

May 3, 2005

Mr. Bryce Hori
Mr. Enrique Saavedra
c: Mr. Ron Lundquist, Acting Director
Monterey County Public Works
312 E. Alisal Street
Salinas, CA 93901-4371

Re: Draft Traffic Report on Rancho Canada Residential Development, April 7, 2004, by Hexagon Traffic Consultants, Inc.

Gentlemen:

I have read the traffic report described above, and the following comments reflect my observations. My place of residence is in Carmel Views, just north of the proposed project site, in the mouth of Carmel Valley.

This traffic study is deeply flawed and should be summarily rejected. It appears to be an “analysis” created to arrive at certain desired results rather than a straightforward effort to understand the effects on local traffic of the development project at hand. “Analysis” clearly is the wrong word to characterize the document if by that is meant a responsible examination of probable outcomes, given accurate information and reasonable assumptions based on actual experience.

It should be noted at the outset that work of this type consists of a numerical (and thus presumably objective) exercise sandwiched between two sets of subjective judgments: a set of subjectively chosen initial assumptions on which calculations are based, and a set of subjective assessments of what the results of the calculations imply for policy decisions. In this particular study there are serious flaws at all three levels.

First, a quick spot-check of the numerical part reveals important difficulties:

1. On the Carmel Valley Road segment between Carmel Rancho Boulevard and Highway 1, according to figure 4, “existing traffic volumes,” 52 more vehicles enter the westbound lanes during morning peak times at Carmel Rancho Boulevard than exit at Highway 1, and there are no places to exit in between. Probably this is a measure of the statistical noise in the base data for vehicle counts, but it demonstrates that a proper effort to develop an internally consistent initial data set has not been undertaken. This raises concerns about the use of the existing data set to

arrive at results in which numbers of the same magnitude as this noise are to be considered critical evidence. The proper adjustments in a case like this would be to arrive at some consistent statistical fit of the initial data, with an upward bias to assure that errors are on the safe side.

2. Again, according to figure 4, a net inflow to the project area of 50 vehicles currently occurs during the morning peak times. The projected net inflow after completion of the project (figures 7 and 8) is 7 vehicles, indicating that only 43 vehicle exits would be generated during morning peak times by the 281-unit project. This seems highly improbable; the number is likely to be 3 or 4 times that, or even more because of the tendency of two members of a household to be commuting. (See the discussion of assumptions below.) Table 9 shows a net of 91 project-generated morning peak trips, which is (a) inconsistent with the number 43, and (b) substantially lower than the size and character of the project would seem to indicate.
3. Also, figure 4 shows the morning peak traffic westbound on Carmel Valley Road to have 1,224 vehicles entering section 9 at Carmel Middle School and 1,347 vehicles leaving at Carmel Rancho Boulevard. Between the intersections there is a source of 123 vehicles (modulo unknown statistical noise), which must be at the Rio Vista Drive intersection, not shown on the diagram. This information, instead of being ignored in the report, could have been used to provide a rough check on assumptions about trip generation from the project.
4. Comparison of figures 7 and 8 indicates that during morning peak times the existence of the Rio Road extension would generate the equivalent of 215 vehicles passing east-to-west through the project via Rio Road Extension, and 105 passing west-to-east via Rio Road Extension, or 320 morning peak vehicles on Rio Road Extension (see also p. 18), while the internal generation of trips is only 43 outward from the residential project. This means that almost 20% of the westbound Carmel Valley Road traffic would turn onto Rio Road Extension, presumably to avoid the middle-school traffic light, the Carmel Valley Road/Carmel Rancho Boulevard intersection and the additional traffic light on Carmel Rancho Boulevard, together with the associated traffic on Carmel Rancho Boulevard. It also means that 60% of the east-bound traffic on Rio Road would continue on Rio Road Extension rather than turn left at Carmel Rancho Boulevard, joining Carmel Valley Road at the Rio Road Extension/Carmel Valley Road intersection instead of at the Carmel Rancho Boulevard/Carmel Valley Road intersection.

