

NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
Transportation Program

Traffic Impact Study Policies

A Traffic Impact Study (TIS) shall be required as determined necessary by County Public Works staff, based on the following information:

- a. high project trip generation
- b. high volume or high speed on road where project access is taken
- c. collision history
- d. sight distance concerns
- e. proximity to impacted facilities

In addition to the Napa County policies outlined herein, further guidance on the preparation of Traffic Impact Studies may be found in the most-recent edition of Transportation and Land Development, published by the Institute of Transportation Engineers, Washington DC.

Traffic Impact Study (TIS) Required Elements

Background Sections

1. **Existing conditions** – a qualitative description of roads and intersections in the vicinity of the project. This section shall also include an evaluation of existing Level of Service for all roads and intersections included. The determination of roads and intersections to be included in the TIS shall be made in consultation with County Public Works staff, following the general guidelines of Transportation and Land Development, the ITE reference cited above.
2. **Project description** – a description of the proposed project, including all information used (square footage, employees, parking spaces, etc) to determine traffic-generating characteristics.
3. **Trip generation** – calculation of the amount of traffic forecast to be generated by the proposed development. Required:
 - a. Average Daily Traffic (ADT)
 - b. Weekday afternoon peak hour traffic (pht) – peak hour of adjacent street, not peak of generator
 - c. Weekday morning pht – adjacent street, if required by Public Works
 - d. Weekend peak hour traffic, if required by Public Works

4. **Trip distribution** – proportion of project traffic forecast to be distributed to each major direction.
5. **Trip assignment** – distributed project traffic assigned to roads and intersections included in the TIS, as determined in (a) above.

Impact Analysis

The County of Napa has adopted as a policy the following Level of Service standards for roads and intersections being evaluated:

- The County shall seek to maintain an arterial Level of Service D or better on all county roadways, except where maintaining this desired level of service would require the installation of more travel lanes than shown on the Circulation Map.
- The County shall seek to maintain a Level of Service D or better at all signalized intersections, except where the level of service already exceeds this standard (i.e., Level of Service E or F) and where increased intersection capacity is not feasible without substantial additional right-of-way.
- No single level of service standard is appropriate for un-signalized intersections, which shall be evaluated on a case-by-case basis to determine if signal warrants are met.

The determination of Level of Service shall utilize the methods of the latest edition of the Highway Capacity Manual, published by the Transportation Research Board, and any related computer software based on its analysis methods.

The following scenarios shall be evaluated in the TIS to determine the Level of Service at all roads and intersections included in the study:

1. Existing conditions
2. Existing + project
3. Existing + approved/not built developments
4. Existing + approved/not built + project
5. Cumulative conditions
6. Cumulative + project

The list of approved but not yet built projects within the area of the TIS shall be obtained from the Department of Planning, Building and Environmental Services.

Cumulative conditions shall be determined by use of traffic forecasts from approved Napa Valley Transportation Authority (NVTA) models, where available. Information on current model availability, and data files for those models, may be obtained from NVTA. In limited situations where appropriate to the scale of the proposed development, a 20-year growth factor determined from historic traffic volume trends, or a buildout “traffiched” approach, may be used with approval from Public Works.

The author of the TIS shall present the results of the scenario evaluations listed above in table format, as shown below.

Facility	Existing traffic	Existing LOS (1)	Existing + Project traffic	Existing + Project LOS (2)	Comments
This column shall include an entry for each road and intersection analyzed in the study.	This column shall provide volume and/or delay data for each entry.	This column shall list the LOS for each entry.	This column shall provide volume and/or delay data for each entry.	This column shall list the LOS for each entry.	This column shall indicate whether each entry represents a significant impact.

This is an example presenting the evaluation of scenarios 1 and 2 from the above list. A similar table shall be prepared for each pair of scenarios: 1 and 2, 3 and 4, 5 and 6.

Identification of Significant Impacts

In each pair of scenarios, if a particular facility has acceptable LOS prior to the addition of project traffic, and unacceptable LOS with the addition of project traffic, that constitutes a significant impact due to the project. The study shall identify necessary measures to bring all roads and intersections into compliance with the County’s policy for acceptable LOS.

If any facility is at an unacceptable LOS in scenario 1 above, a project will be considered to have a significant cumulative impact if represents 1% or more of total traffic in scenario 2.

If any facility is at an unacceptable LOS in scenario 3 or 5 above, a project will be considered to have a significant cumulative impact if the project represents 5% or more of the amount of traffic growth as follows:

Project traffic _____ $\geq 5\%$ is a significant impact
 (Scenario 4 volume – Scenario 3 volume)

Project traffic _____ $\geq 5\%$ is a significant impact
 (Scenario 6 volume – Scenario 5 volume)

The author of the TIS shall prepare a table indicating significant impacts, and recommended improvements where appropriate, which includes the following information:

Facility	Existing LOS (1)	Existing + Project LOS (2)	Recommended Improvement	Resulting LOS with Improvement
This column shall list each road and/or intersection with unacceptable LOS	This column shall list the LOS for each entry.	This column shall list the LOS for each entry.	This column shall list the recommended improvement which addresses the unacceptable LOS.	This column shall list the LOS for each entry <u>after</u> improvement.

