



Vision That Moves Your Community

Transportation
Consultants

September 28, 2012

Ms. Heidi Niemann, Owner
The Meadows Kennel
6445 Sonoma Highway (SR 12)
Santa Rosa, CA 95409

Re: Supplemental Traffic Analysis for Proposed Expansion of Services at the Meadows Kennel at 6445 Sonoma Highway in Sonoma County

Dear Ms. Niemann:

TJKM is pleased to submit this letter report to supplement a previous traffic analysis report for the subject project dated August 11, 2011. The purpose of this letter is to update the project traffic analysis based on a project description that has been updated since the March 15, 2012 County Board of Zoning Appeals project hearing and to report results from a supplemental highway collision analysis and speed survey analysis. Both supplemental analyses are being prepared in response to a request by the California Department of Transportation (Caltrans) District 4 office.

Updated Project Description

TJKM understands that the applicant is proposing to expand services at The Meadows Kennel, located at 6445 Sonoma Highway (State Route (SR) 12) in the Santa Rosa area of Sonoma County, from a 10-dog daycare facility to a full-service kennel providing overnight services for up to 35 dogs. Overnight services include grooming and training. Our August 2011 study was based on the previous proposal for overnight services for up to 50 dogs, so the current proposal assumed in this supplemental study reduces that previous total by 15 dogs.

Current Operations

To supplement discussion of Existing Conditions from TJKM's August 2011 traffic study, TJKM estimates that based on current operations, the kennel is estimated to be generating an approximate maximum of 40 daily vehicle trips (10 inbound and 10 outbound during morning dropoff, and 10 inbound and 10 outbound during the afternoon pickup, accounting for 10 dogs). In addition, approximately four trips (2 inbound, 2 outbound) are estimated to be generated by the project owner. All kennel-generated vehicle trips occur within 230 feet of SR 12, since the kennel is the first parcel accessing Richards Road east of SR 12, and as a result, these existing trips do not affect traffic operations further east on Richards Road).

The vast majority of the above estimated daily trips are occurring outside typical commute peak hours on SR 12, which are 7:00-9:00 a.m. and 4:00-6:00 p.m. In the morning, virtually all dog dropoffs occur after 9:00 a.m., while in the afternoon most pickups occur before 4:00 p.m. Also, the above estimated daily trip totals include a Meadows Kennel vehicle that provides occasional dog pickups and dropoffs upon request. In terms of commute peak hours, it is estimated that a maximum of approximately four trips (2 inbound and 2 outbound) are accessing the kennel during either the a.m. or p.m. commute peak hours.

Proposed Operations

Existing operations at the kennel would change slightly if the current application is approved. The facility would be permitted to care for up to 35 dogs with overnight lodging, including grooming and training. The overnight lodging has been requested by 100 percent of current clientele so that dogs can be cared for while their owners are on hospital stays, trips, extended care, or other reasons for expected durations between four nights and one month. The applicant is requesting

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Fresno, CA
93704-2515
559.325.7530
559.221.4940 fax

Sacramento
980 Ninth Street
16th Floor
Sacramento, CA
95814-2736
916.449.9095

Santa Rosa
1400 N. Dutton Avenue
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95401-4643
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under the proposed operations for the mix of dogs staying at the kennel to be between 5-10 percent for day care and the remaining 90-95 percent for overnight care. It is noted that the overnight care creates fewer daily trips per overnight unit than does the day care usage.

In terms of day care trips, the number of daily trips per dog would be four per day, i.e., one round trip to deliver the dog and one round trip to pick up the dog. Assuming a worst case of all overnight stays consisting of only four night duration, those same four trips per dog would be spread over four days and thus produce an average of one trip per dog per day, or 35 trips per day for 35 dogs staying overnight. It is understood that of those 35 trips per day, approximately 10-20 percent would be generated during typical weekday a.m. or p.m. peak hours, i.e. a maximum of 4-7 peak hour trips. The remaining 80-90 percent of daily trips is expected to continue accessing the facility during non-commute periods, since current clientele usually have no reason to travel during those periods. It should be noted that if the average dog stays longer than four nights, the kennel overall would generate fewer than the 35 maximum daily trips.

