

Revised Analysis of Quarry Falls Traffic Impact Study
(including Mitigated figures)
approved November 2010 by Serra Mesa Planning Group
prepared by James Feinberg

COMPARING HORIZON YEAR CONDITIONS WITH AND WITHOUT THE PHYLLIS PLACE CONNECTION

A careful study of the Horizon Year Roadway Segment Conditions¹ and Horizon Year Peak Hour Intersection Conditions² comparing traffic conditions with and without the Phyllis Place connection shows that **the Phyllis Place connection would actually be detrimental to the overall flow of traffic in the City**. Thus, we recommend against the Community Plan Amendment.

METHODOLOGY

The numerical analysis is based on “with minus without”, such that a positive number indicates that conditions are worse with the connection, and a negative number indicates that conditions are better with the connection.

NEGATIVE = BETTER WITH

POSITIVE = BETTER WITHOUT

The determination of whether or not the difference between with and without is significant is based upon Table 5, “Significant Transportation Impact Measure” from Section 7 of the City of San Diego’s Traffic Impact Study Manual (July 1998 final, page 18).

Significance on roadway segments is based on the traffic Volume to Capacity (V/C) ratio, a measure of congestion. Significance at intersections is based on the “average stopped delay per vehicle measured in seconds”. So in this analysis, we look at changes in V/C ratio for roadways and changes in delay time for intersections to determine the impact of adding the Phyllis Place connection.

RAMP METERS

The study looked at 12 metered freeway ramps under two assumptions. First, the most restrictive meter rate, to determine the most conservative delay. Second, the meter rate required to establish the 15 minute maximum delay required by the City.

According to the study, adding the road connection increased overall demand by an average of 17.1%.

In the first scenario, adding the road connection increased delay at 5 ramps, by a total of 193 minutes, and decreased delay at 3 ramps, by a total of -119 minutes. That’s 74 more minutes³ of ramp delay with the road connection.

¹ Tables 10-1 and 15-1, with mitigation data from tables 16-20 and 16-23, in the September 2007 Quarry Falls Traffic Impact Study prepared by Katz, Okitsu & Associates and included in the final PEIR for Quarry Falls.

² Tables 10-4 and 15-4, with mitigation data from tables 16-22 and 16-25, in the Quarry Falls Traffic Impact Study.

³ See Box 1 in Table 7, “Horizon Year Ramp Meter Conditions”

More relevant is the second scenario, with the 15 minute maximum delay. Without the road connection, all meter rates are able to be increased to meet this requirement, and every ramp has a delay of 15 minutes or less. **But with the road connection, 6 of the 12 ramps⁴ have a delay greater than the 15 minute maximum allowed by the City, including one ramp at 110 minutes!** What's more, the total delay over all ramps is now 143 minutes⁵ more with the connection than without.

ROADWAY SEGMENT CONDITIONS

In the overall study area, which includes 69 roadway segments, the average change in V/C ratio when comparing "With Phyllis Place" to "Without Phyllis Place" is -0.0009⁶. Even at its most restrictive, the City indicates a threshold of significance of 0.02, and this change is less than 1/20th of that. **There's basically no impact on the average V/C ratio when you look at the whole study area with or without the connection.**

When you break the segments up by area, you can get a little more detail. For the segments in Mission Valley (excluding those within the Quarry Falls project area), the average V/C improves by a marginal -0.035, or -4.8%⁷.

But for the segments in Quarry Falls, adding the Phyllis Place connection results in a detriment in the average V/C of +0.08 (+19.4%)⁸.

And when you combine Quarry Falls with the rest of Mission Valley (since it is part of that area), **the average V/C ratio in Mission Valley sees an overall change of only -0.01⁹ with the connection, which is below the City's level of significance. This belies the claim that the connection improves traffic in Mission Valley.**

In Serra Mesa, adding the connection will worsen V/C ratios by an average of +0.06 (+24.4%)¹⁰. While parts of Mission Center Road will see -28% and -29% improvements in V/C, parts of Murray Ridge Road will see +105% and +118% detriments in V/C, which far outweigh the gains on Mission Center Road.

We can also get some insight by looking at only the segments with significant changes to the V/C ratio. Those segments that see a significant improvement in V/C with the connection have an average change of -0.08 (-11.3%)¹¹. But the segments with a significant worsening have an average change of +0.29 (+69%)¹². **That's more than 3.5 times more impact to the streets that get worse with the connection than to the streets that get better.**

⁴ See Box 2 in Table 7, "Horizon Year Ramp Meter Conditions"

⁵ See Box 3 in Table 7, "Horizon Year Ramp Meter Conditions"

⁶ See Box 1 in Table 1, "All Roadways in Study Area"

⁷ See Box 1 in Table 2, "Roadways by Area"

⁸ See Box 2 in Table 2, "Roadways by Area"

⁹ See Box 3 in Table 2, "Roadways by Area"

¹⁰ See Box 4 in Table 2, "Roadways by Area"

¹¹ See Box 1 in Table 3, "Roadway Segments with Significant Change"

¹² See Box 2 in Table 3, "Roadway Segments with Significant Change"

INTERSECTION CONDITIONS

The study also looked at AM and PM conditions at 69 intersections. Overall, with the connection, AM conditions saw an average improvement of -1.05 seconds¹³ and PM conditions - 0.15 seconds¹⁴, both well below the City's significance thresholds, which start at 2 seconds. **So again, there's basically no impact on the average intersection delay when you look at the whole study area with or without the connection.**

Looking at the intersections by geographic area, we find that all of the data subgroups are still below the significance thresholds with the exception of Serra Mesa in PM, where there is an average improvement of -10 seconds¹⁵ with the connection.

