

**Scope of Work
Traffic Impact Study Requirement
February 2, 2005**

Project Information

A. Project Description:

Project Name: Curtis Park Village
Location: Northwest corner of Sutterville Road near 24th Street
Project Number: P04-109
Job Number:
Size: 72 Acres

B. Existing Land Use:

Inactive heavy industrial/railyard

C. Proposed Land Use:

Quantitative analyses will include four (4) project land use scenarios defined in the Curtis Park Village Alternatives Summary:

1. No Project/No Build Alternative
2. Proposed Project
3. Reduced Commercial Alternative A
4. Reduced Commercial Alternative B

Qualitative evaluation discussion (no LOS) of two (2) land use scenarios defined in the Curtis Park Village Alternatives Summary based on a comparison of the number of trips generated:

5. Single Family Alternative
6. Existing General Plan and Zoning Alternative - Industrial

The land uses for the project scenarios are defined in Table 1.

The traffic controls for the No Project/No Build Alternative will be the same as exist currently. Traffic controls for the other project alternatives will include a new traffic signal at the new project access at Sutterville Road, stop sign control at the 24th Street approach to Sutterville Road, and other on-site traffic controls developed by Dowling Associates in consultation with City staff and approved by the project applicant.

D. Access Scenarios:

The following access scenarios will be evaluated for the Proposed Project (Alternative 2 – baseline and future conditions):

1. Proposed access (with Circulation Plan Option One access to 5th Avenue)
2. Proposed access with Circulation Plan Option Two access to 5th Avenue
3. Proposed access plus eastern connections at 10th Avenue and 11th Avenue
4. Southern access only (with traffic signal remaining at Sutterville Road/24th Street)
5. Proposed access plus western at-grade crossing (Qualitative evaluation discussion [no LOS] based on a comparison of how trips would be distributed).

Table 1: Land Uses for Project Alternatives

Land Use Area	Alternative 1: No Project/No Build Alternative	Alternative 2: Proposed Project	Alternative 3: Reduced Commercial Alternative A	Alternative 4: Reduced Commercial Alternative B	Alternative 5: Single Family Alternative	Alternative 6: Existing General Plan and Zoning Alternative - Industrial
Commercial Use Area (retail sq. ft.)	0	150,000	100,000	50,000	0	0
Mixed Use Area (retail sq. ft.) (multi-family units)	0 0	50,000 172	50,000 172	50,000 172	0 0	0 0
Multi-Family Area (dwelling units)	0	138	138	138	0	0
Single-Family Area (dwelling units)	0	232	252	290	393	0
Off-Site Single-Family Area (dwelling units)	0	7	7	7	7	7
Park/Open Space (acres)	0	7.2	7.2	7.2	7.2	0
Heavy Industrial (sq. ft.)	0	0	0	0	0	779,900

Impact Analysis

- A. **Analysis Period:** Analysis will be performed for study intersections for the a.m. and p.m. peak hour during a typical weekday and for the peak weekend period at selected intersections between 1:00 p.m. and 3:00 p.m. on Saturday.
- E. **Study Areas**

Intersections:

Analysis of the following intersections will be performed using Highway Capacity Manual procedures:

1. Sutterville Road/Freeport Boulevard
2. Sutterville Road (south)/Freeport Boulevard
3. Sutterville Road/Sutterville Bypass Ramps (west)
4. Sutterville Road/Sutterville Bypass Ramps (east)
5. Sutterville Road/24th Street
6. Sutterville Road/East Curtis Drive
7. Sutterville Road/West Curtis Drive
8. Sutterville Road/Franklin Boulevard
9. Sutterville Road/SR 99 Southbound Off-Ramp
10. Sutterville Road/SR 99 Northbound Off-Ramp
11. Freeport Boulevard/Vallejo Way
12. Freeport Boulevard/21st Street
13. 21st Street/4th Avenue
14. 21st Street/2nd Avenue
15. Freeport Boulevard/2nd Avenue
16. 24th Street/2nd Avenue
17. 24th Street/Portola Way
18. 24th Street/10th Avenue
19. 24th Street/11th Avenue
20. 24th Street/Donner Way
21. 24th Street/5th Avenue
22. Sutterville Road/21st Street

Up to ten additional intersections on the project site will be studied. The additional intersections will include the proposed new intersection on Sutterville Road, and the proposed new intersection with Donner Way.