The above table is an example presenting the evaluation of scenarios 1 and 2 from the above list. A similar table shall be prepared for each pair of scenarios: 1 and 2, 3 and 4, 5 and 6.

Significant Impact Mitigation

The TIS should identify necessary measures to bring all roads and intersections to acceptable LOS. For cumulative impacts, in some cases these mitigations will already be identified through the County’s ongoing transportation planning efforts. Where these measures have been incorporated into the Capital Improvement Program (CIP) of a Mitigation Fee Act study, and a fee established, payment of this fee is the appropriate mitigation of the identified cumulative impacts. Currently this is available only within the Airport Industrial Area Specific Plan.

On those occasions where the facilities projected to experience a cumulative impact are not incorporated into a County CIP, additional evaluation will be needed to determine the appropriate mitigation. One possible outcome might be for the project developer to fund the additional analysis (a new Mitigation Fee Study) which will form the basis for establishment of a new mitigation fee for the area. These additional study costs will be eligible for “credit” against the amount of the fee to be established for the subject development project.

An alternative approach to addressing an identified cumulative impact would be for the applicant to revise the project description to reduce the impact below a level of significance. In order to reduce the number of peak hour trips added, the applicant could develop a Transportation Demand Management plan, including public transportation, carpooling and shuttles as features. Other options include reducing production or visitation, or implementing measures to avoid adding traffic during peak hours. The traffic study should quantify the

potential benefit of a TDM program, in order to enable decision makers to determine whether this will suffice to reduce cumulative impacts below the threshold of significance.

Another alternative is for the TIS to define an “equivalent substitute mitigation measure.” This will necessitate the following steps:

1. Determine the necessary measures (capital improvements) to bring all roads and intersections into compliance with the County’s policy for acceptable LOS.
2. Estimate the cost of all improvements identified above.
3. Calculate the subject project’s “fair share” of the total cost of improvements. The determination of a project’s “share” of future improvements should not be based on total traffic, but rather on that portion of future traffic volumes above the acceptable LOS threshold. Following is a table which depicts the approach that shall be used:

Facility	Future Pk Hr Traffic Volumes (1)	LOS D/E threshold* volume (2)	Future traffic exceeds by: (3)	Project Traffic (4)	Project “Fair Share” (5)
This column shall list each road and/or intersection being considered	This column shall provide volume data for each entry.	This column shall report the applicable LOS threshold, from the Highway Capacity Manual.	$(3) = (1) - (2)$	This column shall provide the volume of traffic on each facility generated by the project.	$(5) = \frac{(4)}{(3)}$

* Analysis shall use LOS C/D threshold volume in rural areas.

4. Identify one or more improvements from the list whose (combined) value is approximately equal to the project’s share.
5. The improvement(s) identified shall be the “equivalent substitute mitigation measure” and shall be constructed by the developer as a condition of approval of the subject project.

Additional TIS Required Elements

In addition to the sections described above, the TIS shall incorporate analysis of the following topics, as determined necessary by County Public Works staff:

1. **Site access.** Evaluate the following for all new connections to County-maintained roads, State highways, or other routes as appropriate:
 - a. Sight distance

- b. Traffic control requirements
 - c. Warrants for left-turn deceleration and storage
 - d. Warrants for right-turn deceleration and storage
 - e. Considerations for truck and other large vehicle operations
- Recommend appropriate mitigation measures as needed.

2. **On-site Circulation.** Evaluate the circulation system internal to the proposed development, and provide an opinion on parking provisions, circulating roadway configurations, provisions for truck traffic and loading areas, and any potential impacts to the streets or roads which provide access to the site (such as from internal queuing). Recommend appropriate mitigation measures as needed.
3. **Alternative modes.** Evaluate the project's connections to, and potential impacts upon, the following transportation modes:
 - a. Pedestrian
 - b. Bicycle
 - c. Public transit

The report shall identify any quantifiable benefit which can be attributed to improvements to these modes, as part of the Impact Analysis. Recommend appropriate mitigation measures as needed.
4. **Safety analysis.** Evaluate the collision history in the immediate vicinity of the proposed project, and provide an opinion on whether the development will significantly affect existing safety conditions. If so, recommend appropriate mitigation measures.
5. **Queuing.** Evaluate the maximum length of queue at intersections in the immediate vicinity of the proposed project, during the peak hour of the generator, and provide an opinion on whether the development will significantly affect operations at other closely-spaced public road intersections. If so, recommend appropriate mitigation measures.

Conclusion

The report shall conclude with a section that summarizes the impacts that were identified and the recommended mitigation measures in each analysis scenario.

The report shall be signed and sealed by a Registered Traffic Engineer or Civil Engineer with adequate experience in transportation engineering, licensed to practice in the State of California. The signature shall be accompanied by the date of signing, and the seal shall be accompanied by the date of expiration of the license of the author.