There are at least two problems and perhaps a lesson in this scenario: (a) it seems very unlikely that the presumed choices actually would be made by the assumed fractions of drivers, for a number of reasons; (b) the residents of the project would likely object to 320 cars passing though at morning peak times, and try to find ways to make the Rio Road Extension route less desirable, through speed bumps and other devices, thus reducing significantly the likelihood of that choice of route; and (c) [this is the “lesson”] drivers do sometimes make route decisions based on the number of traffic lights involved and the delays associated with them, demonstrating a major flaw in the assertion (appearing by implication elsewhere in the report; see the top of p. 6, below) that traffic lights actually mitigate projected increases in traffic; usually they change the character of a problem rather than simply mitigate it.

The choice to divert half the westbound traffic that ordinarily turns left at the Carmel Valley Road/Carmel Rancho Boulevard intersection to the Rio Road Extension route is quite arbitrary. It is not clear what the motivation may be for assuming this projected diversion, but whatever it is, its use does not lend confidence to the objectivity and utility of the work in this document. (See discussion of assumptions below.)

5. Table 10 apparently contradicts figures 7 and 8 and table 9, indicating as it does that a net of 103 trips out of the project (151 out - 48 in) would be generated at the morning peak times. As discussed above, figures 7 and 8 imply that this number is 43, and table 9 gives 91. (Remember the 52 vehicles that disappeared on Carmel Valley Road between Carmel Rancho Boulevard and Highway 1? This is most generously interpreted as statistical *noise*, and the numbers just cited are of the same order of magnitude.)
6. Table 10 also is remarkable intrinsically, displaying the highly improbable assumption that the number of regional trips generated by the “affordable units” would be *negative* by exactly the number of *positive* regional trips generated by the market rate units. That the number of regional trips could be so exactly controlled by the development administrators, especially as the project matured, seems to demand more than a stretch of imagination. And even granting that imaginative fling, it is extraordinarily difficult to understand how this regional trip-saving fails to generate in its place a significant number of local trips, yet none are shown in table 10. (See the discussion of assumptions, below.)
7. It should be noted also that the critical segment 10 of Carmel Valley Road between Carmel Rancho Boulevard and Highway 1 is close to its threshold volume, if it has not exceeded it by now. Between 2001 and 2002 the volume on that segment rose by 1,140 and between 2002 and 2003 it rose by 2,438 bringing the volume 2 years ago to within 1,287 of the 27,839 threshold. Relatively small current additions, let alone additions by the time of the project’s development, plus additions of the magnitude the project realistically would generate would put it over threshold if it is not there already. (See attachments to the Public Works recommendation to the Monterey County Board of Supervisors on 2/1/2005.)

There certainly are more examples; the P.M. peak numbers are not even addressed here, nor are the overall daily volume numbers (except briefly in item 7 above). Even the limited discussion above demonstrates clearly that the numerical work is inconsistent, leads to unreasonable conclusions, and must be based on a variety of flawed assumptions and incoherent methods

The July 30, 2004 letter from the California Department of Transportation, over the signature of Keith Hinrichsen, indicates essentially the same assessment, based on additional observations distinct from those given above.

Second, some of the underlying assumptions, that is to say, initial subjective judgments, including the most fundamental of them, simply are not credible:

1. On p. 21 of the Hexagon report it is asserted that residents of affordable units will “both live and work in the same location, and not be contributing to traffic congestion into and out of the Valley on Highway 1 and Carmel Valley Road.” This certainly cannot be accomplished unless a condition of residency is that motor vehicle travel outside the project is forbidden. As a partial means of enforcement these units should have no garages, and should have provision for food and other necessities to be brought to them in bulk for local distribution; sufficient public transportation should be guaranteed in exchange. Obviously this is not anticipated for the project, and the assertion should be regarded as false. (The draconian claim that nonconforming residents will “face eviction or compulsory sale of their home” probably is not practically enforceable in

the long run and reflects one of the substantial problems with restrictions presumed or asserted to be associated with “inclusionary housing.” Certainly traffic analyses should not be conditioned on such claims.)