Street Segments: (ADT only, not the LOS)

Evaluation of the following street segments will be performed by comparing annual daily traffic volumes to the City of Sacramento's standards:

1. Sutterville Road Overcrossing
2. Sutterville Road between East Curtis Drive and West Curtis Drive
3. 24th Street between 9th Street and 10th Street
4. 24th Street between Portola Way and Marshall Way
5. Donner Way between 24th Street and 25th Street
6. Freeport Boulevard north of 4th Avenue
7. 21st Street north of 4th Avenue
8. Portola Way between 21st Street and 24th Street
9. Marshall Way between 21st Street and 24th Street
10. 4th Avenue between 21st Street and 24th Street
11. 3rd Avenue between 21st Street and 24th Street
12. 24th Street just south of Donner Way
13. 10th Avenue just east of 24th Street
14. 11th Avenue just east of 24th Street
15. 5th Avenue just east of 24th Street

Freeway Ramps:

- SR 99 Southbound Off-Ramp
- SR 99 Northbound Off-Ramp

Freeway Merge / Diverge:

- SR 99 On-Ramp merges (two ramps)
- SR 99 Off-Ramp diverges (two ramps)

Freeway ramp and merge/diverge/weave analysis will be according to the current Highway Capacity Manual and Caltrans' standards.

F. Data Collection

Turning movement counts will be collected at the study area intersections for the a.m. and p.m. peak hours during a typical weekday and at selected intersections for the Saturday peak period between 1:00 p.m. and 3:00 p.m. Saturday traffic counts will be conducted at the intersections along Sutterville Road, Freeport Boulevard, and 21st Street. Vehicle queues will be observed at the SR 99 Northbound Off-Ramp during the a.m. peak hour and at the SR 99 Southbound Off-Ramp during the p.m. peak hour, and at both locations during the Saturday peak hour.

Field conditions will be verified regarding pertinent information for the study intersections regarding lane geometry, control devices, signal timing and accident rates (signal controller settings will be obtained from City staff). Dennis Murphy will be contacted for existing timing plans and controller settings - (916) 808 - 5969.

Weekday daily traffic counts will be collected for each of the street segments to be studied. Daily traffic counts will also be collected on Saturday at the locations along Sutterville Road, Freeport Boulevard, and 21st Street.

Traffic counts for SR 99 and the freeway ramps at the 12th Avenue / Sutterville road interchange will be obtained from Caltrans.

G. Analysis Scenarios

1. Existing Conditions
2. Baseline
3. Baseline plus Project
4. Future
5. Future plus Project

Intersection and street segment analysis will be provided for existing conditions. For the other analysis scenarios, intersection and street segment analysis will be provided for four Project alternatives and four access scenarios for the Proposed Project. The analysis of freeway ramps and merge/diverge areas will be provided only for the four Project alternatives – not for the various access scenarios. Baseline and future scenarios will assume no development at the project site.

Baseline Analysis: With and Without Project

Baseline traffic volumes will be established based on existing traffic volumes plus traffic expected from various development projects currently under construction OR developments identified by the City.

Three projects have been identified by the City for inclusion in the baseline scenario.

1. Traffic volumes from the traffic study for the Sacramento City College Expansion will be used for the a.m. peak hour and p.m. peak hour. Saturday peak hour traffic volumes for the Sacramento City College Expansion will be estimated using *Trip Generation* (ITE). Traffic volumes from this project will be added to existing traffic volumes to produce baseline traffic volumes.
2. Sutterville Road/Sutterville Bypass roadway modifications.
3. Freeport Boulevard and 21st Street conversion from one-way to two-way traffic operations. Baseline traffic volumes will be modified based on estimated changes in traffic patterns from the SACMET travel demand model and professional judgment.

An additional project may be added to baseline conditions if requested by City staff.

Project impacts will be identified by comparing traffic operations with Baseline plus Project to traffic operations with Baseline No Project. The roadway system for the analysis of Baseline conditions will be the existing roadway network with the modifications described above.

Forecast Future Traffic Volumes: With and Without Project

Develop future peak traffic volumes at study intersections for each specified scenario. The most recent SACMET model (2025) will be used; adjustments may be necessary to account for future probable (cumulative) projects in the approval process. Future analysis will also reflect projects in the M.T.P. City staff may direct other modifications to the SACMET model.

H. Trip Generation

Standard Institute of Transportation Engineers, ITE (*Trip Generation, 7th Edition*) trip rates or other City approved references will be used for proposed project land uses. Trip generation for the proposed project will be estimated based upon available data and characteristics of the proposed project.

The number of trips that would remain within to the project boundaries (internal trips) will be determined as recommended by the ITE *Trip Generation Handbook*. The trip generation estimates will be adjusted to reflect:

- Higher than normal transit ridership, and
- Commercial pass-by traffic.

I. Trip Distribution and Assignment

Vehicular paths to and from the project site will be based upon observed travel patterns in the project vicinity and forecast of trip distribution provided by the SACOG's regional travel model.

