, cost estimates, and preliminary improvement designs are tracked and accounted for using the ACTC's Circulation Mapping Exercise (CMX) tool or an agreed upon equivalent method. The CMX tool takes high-resolution Caltrans aerial photographs and overlays a mosaic of information gleaned from various traffic impact studies throughout a specific region to show what the ultimate build out of the roadway system could be if all of the mitigations recommended by the traffic impact studies are built.

It is recommended that fair share determinations and appropriate cost estimates are presented under separate cover to the lead agency and ACTC separate from traffic impact study. This will be used to aid the lead agencies in identifying appropriate conditions of approval for development projects.

Mitigation measures are actions designed to avoid or alleviate adverse environmental impacts from proposed plans and projects. Mitigation includes:

- a) Avoiding the impact altogether by not taking a certain action;
- b) Minimizing impacts by limiting the degree or magnitude of the action;
- c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and;
- e) Compensating for the impact by replacing or providing substitute resources or environments.

The lead agency shall require applicants to furnish monitoring programs for each mitigation measure required as part of the environmental review process, which includes information on mitigation costs, monitoring, and enforcement responsibilities. For mitigation of complicated or technical impacts, the lead agency's staff may require that a consultant be hired at the applicant's expense. Either the lead agency's or the applicant's shall designate an Environmental Coordinator to work with the lead agency's staff in developing monitoring programs that meet the intent of each mitigation measure. A summary of the monitoring programs shall be included in the environmental document to make certain each mitigation measure is monitored.

When other agencies have jurisdiction over a given [mitigation] site, the developer will have to meet the design, mitigation, and monitoring requirements imposed by those agencies, as well as any additional requirements established by the lead agency.

Graphic Summary of Impacts, Mitigation Measures and LOS Implications

The TIS must also include, as Appendix A, a one-page summary of the mitigation measures proposed by the study. Appendix A must also include a spreadsheet showing each impact identified by the TIS, its LOS implications in each scenario, the proposed mitigation for that impact, and the resulting LOS. A vicinity map showing all of the impacted roadways and intersections must also be included in Appendix A. The impacted roadways and intersections should be "keyed" by numbers or letters to corresponding numbers or letters on the spreadsheet. The map and spreadsheet are intended to provide the public, staff and decision makers a user-friendly reference guide to essential contents of the TIS. (See Exhibit 2 for samples).

Anticipating Statements of Overriding Consideration

If it is anticipated that impacts cannot be reduced to a less-than-significant level, statements of overriding consideration will be necessary if the project is to be approved and therefore an EIR will be required. Exhibit 3 provides a list of criteria that will be used for considering statements of overriding consideration for significant and unavoidable traffic impacts. The TIS must contain quantitative information to support as many of the criteria as possible in order for the lead agency to consider statements of overriding consideration.

Report Documentation

The TIS must fully document the approach, methodology, and assumptions of the analysis. It must clearly explain the reasons for any adjustments to the trip generation rates and assumptions used for trip distribution and assignment. Figures (drawings and maps) are to be used to help illustrate these assumptions. The report must summarize the results of the LOS calculations in table form, and include figures showing the traffic volumes for the Project alone and for each scenario. Signal warrant worksheets and LOS calculation sheets must be included as appendices to the report.

EXHIBIT 1
MINIMUM CONTENTS OF A TIS REPORT

I EXECUTIVE SUMMARY

II. TABLE OF CONTENTS, WITH LIST OF FIGURES AND LIST OF TABLES

III. INTRODUCTION

- A. Description of the proposed Project, with details on size, land use types, and land use amounts (dwelling units, square footage)
- B. Location of Project
- C. Site plan including all access to surrounding roadways (site plan, map)
- D. Circulation network including all access to surrounding roadways (vicinity map)
- E. Current and proposed land uses and zoning
- F. Phasing plan (if applicable) including proposed dates of Project (phase) completion
- G. Project sponsor and contact person(s)
- H. References to other traffic impact studies

IV. TRAFFIC ANALYSIS

- A. Clearly state and describe methodologies and assumptions used in analyses, and how and when traffic data were collected
- B. Existing and projected traffic volumes (including turning movements), facility geometry (including storage lengths), traffic controls (including signal phasing and multi-signal progression where appropriate), and any other traffic data collected. Include figure(s).
- C. Project trip generation including references. Include table(s)
- D. Project generated trip distribution assumptions, methodology, and trip assignment. Include figure(s).
- E. LOS and signal warrant analyses for AM & PM peak hours (and weekend peak hours, if appropriate) for all required analysis scenarios. Include table(s)

