## Appendix C

Traffic Study

## MISSION OAKS BOULEVARD INDUSTRIAL PROJECT CITY OF CAMARILLO, CALIFORNIA

## TRAFFIC STUDY



February 20, 2020
ATE Project \#19091

## Prepared for:

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## TRAFFIC STUDY FOR THE MISSION OAKS INDUSTRIAL PROJECT - CITY OF CAMARILLO, CALIFORNIA

Associated Transportation Engineers (ATE) is pleased to submit the following traffic study for the Mission Oaks Industrial Project. The traffic study examines existing and future traffic conditions in the vicinity of the Project site. It is our understanding that this traffic study will be incorporated into the development application for the Project to be submitted to the City of Camarillo.

We appreciate the opportunity to assist Rincon Consultants Inc., with this Project.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP
Vice President

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## INTRODUCTION

The following study contains an analysis of the potential traffic impacts associated with the proposed Mission Oaks Boulevard Industrial Project (the "Project"), located at 3233 Mission Oaks Boulevard in the City of Camarillo. Project site location is illustrated on Figure 1. The study provides information relative to Existing, Existing + Project, Cumulative and Cumulative + Project traffic conditions within the Project study-area.

## PROJECT DESCRIPTION

The Mission Oaks Boulevard Industrial Project consists of the demolition of an existing 52,500 square-foot office building currently occupied by Technicolor Home Entertainment Services, the construction of a new 111,500 square-foot multi-tenant industrial building and the addition of 52,026 square-feet to an existing industrial building. Site access will be provided via existing driveway connections to Mission Oaks Boulevard and Calle Tecate. Figure 2 illustrates the Project site plan.

## EXISTING CONDITIONS

## Street Network

The study-area circulation system is comprised of U.S. Highway 101, State Route 34, Mission Oaks Boulevard, Flynn Road, Adolfo Road, Dawson Drive, Village at the Park Drive, Petit Street and Dawson Place which serve as the major arterials, and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the primary components of the study-area street network.
U.S. Highway 101, located south of the site, is a multi-lane freeway which serves as a major arterial for the City of Camarillo and is the principal inter-city route along this portion of the Pacific Coast. The segment of U.S. Highway 101 in the study-area is 6-lanes with auxiliary onoff ramp lanes. Primary access between the freeway and the Project site is provided via the signalized hook ramps at Mission Oaks Boulevard and Village at the Park Drive.

State Route 34, (Pleasant Valley Road/Lewis Road) in the study-area is a 2- to 4-lane northsouth primary arterial. State Route 34 connects the City of Camarillo and City of Oxnard. State Route 34 serves industrial, commercial and residential land uses in the study-area.

Mission Oaks Boulevard, is a 4-lane roadway that extends south from Upland Road then transitions to Dawson Drive at U.S. Highway 101. Mission Oaks Boulevard serves industrial and commercial land uses in the study-area. Mission Oaks Boulevard provides direct access to Project site via two existing driveway connections.



Adolfo Road, is a 4-lane roadway that extends east from Ponderosa Drive to its terminus at the Conejo Creek. Adolfo Road serves residential, commercial and industrial land uses in the study-area.

Flynn Road, is a 4-lane roadway that extends south from Upland Road to Mission Oaks Boulevard. Flynn Road serves residential, commercial and industrial land uses in the studyarea.

Dawson Drive, located south of the site, is a 2-lane north-south roadway that provides access to the commercial and residential area located south of U.S. Highway 101. Dawson Drive extends north from Pleasant Valley Road and transitions into Mission Oaks Boulevard north of U.S. Highway 101.

Petit Street, located south of the site is a 3-lane east-west roadway that extends from Dawson Drive to Village at the Park Drive where it provides access to from southbound U.S. Highway 101. Petit Street provides access to the commercial and residential area south of U.S. Highway 101.

Dawson Place, is a 2-lane east-west roadway that extends from Dawson Drive to State Route 34. Dawson Place serves commercial and industrial land uses in the study-area.

In rating an intersection's operating condition, "Levels of Service" (LOS) " $A$ " through " $F$ " are used. LOS "A" and LOS " $B$ " represent primarily free-flow operations, LOS "C" represents stable conditions, LOS "D" nears unstable operations with restrictions on maneuverability within traffic streams, LOS "E" represents unstable operations with maneuverability very limited, and LOS " F " represents breakdown or forced flow conditions. LOS " C " is considered acceptable in the City of Camarillo.

