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Traffic Study

Project Name P17-00156
Planning Commission Hearing Date September 20, 2017

TRAFFIC INFORMATION SUPPORTING CALCULATIONS
FOR
MATERRA

LOCATED AT:
4324 Big Ranch Road
Napa, CA 94558
NAPA COUNTY APN 036-160-003

PREPARED BY:
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WEEKDAY AND AVERAGE WEEKEND TRAFFIC CHARACTERISTICS

Assumptions:

1. Per Napa County Winery Traffic Generation Characteristics, use 2.2 trips/day non-peak and 1.0 trip/day peak for full-time employees with an hour lunch (total 3.2 trips/day).
2. Per Napa County Winery Traffic Generation Characteristics, use 1.0 trips/day non-peak and 1.0 trip/day peak for part-time employees with a half hour lunch (total 2 trips/day).
3. Per Napa County Winery Traffic Generation Characteristics, use 1.05 employees per automobile.
4. Per Napa County Winery Traffic Generation Characteristics, use 2.6 visitors per automobile (for a purpose of this analysis, the use of 2.8 visitors per automobile on weekends was negligible and thus the more conservative number was used).
5. Per Napa County Winery Traffic Generation Characteristics, 57% of visitor traffic occurs during peak hours.
6. For trips/day totals including a fraction of a trip, round up to the next whole number of trips/day.
7. For purposes of this analysis, "seasonal staff" row on the Napa County Traffic Information Form is used for part-time employee information.
8. Per Napa County Winery Traffic Generation Characteristics for service vehicles, assume 1.52 trips/1000 gallons/season for grape deliveries; 1.47 trips/1000 gallons/year for material supplies and 0.8 trips/1000 gallons/year for case goods. Assume 2 trips/day for non agricultural deliveries such as FedEx.

Grape Deliveries

Total gallons produced from onsite grapes:

$$(46\text{Acres of Vineyard}) * \frac{4 \text{ tons of grapes}}{\text{Acre of Vineyard}} * \frac{176 \text{ gallons of wine}}{\text{ton of grapes}} = 32{,}384 \text{ gallons}$$

Trips generated from offsite grapes:

$$(50{,}000 \text{ gallons} - 32{,}384 \text{ gallons}) * \frac{1.52 \text{ trips}/1{,}000 \text{ gallons}}{\text{season}} * \frac{\text{season}}{36 \text{ days}} = 0.74 \text{ trips/day}$$

Materials/Supplies Deliveries

Trips generated:

$$\frac{1.47 \text{ trips}/1{,}000 \text{ gallons}}{\text{year}} * (50{,}000 \text{ gallons}) * \frac{\text{year}}{365 \text{ days}} = 0.20 \text{ trips/day}$$

Case Goods Deliveries

Trips generated:

$$\frac{0.8 \text{ trips}/1{,}000 \text{ gallons}}{\text{year}} * (50{,}000 \text{ gallons}) * \frac{\text{year}}{250 \text{ days}} = 0.16 \text{ trips/day}$$

Non Agricultural Related Deliveries

Assume 1 delivery per day totaling 2 trips/day

TOTAL DELIVERIES =

0.74 trips/day + 0.20 trips/day + 0.16 trips/day + 2 trips/day = **4 trips/day**

SUMMARY TABLE:

	Number	No. People/ automobile	Non-peak Trip Generation (trips/day/ automobile)	Peak Trip Generation (trips/day/ automobile	Non-Peak Trips/day	Peak Trips/day
Full-Time Employees	3	1.05	2.2	1	6.3	2.9
Part-Time Employees	3	1.05	1	1	2.9	2.9
Total Employees					9.1	5.7
Visitors	18	2.6	See Note 5	See Note 5	6.0	7.9
Deliveries	N/A	N/A	SEE ABOVE	SEE ABOVE	4	N/A
				TOTAL	19	14

MARKETING EVENT TRAFFIC CHARACTERISTICS

Assumptions:

1. Per Napa County Winery Traffic Generation Characteristics, use 2.0 trips/day non-peak for "seasonal" or event staff.
2. Per the proposed marketing plan, all events will occur during non-peak hours.
3. Per Napa County Winery Traffic Generation Characteristics, assume that visitors per automobile are similar to a weekend rate and use 2.8 visitors per automobile.
4. For trips/day totals including a fraction of a trip, round up to the next whole number of trips/day.
5. For purposes of this analysis, "seasonal staff" row on the Napa County Traffic Information Form is used for part-time employee information.
6. During marketing events, assume 1 employee or support staff per automobile and a trip generation of 2 trips/day.

SUMMARY TABLE:

	Minimum Event Number	Maximum Event Number	No. People/ automobile	Trip Generation (trips/day)	Minimum Event Trips/day	Maximum Event Trips/day
Employees	3	5	1	2	6.0	10.0
Support Staff	2	4	1	2	4.0	8.0
Visitors	25	50	2.8	2	17.9	35.7
Deliveries	2	4	N/A	2	4	8
				TOTAL	**32**	**62**

Winery Traffic Information / Trip Generation Sheet

Traffic during a Typical Weekday

Number of FT employees: 3 x 3.05 one-way trips per employee = 9.15 daily trips.

Number of PT employees: 3 x 1.90 one-way trips per employee = 5.7 daily trips.

Average number of weekday visitors: 18 / 2.6 visitors per vehicle x 2 one-way trips = 13.8 daily trips.

Gallons of production: 110,000 / 1,000 x .009 truck trips daily[3] x 2 one-way trips = 2 daily trips.

Total = 30.65 daily trips.

Number of total weekday trips x .38 = **11.65 PM peak trips.**

Traffic during a Typical Saturday

Number of FT employees (on Saturdays): 3 x 3.05 one-way trips per employee = 9.15 daily trips.