Even residents working in the Carmel/Carmel Valley area but outside the project, which would include nearly 100% of project residents whose travel to work is less than “regional,” would contribute to traffic and to congestion on Highway 1 and Carmel Valley Road; they would be leaving and re-entering the project. Only a few, at best, would be likely to be working within walking distance. The negative increments (and the small magnitudes of the positive increments) shown in column 8 of table ES1, consequently, are certainly incorrect in the real world.

Thus the claims of negative trip generation on Carmel Valley Road and Highway 1 are wrong. At a minimum the sign should be reversed, to positive; and a more likely scenario is that the total “regional trips” generated at morning peak times would be closer to double or even triple (taking into account two-job families) the 114 additional morning peak *out* trips that the sign change would produce by itself. This completely alters the character of the outcome.

The principal sleight of hand in this report occurs right here. The assertion is used to warrant the claim that a 281-unit residential enclave will produce no net *regional* traffic on surrounding roads and streets (see table 10). An additional obfuscation occurs in the varying terms used to define, or as synonymous with “local” traffic: “work trips” (table 10), or “shopping, social, recreational, school trips” (table 10, p. 21), or trips “primarily [in] the immediate Carmel Valley and Carmel area” (p. 22). And yet another occurs with “regional” traffic, variously described as “on Highway 1 and Carmel Valley Road” (p. 21), to and from “the Monterey-Carmel area, and to some extent Salinas, Watsonville and Santa Cruz” (p. 21), and “into the valley ... out of the valley” (p.21). *This vagueness seduces the unwary to miss the character and significance of unreasonable assertions about trip generation.*

(Use of the term of art “engineering judgment” (e.g. pp. 18, 22) where the expression “subjective estimate” would be more appropriate and accurate, also suggests greater objectivity than is warranted. This is standard but execrable usage in reports like this, execrable because far too often it is used to cover baseless assumptions. “Wild guess” is actually even more precise in most cases, because the term is unnecessary when there is solid ground for an estimate. “Engineering” attached as an adjective to “judgment” too often is intentionally deceptive.)

An evaluation of the claims made in these connections ought to have been undertaken by assessing, for example, the morning peak ingress-egress patterns at Arroyo Carmel, Riverwood, and Hacienda Carmel (and using the information available from item 3 of the numerical discussion above) and then taking into account the differences between those communities and the proposed project. Apparently no such effort was made.

2. Assumptions need to be checked for reasonableness against the changes they induce through application of the particular analytical model being used, for those changes may invalidate the original assumption (or the model) and require re-analysis. An obvious example is the assumption that half the existing westbound morning peak traffic turning left at Carmel Valley Road/Carmel Rancho Boulevard would prefer turning left at the Carmel Valley Road/Rio Road Extension once Rio Road Extension were available (p. 18); it does not take into account the likely reaction of residents of the project in such an eventuality. One immediate reaction of some

observers looking at that aspect of this study was that residents would insist on a 15 mph limit inside the project and some form of access limitation, raising questions about the likelihood of the initially presumed preference. The assumption leads to results inconsistent with the notion of a dense, predominantly pedestrian community.

3. That “many of the project trips would never reach the outlying street system [beyond Carmel Rancho Boulevard and Rio Road in the Cross Roads commercial area] ... because (1) most of the (non-negative) project trips are local trips, [and] (2) 50 percent of these would be destined for shopping at the Cross Roads commercial area” (p. 22) is totally without empirical justification and appears to fly in the face of local experience. If any study was made of shopping patterns in Riverwood or Arroyo Carmel, as a rough cut on which to base estimation, it is not mentioned in the report. Yet without such a study -- which probably would not support the assertion -- the related trip assignments are unjustified.

This is symptomatic of the character of critical assumptions throughout the report, and the results very likely would be altered dramatically by a proper empirical approach to estimation.