Based on our analysis of the proposed operations, TJKM estimates that a conservative maximum of seven (7) vehicle trips could be generated by the expanded kennel during either the a.m. or p.m. commute peak hour. Given this very low level of expected peak hour trips, the proposed kennel expansion is not expected to constitute a significant impact with respect to traffic operations. This same conclusion extends to the average dog staying longer than four nights, since the kennel as a result would generate fewer than seven peak hour trips.

Caltrans and Sonoma County Traffic Study Requirements

While the previous TJKM study in August 2011 assumed a maximum of 50 boarding dogs staying an average of four nights, the current study assumes fewer dogs (35) staying at least four nights. As a result, the maximum 10 peak hour trips originally assumed to be generated by the project during either a.m. or p.m. commute peak hours has dropped to a maximum of seven. Therefore, the proposed kennel expansion still does not trigger the need for a full traffic study based on Caltrans and Sonoma County requirements that were documented in the August 2011 TJKM study. Also, since the proposed operations would not modify the existing paved apron of Richards Road at SR 12, no Caltrans encroachment permit is required.

Collision History at SR 12/Richards Road

At Caltrans' request, TJKM conducted a vehicle collision analysis covering the most recent five-year history of collisions within 500 feet of the SR 12 / Richards Road intersection. The five-year history covers January 2007 to December 2011 at this location from the California Statewide Integrated Traffic Records System (SWITRS) database. Based on review of these five-year SWITRS records, there were four (4) reported collisions within 500 feet of the SR 12 / Richards Road intersection. None of these collisions involved bicycles or pedestrians. With a reported collision rate of less than one collision per year, in TJKM's experience this does not indicate an immediate safety concern for motorists, bicyclists, or pedestrians at this intersection.

It should further be noted that the reported SWITRS collisions are related to general traffic operations at the SR 12 / Richards Road intersection, and therefore are not attributable to the Meadows Kennel's driveway operations off Richards Road. The Meadows Kennel's two driveways are located approximately 130 feet and 230 feet from the northbound edge of SR 12. Since it has recently been observed that there are no existing vehicle queues into the applicant's driveway due to the staggered drop off and pick up times of current kennel clients, it can reasonably be concluded that existing kennel operations are not currently impacting traffic operations at the SR 12 / Richards Road intersection.

Existing Vehicle Speeds on SR 12 in Project Vicinity

Caltrans additionally requested a spot speed survey to determine current approximate vehicle speeds on SR 12 in the vicinity of Richards Road. TJKM conducted this survey along both directions of SR 12 at this location. The speed survey was conducted in a manner consistent with the recommended procedures and intent of Section 2B.13 of the California Manual on Uniform Traffic Control Devices (MUTCD). Speed data were collected on Thursday, April 5, 2012 during free-flow, weekday, midday off-peak hours using certified and calibrated radar guns operated by a certified technician. Data were collected on a day with fair weather, dry pavement, and clear visibility. An effort was made to ensure that the presence of radar survey equipment did not affect the speed of the traffic being surveyed.

In traffic engineering, the 85th-percentile speed, also known as the critical speed, is the primary indicator of the appropriate speed limit for a given section of roadway. The critical speed is the speed at or below which 85 percent of the spot sample speeds were observed traveling. Traffic engineers typically consider this observed critical speed to represent the prevailing speed of vehicles on the roadway, because 85 percent of the observed driver population travel at that speed or lower. During the survey, the critical speed observed was 57 miles per hour (mph), which is within close range of the study segment's 55 mph posted speed limit. A copy of the speed survey results are shown in Attachment A.

Available Sight Distance at Intersection

At the request of Caltrans, TJKM additionally conducted a field survey of available stopping sight distance at the Richards Road intersection with SR 12. Stopping sight distance is defined as the distance required to bring a vehicle to a complete stop given the time it takes for a driver to perceive, react, and brake in response to seeing an object in the roadway, such as a vehicle turning from Richards Road onto SR 12. From the perspective of drivers entering SR 12 from Richards Road, there is approximately 510 feet of available sight distance looking to the northwest for SR 12 vehicles coming over a vertical crest curve. Looking to the southeast, there is approximately 1,000 feet of stopping sight distance available, given that the approach is relatively flat.