## Intersection Operations

Existing AM and PM peak hour traffic volumes were collected for this study in January of 2020. Figure 3 illustrates the existing AM and PM peak hour traffic volumes. Existing levels of service for the study-area intersections were calculated using the adopted Intersection Capacity Utilization methodology for intersections as required by the City of Camarillo. Worksheets illustrating the level of service calculations are contained in the Technical Appendix. Table 1 lists the existing intersection level of service for the study-area intersections. The existing lane geometries and traffic controls for the study-area intersections are illustrated on Figure 4.


LEGEND
$L_{(X X) X X}-(A M) P M$ Peak Hour Volume



Table 1
Existing Intersection Operations

| Intersection | Control | Existing Conditions |  |
| :---: | :---: | :---: | :---: |
|  |  | AM Peak Hour | PM Peak Hour |
|  |  | ICU-LOS | ICU-LOS |
| Lewis Rd./Adolfo Rd. | Signal | 0.59-LOS A | 0.54-LOS A |
| Flynn Rd./Adolfo Rd. | Signal | 0.41-LOS A | 0.54-LOS A |
| Dawson Dr./Petit St. | Signal | 0.48-LOS A | 0.42-LOS A |
| Lewis Rd./Dawson Pl. | Signal | 0.32-LOS A | 0.43-LOS A |
| Pleasant Valley Rd./Dawson Dr. | Signal | 0.47-LOS A | 0.62-LOS B |
| Pleasant Valley Rd./Lewis Rd. | Signal | 0.49-LOS A | 0.49-LOS A |
| U.S. Highway 101NB Ramps/Mission Oaks Blvd. | Signal | 0.50-LOS A | 0.40-LOS A |
| U.S. Highway 101 SB Ramps/Village at the Park | Signal | 0.67 -LOS B | 0.44-LOS A |

The study-area intersections generally operate in the LOS A - B range during the AM and PM peak hour periods as indicated in Table 1.

## IMPACT THRESHOLDS

## City of Camarillo

The City of Camarillo's acceptable level of service for intersections is LOS C or better, with LOS D (V/C 0.83) allowed for short periods of time during the peak hours periods. Project impacts are significant and must be mitigated if they exceed the thresholds listed in Table 2. Mitigation measures must provide a level of service equal to or better than the base conditions.

Table 2
Intersection Threshold Criteria

| Existing + Project; Cumulative + Project | Per Lane Critical Project-Added <br> Peak Hour Trips |
| :---: | :---: |
| LOS D | 30 Trips |
| LOS E | 20 Trips |
| LOS F | 10 Trips |

## PROJECT-GENERATED TRAFFIC

## Project Trip Generation

Trip generation estimates were calculated for the Mission Oaks Boulevard Industrial Project based on the rates presented in the Institute of Transportation Engineers (ITE), Trip Generation, $10^{\text {th }}$ Edition for General Light Industrial (Land-Use Code \#110) and Single Tenant Office (Land Use \#715). ${ }^{1}$ Technicolor Home Entertainment is the current occupant of the existing office building proposed to be demolished. Technicolor's current employment level is 113 people. Table 3 summarizes the average daily, AM and PM peak hour trip generation estimates for the Project.

Table 3
Project Trip Generation Comparison

| Land Use | Employees/Size | ADT |  | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rate | Trips | Rate | Trips (In/Out) | Rate | Trips (ln/Out) |
| Existing Use: Office Space | 113 Employees | 3.77 | 426 | 0.53 | 60 (53/7) | 0.50 | 58 (9/49) |
| Proposed Use <br> Light Industrial <br> Light Industrial | $\begin{gathered} \text { 111,500 S.F. } \\ \text { 52,056 S.F. } \end{gathered}$ | $\begin{aligned} & 4.96 \\ & 4.96 \end{aligned}$ | $\begin{aligned} & 553 \\ & 258 \end{aligned}$ | $\begin{aligned} & 0.70 \\ & 0.70 \end{aligned}$ | $\begin{aligned} & 78(69 / 9) \\ & 36(32 / 4) \end{aligned}$ | $\begin{aligned} & 0.63 \\ & 0.63 \end{aligned}$ | $\begin{aligned} & 70(9 / 61) \\ & 33(4 / 29) \end{aligned}$ |
| Total Proposed Trip Generation: |  |  | 811 |  | 114 (101/13) |  | 103 (13/90) |
| Net Change Trip Generation: |  |  | $+385$ |  | $+54(48 / 6)$ |  | $+45(4 / 41)$ |

The data presented in Table 3 show that the existing office space with 113 employees generates 426 average daily trips, 60 AM peak hour trips and 58 PM peak hour trips. The Project would generate 811 average daily trips, 114 AM peak hour trips and 103 PM peak hour trips. The Project would result in a net increase of 385 average daily trips, 54 AM peak hour trips and 45 PM peak hour trips.