J. Impact Analysis

Standard impact analysis study for intersections (where traffic data will be collected) and segments (for road segments, ADT only for each scenario, not the LOS) will be conducted. Levels of Service at study facilities will be reported per Highway Capacity Manual (HCM 2000) and City of Sacramento Policy. The effects of train crossings at Freeport Boulevard on adjacent intersection operations will be estimated.

Transit Analysis

An analysis of transit impacts will be performed based on NCHRP Report 187 transit trip generation data, and City's guidelines. All bus or rail lines that have, or will have, a station within $\frac{1}{4}$ mile of the project will be studied. The consultant will coordinate with RT in context of any issues related to transit impact analysis including access to the

existing City College LRT Station. Changes in bus circulation may be suggested to provide better transit service.

Bicycle Facilities

An evaluation will be performed of the project's potential impacts on existing or planned Bicycle Master Plan facilities located within ¼ mile of the project, or that may have a potential for significant environmental impact due to the project.

Pedestrian Facilities

An evaluation will be performed of the project's potential impacts on any pedestrian facilities that may have a potential for significant environmental impact due to the project. Pedestrian linkages to and from the City College LRT station will be evaluated.

Signal Warrants

A peak hour signal warrant analysis will be provided at stop-controlled/unsignalized intersections.

Circulation

An assessment of on-site circulation will be performed based on the Project Description and interpretation of the intended number of lanes and traffic control devices. Impacts will be assessed based on expected traffic volumes and queues at site access driveways.

Sight Distance

The safety of traffic operations on Sutterville Road will be evaluated with regard to the location of the proposed new project access. This analysis will be performed for the proposed project alternative. The sight distance for the eastbound Sutterville Road approach to the new intersection will be assessed to determine if approaching vehicles would have adequate stopping sight distance. This evaluation will be based on roadway profile data provided by the City.

K. Develop and Analyze Mitigation Measures

Mitigation measures will be developed, if possible and feasible, and will be analyzed for all identified transportation impacts. All mitigation measures shall reflect City policies and practices, and consider phasing, feasibility, and the availability of right-of-way. This includes evaluation of signal warrants per Caltrans and City standards.

L. Traffic Simulation

Traffic operations for the study intersections will be simulated for four scenarios using the Synchro and SimTraffic software package. The scenarios will include existing and baseline p.m. peak hour conditions and two future scenarios that will be defined as the study progresses.

Existing conditions will be simulated and calibrated to provide a reasonable match with observed traffic conditions using signal timings provided by City staff. Baseline

conditions with the proposed project will be simulated to provide a visual representation of project impacts. Signal timings will be optimized for the baseline and future scenarios.

Technical Data / Report Production

A. Format

The report will be prepared in the City's standard format for a transportation analysis section of an Environmental Impact Report. Transportation consultant will coordinate with environmental consultant on production format as well as other pertinent information. The Environmental consultant will be hired by the City. An administrative draft report will be submitted to City staff with analysis files. Comments on the administrative draft report will be addressed and approved by the City before transmittal to the environmental consultant.

B. Graphics

Graphics will be prepared to show the following:

1. Vicinity Map and Study Area Intersections;
2. Site Plan to be incorporated in report (provided by others).
3. Existing lane configurations, control and volumes for all analysis periods
4. Location of Baseline Projects (only selected studies)
5. Trip distribution (total and by direction) and volumes.
6. Lane configurations and volumes with the project for each scenario analyzed in one graphic, if possible.
7. Geometry of intersections with applicable mitigation measures.
8. Future projected traffic volumes plus ADT for all scenarios and time periods.

Cost and Schedule

A. Cost

The budget shown on the following page has been prepared for the scope of services described above. The budget includes attendance at three (3) public hearings and two (2) City Staff meetings. The budget for the Response to Comments task is only an estimate based upon a typical level of effort for responding to comments on the DEIR. This budget item is based on the number of hours estimated and may require modification depending on the actual comments received. The budget includes responding to up to 25 comments but does not include conducting new analysis.

The costs for traffic simulation of four scenarios are included in the cost estimate. The cost to simulate additional alternatives or scenarios would range between \$1,000 and \$2,000 each depending on the level of complexity.

B. Schedule

- a) 2 weeks for traffic counts after notice to proceed (weather permitting).
 - b) 1 week for submittal for trip generation and distribution.
 - c) 8 weeks for delivery of draft traffic study report (after completion of traffic counts and receipt of all information to be provided by City staff).
 - d) 2 weeks for delivery of Administrative Draft EIR after receipt of comments on draft traffic study report.
 - e) 2 weeks for traffic simulation.
 - f) 1 week for delivery of DEIR after receipt of comments on ADEIR.
 - g) 1 week for responses to comments on the DEIR after receipt of comments.
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