V. CONCLUSIONS AND RECOMMENDATIONS

- A. Discuss and include the significance criteria that apply to the Project
- B. Evaluation of impacts to traffic facilities, including LOS and appropriate MOE levels (delay, V/C ratio, reserve capacity, etc.) for impacted facilities with and without mitigation measures. Include table(s)
- C. Evaluation of impacts to transit, bicycle, and pedestrian facilities
- D. Mitigation phasing plan including dates of proposed mitigation measures
- E. Define responsibilities for implementing mitigation measures, including calculation of the Project's fair share of mitigation measure costs. Include table(s)
- F. Cost estimates for mitigation measures and financing plan

VI. APPENDICES

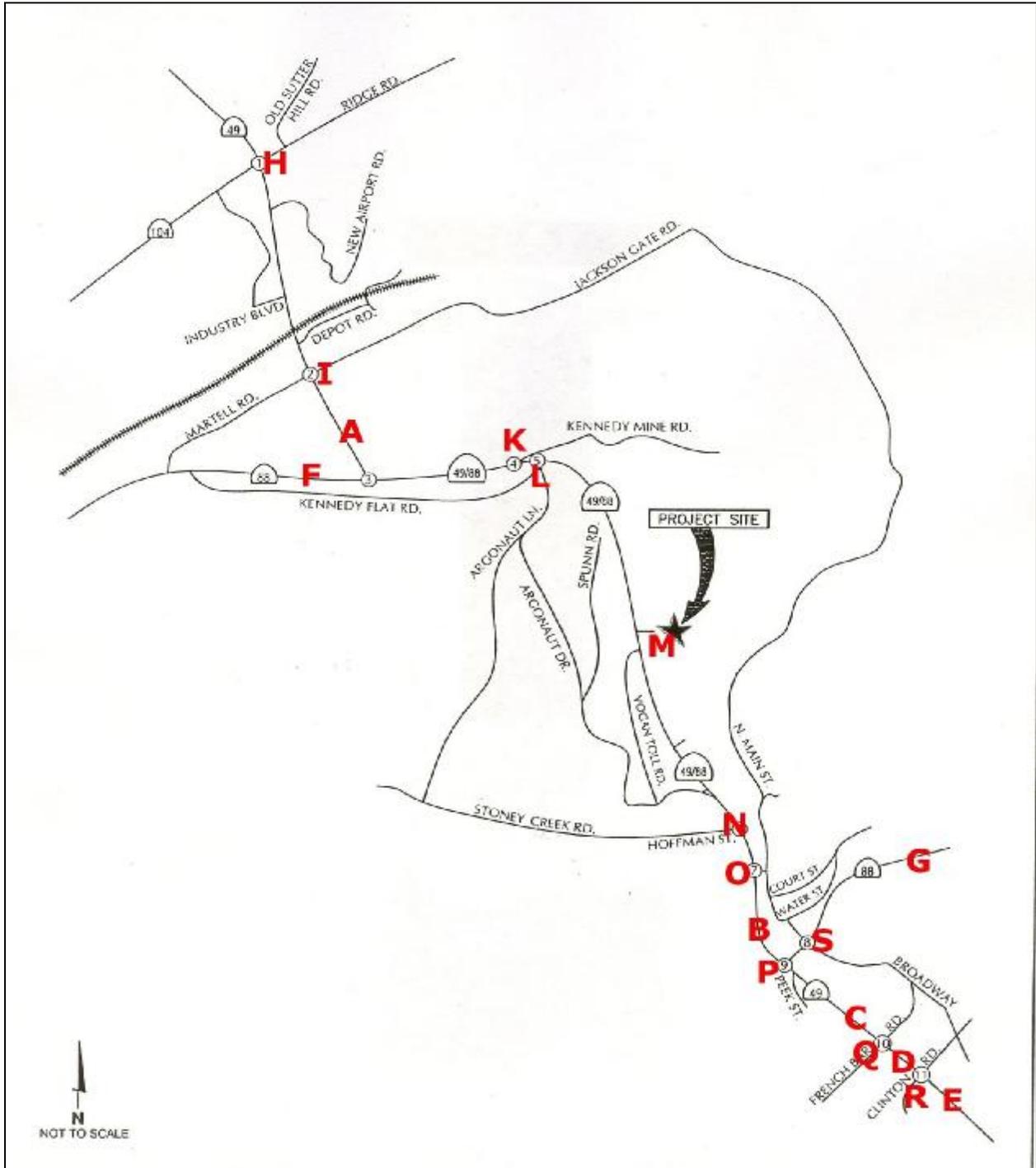
- A. Summary spreadsheet showing impacts, mitigations, and LOS implications with map of impacted roadways and intersections keyed to spreadsheet.
- B. Worksheets showing how the project fulfills the criteria for statements of overriding consideration for significant and unavoidable impacts, as presented in Exhibit 3 of the TIS Guidelines.
- C. Worksheets used in the analyses (e.g., signal warrants, LOS, traffic count information, etc.)