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## Project Trip Distribution and Assignment

Project-generated traffic was distributed and assigned to the study-area street system as presented in Table 4. Figure 5 illustrates the distribution and assignment of project-generated traffic volumes.

Table 4
Project Trip Distribution

| Route | Origin/Destination | Percent |
| :--- | :---: | :---: |
| U.S. Highway 101 | East | $25 \%$ |
|  | West | $25 \%$ |
| State Route 34 | North | $15 \%$ |
|  | South | $5 \%$ |
| Pleasant Valley Road | East | $5 \%$ |
|  | West | $10 \%$ |
| Adolfo Road | West | $5 \%$ |
| Flynn Road | North | $5 \%$ |
| Mission Oaks Boulevard | East | $5 \%$ |
|  | Total: |  |

## POTENTIAL TRAFFIC IMPACTS

## Project-Specific Impacts

Intersections. Tables 9 and 10 present the Existing and Existing + Project AM and PM peak hour intersection levels of service and identifies impacts based on the City of Camarillo thresholds. Figure 6 illustrates the AM and PM peak hour Existing + Project traffic volumes.




Table 5
Existing + Project AM Peak Hour Intersection Operations

| Intersection | AM Peak Hour |  | Change | Impact? |
| :---: | :---: | :---: | :---: | :---: |
|  | Existing | Existing + Project |  |  |
|  | ICU-LOS | ICU-LOS |  |  |
| Lewis Rd./Adolfo Rd. | 0.59-LOS A | 0.59-LOS A | 0.00 | No |
| Flynn Rd./Adolfo Rd. | 0.41-LOS A | 0.41-LOS A | 0.00 | No |
| Dawson Dr./Petit St. | 0.48-LOS A | 0.49-LOS A | 0.01 | No |
| Lewis Rd./Dawson Pl. | 0.32-LOS A | $0.32-\operatorname{LOS} A$ | 0.00 | No |
| Pleasant Valley Rd./Dawson Dr. | 0.47-LOS A | 0.47-LOS A | 0.00 | No |
| Pleasant Valley Rd./Lewis Rd. | 0.49-LOS A | 0.49-LOS A | 0.00 | No |
| U.S. Highway 101 NB Ramps/Mission Oaks, Blvd. | 0.50-LOS A | 0.50-LOS A | 0.00 | No |
| U.S. Highway 101 SB Ramps/Village at the Park | 0.67-LOS B | 0.67-LOS B | 0.00 | No |

Table 6
Existing + Project PM Peak Hour Intersection Operations

| Intersection | PM Peak Hour |  | Change | Impact? |
| :---: | :---: | :---: | :---: | :---: |
|  | Existing | Existing + Project |  |  |
|  | ICU-LOS | ICU-LOS |  |  |
| Lewis Rd./Adolfo Rd. | 0.54-LOS A | $0.54-L O S A$ | 0.00 | No |
| Flynn Rd./Adolfo Rd. | 0.54-LOS A | 0.54-LOS A | 0.00 | No |
| Dawson Dr./Petit St. | 0.42-LOS A | 0.42-LOS A | 0.00 | No |
| Lewis Rd./Dawson Pl. | 0.49-LOS A | 0.49-LOS A | 0.00 | No |
| Pleasant Valley Rd./Dawson Dr. | $0.62-\operatorname{LOS~B}$ | $0.63-\operatorname{LOS~B}$ | 0.01 | No |
| Pleasant Valley Rd./Lewis Rd. | 0.44-LOS A | 0.44-LOS A | 0.00 | No |
| U.S. Highway 101NB Ramps/Mission Oaks Blvd. | 0.45-LOS A | $0.46-\operatorname{LOS} A$ | 0.01 | No |
| U.S. Highway 101 SB Ramps/Village at the Park | 0.44-LOS A | 0.44-LOS A | 0.00 | No |

The data in Tables 5 and 6 show that the Project would not significantly impact any of the other study-area intersections based on City of Camarillo impact thresholds.