Based on the latest Caltrans Highway Design Manual (HDM) Chapter 200, roadways with design speeds of 55 mph (the posted speed of SR 12 along this segment) require a minimum of 500 feet available stopping sight distance. Based the observed 510 feet to the northwest and 1,000 feet to the southeast, as well as Caltrans HDM standards, it is concluded that currently there is adequate stopping sight distance in either direction of SR 12 at Richards Road.

Conclusions

TJKM has reached the following conclusions with respect to the proposed Meadows Kennel expansion that could accommodate up to 35 dogs for overnight boarding:

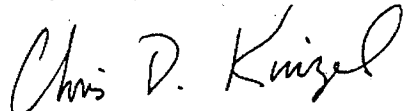
- *Traffic Impacts:* It is expected that the expansion of the Meadows Kennel will have a negligible impact on a.m. and p.m. peak hour traffic conditions in its vicinity. The proposed project is expected to generate a maximum of seven vehicle trips during either a.m. or p.m. peak hours. As such, the expansion still will not trigger the need for a full traffic study based on either Caltrans or Sonoma County guidelines.
- *Collision History:* Based on review of five-year SWITRS collision records, there were four (4) reported collisions within 500 feet of the SR 12 / Richards Road intersection. None of these collisions involved bicycles or pedestrians. With a reported collision rate of less than one collision per year, in TJKM's experience this does not indicate an immediate safety

concern at this intersection for motorists, bicyclists, or pedestrians. Also, these collisions are not attributable to existing kennel-related traffic operations.

- **SR 12/Richards Road Operations:** Given that the two existing kennel driveways are 130-230 feet from the northbound edge of SR 12 and there are no existing kennel-related vehicle queues currently spilling over onto Richards Road, it can be reasonably concluded that there are no current adverse impacts to SR 12/Richards Road intersection operations being caused by the kennel. In the future, when the expanded kennel is expected to generate a very low maximum of seven total peak hour trips, it is reasonable to expect that SR 12/Richards Road intersection operations will continue to remain acceptable.
- **Project Driveway Operations:** Given the lack of existing queue spillover from current kennel operations and the future expected kennel traffic generation of seven peak hour trips, it can reasonably be concluded that any future kennel vehicle queues can be successfully accommodated within the project driveway. In reality, however, such queues are expected to be unlikely, given that future project peak hour traffic generation is expected to be very similar to existing conditions and the applicant will continue to stagger arrivals of dog dropoffs and pickups to avoid vehicle stacking as is done currently.
- **Vehicle Speeds on SR 12:** TJKM observed a critical (85th percentile) vehicle speed of 57 mph along SR 12 in the project vicinity, which is within close range of the study segment's 55 mph speed limit (based on posted sign located just south of SR 12/Oakmont Drive signalized intersection).
- **Sight Distance:** Based on the latest Caltrans Highway Design Manual (HDM) Chapter 200, roadways with design speeds of 55 mph (which is the posted speed on SR 12 along this segment) require a minimum of 500 feet available stopping sight distance. Based the observed 510 feet of available sight distance to the northwest and 1,000 feet to the southeast, as well as Caltrans HDM standards, currently there is adequate stopping sight distance in either direction of SR 12 at Richards Road.

TJKM appreciates the opportunity to provide this supplemental traffic analysis for your project. Please contact me or Andrew Kluter, P.E. at (925) 463-0611 should you have questions or comments concerning this study.