4. The applicability of the ITE *Trip Generation*, manual, 6th ed., 1997 standards (p. 19) to the current project is at least questionable. For example, the golf course trips measured at the Carmel Valley Road/Rio Road intersection are, respectively, 35% and 39% lower, for AM and P.M., than those given by the manual, according to the report (p.19). Similar comments apply to the use of the *Highway Capacity Manual 2000* (tables 1 - 3). Such manuals are necessary in these kinds of analysis, but their standards must be compared with relevant contemporary local data and adjusted accordingly to reflect actual local conditions.
5. In fact, the Rancho Canada facility is more than a golf course; it is a restaurant and meeting facility that caters to a rather large community of patrons and organizations. It is not clear how the traffic using the West course was distinguished from that using the East course, nor how these were distinguished from traffic using the restaurant facility (where, for example, group breakfasts sometimes are served and would affect morning peak traffic -- I do not know the precise pattern of restaurant and meeting use). This probably affects estimates of the loss of inbound traffic resulting from decommissioning of the West golf course. The effect may be small, but its absence in the analysis, given the role played in the report by the loss of golf traffic, is telling. Also, there is no distinction made for church traffic at the Carmel Valley Road/Rio Road intersection (perhaps negligible -- but we do not know). The point here is not the magnitudes of the potential errors, which, as in the example in item 4, might be quite small, but rather speaks to the cavalier attitude toward data and underlying assumptions.

Much more could be said about the many unsatisfactory initial subjective, often arbitrary judgments which, even when stated, are effectively masked by processing the assumptions through a numerical protocol. But the items above should be sufficient to make the point. The results of using bad assumptions many times are even worse than the assumptions themselves might seem to suggest; they may occasion unjustified decisions that are irrevocable but produce significant adverse consequences.

Third, subjective judgments about the numerical results are made to look “objective” by the use of boiler-plate language and dichotomous, or all-or-none, conclusions couched in narrowly defined terms

of art with meanings different from ordinary usage. (The repeated boiler-plate claim that “The project would have no impact on roadway segments” (e.g., p. v) does not comport with reasonable assessments of either every-day evidence or two-year-old [2003] data showing that segment 10 of Carmel Valley Road is close to, or perhaps by now already above LOS D volume threshold.) Further, purported mitigations (e.g., addition of traffic signals) often do not actually “make less severe” an impact, but rather change a problem from one form to another without assessing the issues created by the change (e.g., a closely spaced sequence of unsynchronized traffic lights with heavily used driveways or streets sandwiched between). These matters are not discussed in further detail here because the fundamental assumptions and numerical work covered above already are so deeply flawed that conclusions based on them are irrelevant. Nevertheless, an examination of the conclusions drawn in the report would provide further grounds for rejecting it as a suitable basis for decisions.

Traffic is a critical issue in Carmel Valley, and an honest, upright analysis of the effects on traffic generated by a development project must be demanded by local citizens and government alike, and delivered by those who would effect irrevocable changes in the local environment. Local government not only has a right to expect this, it is obligated to require it and to enforce that requirement.

It will not do to play word games in which the future of our community and the lands upon which it depends are at stake.

Developers and their public relations people make it their business to create dreams for the purpose of selling their intentions. Traffic analysts have no right to be deluded by such dreams, nor to engage in their creation or propagation, but have instead a responsibility to make realistic, evidence-based assessments of the probable outcome if those intentions were realized. Citizens quite properly expect professional analysts to exercise that duty fairly and without bias, using reliable evidence.

A remark by physicist and Nobel laureate Richard Feynman, made several years ago about the consequences of a famous irrevocable and disastrous decision, to launch the Challenger shuttle, is relevant here [for the word “technology” substitute “plan”]: “For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled.”

In summary, because the study is significantly inaccurate and based on misleading and incorrect assumptions, all relevant County departments should categorically reject the Draft Traffic Report on Rancho Canada Residential Development, April 7, 2004, by Hexagon Traffic Consultants, Inc.

Sincerely,

Timothy D. Sanders

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