## CUMULATIVE (EXISTING + APPROVED/PENDING PROJECTS) ANALYSIS

The City of Camarillo require that intersections be analyzed with the addition of traffic generated by projects which have been approved or are pending within the study-area that could impact the facilities. The Cumulative (Existing + Approved/Pending Projects) traffic volumes were forecast for the study-area roadways and intersections assuming development of 18 approved and pending projects located within the City of Camarillo and unincorporated Ventura County. Trip generation estimates were developed for the approved/pending projects using trip generation rates published in the ITE, Trip Generation, $10^{\text {th }}$ Edition. Table 7 summarizes the trip generation for the approved/pending development projects.

Table 7
Approved/Pending Development Projects Trip Generation

| No. | Jurisdiction | Project | Land Use | Size | ADT | Trips |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | AM <br> Peak Hour | PM <br> Peak Hour |
| 1. | Ventura County | PL15-0014 | Wholesale Lumberyard | 18.9 acres | 164 | 16 | 16 |
| 2. | Ventura County | PL18-0081 | Organics Processing | 17.2 acres | 40 | 4 | 4 |
| 3. | Ventura County | PL18-0109 | Dog Kennel | 20 acres | 50 | 5 | 5 |
| 4. | Ventura County | Somis Ranch | Farmworker Housing | 360 units | 2,635 | 166 | 202 |
| 5. | City of Camarillo | $\begin{gathered} \text { CUP-307(2) } \\ \text { CPD-236M(1) } \end{gathered}$ | Apartments Retail Commercial | $\begin{gathered} 10 \text { units } \\ 8,000 \text { sq.ft. } \end{gathered}$ | $\begin{gathered} 73 \\ 302 \\ \hline \end{gathered}$ | $\begin{aligned} & 5 \\ & 8 \\ & \hline \end{aligned}$ | $\begin{gathered} 6 \\ 30 \\ \hline \end{gathered}$ |
| 6. | City of Camarillo | RPD-188 | Condominiums | 87 units | 637 | 40 | 49 |
| 7. | City of Camarillo | CUP-330 | Apartments Retail Commercial | $\begin{gathered} 23 \text { units } \\ 6,100 \text { sq.ft. } \end{gathered}$ | $\begin{aligned} & 168 \\ & 230 \\ & \hline \end{aligned}$ | $\begin{gathered} \hline 10 \\ 6 \\ \hline \end{gathered}$ | $\begin{array}{r} 13 \\ 23 \\ \hline \end{array}$ |
| 8. | City of Camarillo | RPD-189M(2) | Apartments | 96 units | 703 | 44 | 54 |
| 9. | City of Camarillo | RPD-198 | Senior Housing | 281 units | 2,118 | 168 | 166 |
| 10. | City of Camarillo | RPD-203 | Single Family Residential | 2 units | 19 | 1 | 2 |
| 11. | City of Camarillo | RPD-202 CUP-391 CUP-391 | Townhomes Apartments Retail Commercial | 8 <br> 12 units <br> 1,400 sq.ft. | $\begin{aligned} & 58 \\ & 88 \\ & 53 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 4 \\ & 6 \\ & 1 \\ & \hline \end{aligned}$ | $\begin{aligned} & 4 \\ & 7 \\ & 5 \\ & \hline \end{aligned}$ |
| 12. | City of Camarillo | CUP-381 | Convenience Store | 3,000 sq.ft. | 2,287 | 188 | 147 |
| 13. | City of Camarillo | CUP-364M(1) | Brewery | 24,102 sq.ft. | 2,704 | 0 | 235 |
| 14. | City of Camarillo | IPD-23M(25) | Light Industrial | 67,867 sq.ft. | 337 | 48 | 43 |
| 15. | City of Camarillo | CUP-397 | Dog Kennel | 3,600 sq.ft. | 50 | 5 | 5 |
| 16. | City of Camarillo | RPD-200 | Senior/Assisted Living | 93 beds | 242 | 18 | 24 |
| 17. | City of Camarillo | CUP-398 | Moose Lodge | 3,693 sq.ft. | 50 | 0 | 30 |
| 18. | City of Camarillo | CUP-394 | Groundwater Treatment | 6,541 sq.ft. | 32 | 4 | 4 |
|  |  |  |  | Total Trips: | 13,040 | 747 | 1,074 |

The data presented in Table 7 indicate that the approved and pending projects would generate a total of 13,040 average daily trips, 747 AM peak hour trips and 1,074 PM peak hour trips. The approved and pending projects' peak hour traffic volumes were distributed and assigned to the study-area roadways and intersections. The trip assignment for the approved and pending projects was developed based on the location of each project, approved traffic studies, existing traffic patterns observed in the study-area as well as a general knowledge of the population, employment and commercial centers in and surrounding the study-area. Figure 7 illustrates the Cumulative AM and PM peak traffic volumes.