Very truly yours,



Chris D. Kinzel, P.E.
President

CDK/ak

Enclosure: Attachment A: Spot Speed Study Results

Attachment A: Spot Speed Study

Prepared by: National Data Surveying Services

Sonoma County

Survey Time: 9:15-10:15

Street Width: 40 Ft

DATE: 4/5/2012

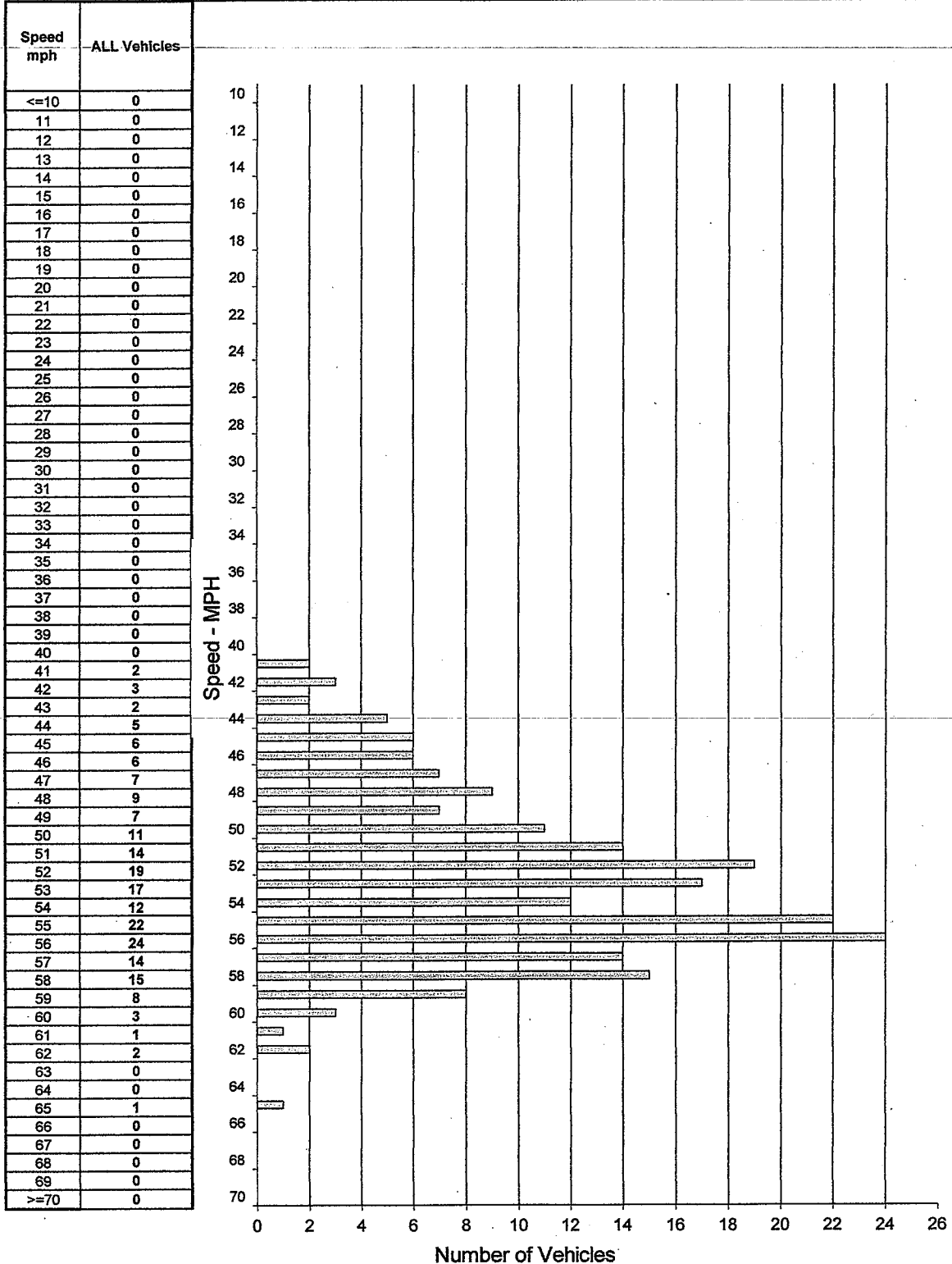
Location: 6445 Sonoma Highway, Santa Rosa, CA 95409

DAY: Thursday

Posted Speed: 55 MPH

Project #: 12-7127-001

Eastbound & Westbound Spot Speeds



SPEED PARAMETERS									
Class	Count	Range	50th Percentile	85th Percentile	10 MPH Pace	# in Pace	Percent in Pace	% / # Below Pace	% / # Above Pace
ALL	210	11 - 69	53 mph	57 mph	50 - 59	156	74%	22% / 47	4% / 7