EXHIBIT 2A

PROJECT NAME
Traffic Impacts, Mitigation Measures, and Plan Consistency
DATE

Transportation Facility		Levels of Service (LOS)					Traffic Impact Study				Plan Consistency
Proj ID	Road or Intersection	Adopted Standard	Existing	Existing Plus Project	Cumulative	Cumulative Plus Project	Mitigation Proposed by TIS	LOS Result (Cum)	Fair Share Build or Pay Mit Fees	Signif. After Mit.	Improvement consistent with Circ. Elem. & 2004 RTP?
Road Sections											
A											
B											
C											
D											
E											
F											
G											
Intersections											
H											
I											
J											
K											
L											
M											
N											
O											
P											
Q											
R											
S											

PROJECT NAME project impacts



**Proposed Criteria
For Determining Benefits for Overriding LOS “C” or “D” Concerns
Relative to General Plan Circulation Element Goal 1A(2)***

Project for Consideration:			
Type of Project:			
Reviewer(s):			
Review Date:			
Applicant Consulted:	_____ (date)		
Recommendations Considered by:	TAC _____ (date) Planning Commission _____ (date) Board of Supervisors _____ (date)		
Criteria for Overriding Benefits (1 - 9):	1. Does the project provide for infill in an existing community that allows for fewer automobile trips? Is the project within the city limits, special district, or one of the following communities (not sphere of influence or future expansion areas): <i>Existing communities are defined as:</i> Amador City Buckhorn Camanche Village Fiddletown Ione Jackson Kirkwood Martell Pine Grove Pioneer Plymouth River Pines Sutter Creek Volcano	Yes/No _____	Reference/Justification _____
	2. Does the project provide for pedestrian access that would promote walking as opposed to using a car? Specifically, does the project connect to an existing network of pedestrian facilities, or directly to necessary services, or is it within a reasonable distance (1/2 mile) of such?	_____	
	3. Does the project include public transit opportunities as a viable alternative to using a car? Does the project include bus stops, a transit center, and/or a park and ride lot? Does it fit within ARTS and school bus service plans or programs? Does it provide its own transportation services (shuttle bus, employee vans, etc.)	_____	
	4. Does the project support other alternative transportation modes (in addition to pedestrian and transit)? Does the project provide bicycle access, facilities and lanes, or facilities for neighborhood electric vehicles, or telecommuting facilities, high speed internet access, teleconferencing facilities, participate in a ride share program, or other?	Yes/No _____	Reference/Justification _____
	5. Does the project provide a specific economic benefit to the community? Are there apparent and documented fiscal rewards that outweigh the project's impacts on the community such as: <ul style="list-style-type: none"> • Affordable housing • Increased economic and tax income that results in a decrease of tax burden on the rest of the community • Increased job opportunities • Some improvement of traffic congestion • Provide for or improve needed services for the existing community (separate fiscal analysis of the project may be required to document the above) 	_____	
	6. Does the project contain mixed land uses that would enable fewer automobile trips? If residential, does it contain a commercial component that would reduce automobile trips from the development? If commercial, does it include multi-use commercial facilities or mixed-use with housing?	_____	
	7. Is the project consistent with, or does it help to, implement an adopted community plan (a city General Plan, specific plan, master plan, or other)?	_____	
	8. Does the project have the support of the community? Is the project supported by the community despite its traffic implications as based on public hearing input, a valid statistical survey, or other?	_____	
	9. Does the project incorporate “Green Building” principles in an attempt to mitigate or lessen the project’s effects on the environment? Does the project incorporate such strategies as solar energy, water efficiency (reclamation, etc.), energy-efficient HVAC systems and appliances and sustainable building practices (recycled building materials, etc.)? Is it eligible for LEED (Leadership in Energy and Environmental Design) certification?	_____	
Summary:	Have at least five of the nine criteria listed above responded in the affirmative (yes)?	Yes/No _____	Reference/Justification _____
Recommendations:	Based on the above, the reviewers recommend that the project is _____ is not _____ recommended for General Plan consistency for overriding benefits with respect to General Plan Circulation Element Goal 1A(2)		

Note: * *Goal 1A(2)* It is Amador County's goal to maintain a level of service (LOS) of "C" or better for average daily conditions on all State highways and local streets and roads outside of incorporated cities and other developed communities. It is the County's goal to maintain LOS "D" or better for average daily conditions within incorporated cities and other developed communities. As documented in the RTP, LOS C and D may not be achievable on certain sections of the State highway and local road system because of prohibitive costs and/or environmental impacts and the lower LOS levels shall not require denial of any development project provided the County or city finds that a project's benefits are sufficient to override the project contributing to a LOS level other than C or D.