## Cumulative Impacts

Intersections. Tables 8 and 9 present the Cumulative and Cumulative + Project AM and PM peak hour intersection levels of service and identifiers impacts based on the City of Camarillo thresholds. Figure 8 illustrates the AM and PM peak hour Cumulative + Project traffic volumes.

Table 8
Cumulative + Project AM Peak Hour Intersection Operations

| Intersection | AM Peak Hour |  | Change | Impact? |
| :---: | :---: | :---: | :---: | :---: |
|  | Cumulative | Cum. + Project |  |  |
|  | ICU-LOS | ICU-LOS |  |  |
| Lewis Rd./Adolfo Rd. | 0.60-LOS A | 0.61-LOS B | 0.01 | No |
| Flynn Rd./Adolfo Rd. | 0.44-LOS A | 0.44-LOS A | 0.00 | No |
| Dawson Dr./Petit St. | 0.53-LOS A | $0.54-\operatorname{LOS~A}$ | 0.01 | No |
| Lewis Rd./Dawson Pl. | 0.34-LOS A | $0.34-\operatorname{LOS~A}$ | 0.00 | No |
| Pleasant Valley Rd./Dawson Dr. | 0.55-LOS A | 0.55-LOS A | 0.00 | No |
| Pleasant Valley Rd./Lewis Rd. | 0.52-LOS A | $0.53-\operatorname{LOS~A}$ | 0.01 | No |
| U.S. Highway 101 NB Ramps/Mission Oaks Blvd. | 0.51-LOS A | 0.51-LOS A | 0.00 | No |
| U.S. Highway 101 SB Ramps/Village at the Park | 0.71-LOS C | 0.72-LOS C | 0.01 | No |



LEGEND
$L_{(X X) X X}-(A M) P M$ Peak Hour Volume
Traffic Study


|  |  |
| :---: | :---: |
| $\begin{aligned} & 260(5344-1 \\ & 387(570)- \\ & 175(137)= \end{aligned}$ |  |



|  | $\begin{aligned} & L_{(995) 515} \\ & \Gamma^{(85) 80} \\ & \sqrt{\text { Peatitsi }} \end{aligned}$ |
| :---: | :---: |
|  |  |




Table 9
Cumulative + Project PM Peak Hour Intersection Operations

| Intersection | PM Peak Hour |  | Change | Impact? |
| :---: | :---: | :---: | :---: | :---: |
|  | Cumulative | Cum. + Project |  |  |
|  | ICU-LOS | ICU-LOS |  |  |
| Lewis Rd./Adolfo Rd. | 0.57-LOS A | 0.57-LOS A | 0.00 | No |
| Flynn Rd./Adolfo Rd. | 0.57-LOS A | 0.57-LOS A | 0.00 | No |
| Dawson Dr./Petit St. | 0.46-LOS A | 0.46-LOS A | 0.00 | No |
| Lewis Rd./Dawson Pl. | 0.45-LOS A | 0.45-LOS A | 0.00 | No |
| Pleasant Valley Rd./Dawson Dr. | 0.71-LOS C | 0.71-LOS C | 0.00 | No |
| Pleasant Valley Rd./Lewis Rd. | 0.52-LOS A | 0.52-LOS A | 0.00 | No |
| U.S. Highway 101NB Ramps/Mission Oaks Blvd. | 0.42-LOS A | 0.42-LOS A | 0.00 | No |
| U.S. Highway 101 SB Ramps/Village at the Park | 0.50-LOS A | 0.50-LOS A | 0.00 | No |

The data in Tables 8 and 9 show that the Project traffic would not significantly impact the study-area intersection during the AM and PM peak hour periods based on City of Camarillo impact thresholds.

## STUDY PARTICIPANTS AND REFERENCES

## Associated Transportation Engineers

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## References

Circulation Element, General Plan, City of Camarillo, 2014.

## Persons Contacted

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[^0]:    1 Trip Generation, Institute of Transportation Engineers, $10^{\text {th }}$ Edition, 2017.