If we look only at the intersections with significant changes in delay (comparing with or without the connection) we start to get some meaningful data.

In the AM, intersections with significant improvement see a delay change of -9.6 seconds (-24.8%)¹⁶ compared to those with significant worsening, which see a change of +7.8 seconds (26.6%)¹⁷. These are about equal.

But in the PM, the improved intersections see a -10.7 second (-23.2%)¹⁸ change, while the worsening intersections see a 25.35 second (76%)¹⁹ change. **That's 2.4 times more impact to the intersections that get worse with the connection than to the intersections that get better.**

SERRA MESA

Portions of Serra Mesa will see improvement with the Phyllis Place connection, but it will not be nearly as dramatic as the detriment seen in other parts of Serra Mesa.

The largest improvement will be on Mission Center road, which will see approximately 5,000 fewer ADTs (-29.7%) and a V/C improvement of -0.223 (-28.7%)²⁰. But at the top of the hill, Murray Ridge Road will see an increase of over 15,000 ADTs (+118.4%) and a V/C detrimental change of 0.394 (+118.7%)²¹, even after mitigation.

MISSION VALLEY

Some argue that the road connection is necessary to relieve congestion in Mission Valley. But the data does not support that claim.

¹³ See Box 1 in Table 4, "All Intersections in Study Area"

¹⁴ See Box 2 in Table 4, "All Intersections in Study Area"

¹⁵ See Box 8 in Table 5, "Intersections by Area"

¹⁶ See Box 1 in Table 6, "Intersections with Significant Change"

¹⁷ See Box 2 in Table 6, "Intersections with Significant Change"

¹⁸ See Box 3 in Table 6, "Intersections with Significant Change"

¹⁹ See Box 4 in Table 6, "Intersections with Significant Change"

²⁰ See Table 3, "Roadway Segments with Significant Change"

²¹ same

Let's begin by looking at those roadway segments in Mission Valley which have a significant change in V/C between the With and Without options. If we exclude the segments within the Quarry Falls project, the roadways in question in Mission Valley do see an average improvement in V/C of -0.058 (-7.7%)²². But when we add in Quarry Falls, where the roadways see an average worsening in V/C of +0.158 (+39.8%)²³, the overall change in Mission Valley on significantly affected roadways is only an average of -0.008 (+3.2%)²⁴, so for all intents and purposes, **the connection makes no difference for roadways in Mission Valley.**

We can also look at roadways in terms of Level of Service (LOS). By City standards, LOS "D" is the minimum acceptable. Adding the connection would move one only segment in Mission Valley over that magic line, up from an E to a D. But adding the connection would move two segments in Mission Valley in the wrong direction across that line, one from B to E and another from C to F, the lowest level possible²⁵.

Looking at significantly affected intersections in Mission Valley, there are only five in the AM peak hour. 3 of those are *better without the connection*. The difference between the average improved time and the average worsened time is 1.08 seconds²⁶, so **the connection makes no difference for intersections in Mission Valley in the AM Peak Hour.**

In the PM peak hour, the average improvement to significantly affected intersections in Mission Valley is -11.62 seconds. But the average worsening in Mission Valley is +25.35 seconds.²⁷
Intersections in Mission Valley in the PM Peak Hour are better *without* the connection.

And finally, let's look at freeway ramp meters. Without the connection, all of the ramp meters in the study area can be set to meet the City's requirement of a maximum 15 minute delay. But **adding the connection will result in unacceptable delays at 4 freeway ramps in Mission Valley**²⁸.

CONCLUSION

In conclusion, the data from the KOA traffic study clearly show that the Phyllis Place road connection would achieve only marginal improvement in only some parts of Mission Valley traffic flow and no significant change overall in Mission Valley or in the total study area. The Phyllis Place connection would, however, result in highly significant increases in congestion in Quarry Falls and Serra Mesa and overcrowding at the I-805 access point.

These negative impacts to Quarry Falls and Serra Mesa do not come with a mitigating benefit to the City, and so there can be no reason to approve the Phyllis Place connection.

²² See Box 3 in Table 8, "Roadway Segments with Significant Change in Mission Valley"

²³ same

²⁴ same

²⁵ See Table 2, "Roadways By Area"

²⁶ See Table 6, "Intersections with Significant Change"

²⁷ same

²⁸ See Table 7, "Horizon Year Ramp Meter Conditions"