Number of PT employees (on Saturdays): 3 x 1.90 one-way trips per employee = 5.7 daily trips.

Average number of weekend visitors: 18 / 2.8 visitors per vehicle x 2 one-way trips = 12.9 daily trips.

Total = 27.75 daily trips.

Number of total Saturday trips x .57 = **15.81 PM peak trips.**

Traffic during a Crush Saturday

Number of FT employees (during crush): 3 x 3.05 one-way trips per employee = 9.15 daily trips.

Number of PT employees (during crush): 7 x 1.90 one-way trips per employee = 13.3 daily trips.

Average number of weekend visitors: 18 / 2.8 visitors per vehicle x 2 one-way trips = 12.9 daily trips.

Gallons of production: 110,000 / 1,000 x .009 truck trips daily x 2 one-way trips = 2 daily trips.

Avg. annual tons of grape on-haul: 150 x .11 truck trips daily[4] x 2 one-way trips = 2 daily trips.

NOTE: MAJORITY OF FRUIT FROM ONSITE OR ADJACENT PARCEL, NOT INCLUCED IN TRIP COUNT

Total = 39.35 daily trips.

Number of total Saturday trips x .57 = **22.4 PM peak trips.**

Largest Marketing Event- Additional Traffic

Number of event staff (largest event): 6 x 2 one-way trips per staff person = 12 trips.

Number of visitors (largest event): 100 / 2.8 visitors per vehicle x 2 one-way trips = 71.4 trips.

Number of special event truck trips (largest event): 3 x 2 one-way trips = 6 trips.

[3] Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see *Traffic Information Sheet Addendum* for reference).

[4] Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

TRAFFIC INFORMATION

Project Trip Generation

	Personnel / Visitors				Vehicle Trips		
	Operations Daily M – F	Marketing Events Minimum	Marketing Events Maximum		Operations Daily M – F	Marketing Events Minimum	Marketing Events Maximum
		Weekends				Weekends	
Operating Hours		12-4	6-11:30				
Employees				Employee Trips			
Full-Time	3	2	3	Full-Time	6.3	4	6
Seasonal Peak	3	1	2	Seasonal Peak	2.9	2	4
Peak Hours	*	*	*	Peak Hours	5.7	N/A	N/A
Total Employees	6	3	5	Total Employee Trips	15	6	10
Event Support Staff				Event Support Staff			
Full-Time	N/A	N/A	N/A	Full-Time	N/A	N/A	N/A
Seasonal Peak	N/A	2	4	Seasonal Peak	N/A	4	8
Total Support Staff	N/A	2	4	Total Support Staff Trips	N/A	4	8
Visitors	18	25	50	Visitor Trips	6	17.9	35.7
Peak Hours	*	N/A	N/A	Peak Hours	7.9	N/A	N/A
Total Visitors	18	25	50	Total Visitor Trips	14	18	36
				Total Trucks – Deliveries, Shipping, etc. Trips	2	4	8
Grand Total	24	30	59		31	32	62
Provide supporting documentation for trip generation rates				*See supporting			
Submit separate spreadsheets for existing & proposed operations, include a trip generation grand total.				Calculations			

Number of People Onsite

	Full-Time	Seasonal Peak	Marketing Events	Marketing Events	Marketing Events
No. Employees	3	3	3 Min.	3 Ave.	5 Max.
Support Staff, caterers, clean-up, etc.	N/A	N/A	2 Min.	2 Ave.	4 Max.
Visitors	18		25 Min.	35 Ave.	50 Max.
Residents		N/A	N/A	N/A	N/A
Grand Total	24	3	30	40	59

APPS-Traffic Information

TRAFFIC INFORMATION FOR CALTRANS REVIEW

Application should include:

Project Location

- Site Plan showing all driveway location(s)
- Show detail of Caltrans right-of-way
- Aerial photo at a readable scale

Trip Generation Estimate

- Spreadsheet for winery applications
  - Provide separate spreadsheets for existing and proposed operations

Caltrans Information Sources

- Traffic Impact Study Guide
- 2001 Traffic Volumes on California State Highways
- Highway Design Manual
- Traffic manual

NAPA COUNTY WINERY TRAFFIC GENERATION CHARACTERISTICS

EMPLOYEES:

Half-hour lunch: All - 2 trips/day (1 during weekday PM peak)
Hour lunch: Permanent Full-Time – 3.2 trips/day (1 during weekday PM peak)
Permanent Part-Time – 2 trips/day (1 during weekday PM peak)
Seasonal: 2 trips/day (0 during weekday PM peak)—crush
see full time above—bottling
Auto Occupancy: 1.05 employees/auto

VISITORS:

Auto occupancy: Weekday – 2.6 visitors/auto Weekend – 2.8 visitors/auto
Peaking Factors:
Peak Month: 1.65 x average month
Average Weekend: 0.22 x average month
Average Saturday: 0.53 x average weekend
Peak Saturday: 1.65 x average Saturday
Average Sunday: 0.8 x average Saturday
Peak Sunday: 2.0 x average Sunday
Peak Weekend Hour: Winery (3-4 PM) - 0.57 x total for weekend day involved
Average 5-Day Week (Monday-Friday) - 1.3 x average weekend
Average Weekday: 0.2 x average 5-day week
Peak Weekday Hour: Winery (3-4 PM) - 0.57 x total for weekday involved
Roadway PM Peak(4-5 PM?) - 0.38 x total for weekday involved

SERVICE VEHICLES:

Grapes (36 days (6weeks)/season): 1.52 trips/1000 gals/season (4 ton loads assumed)
Materials/Supplies (250 days/yr): 1.47 trips/1000 gals/yr
Case Goods (250 days/yr): 0.8 trips/1000 gal/yr

APPS-Traffic info/char