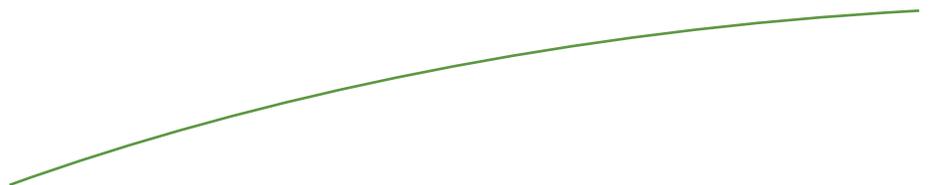
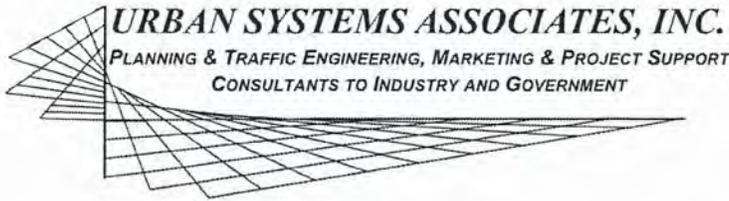




Appendix C.1

TRAFFIC IMPACT ANALYSIS OF REDUCED
MAIN STREET ALTERNATIVE





E-MEMO

ATTN: Robert Little – Kilroy Realty

E-Mail: ▼

rlittle@kilroyrealty.com

FROM: Andrew P. Schlaefli & Jacob Swim

TOTAL PAGES (Incl. Cover): 12 + Attachments (94)

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SUBJECT: One Paseo – Reduced Main Street Alternative Traffic Memorandum

As requested, we have completed an analysis of the Reduced Main Street Alternative which would be comprised of 1.4 Million SF. The purpose of the study is to determine the traffic impacts of the alternative in comparison to the proposed project (1.8 Million SF).

The following sections of this technical memorandum discuss the analysis results which are based upon attachments to this memorandum. This memo is divided into the following sections:

- Alternative Project Description & Trip Generation
- Project Only (By Phase)
- Existing Conditions
- Transportation Demand Management (TDM)
- Access Analysis
- Existing With Project (Phase 1)
- Existing With Project (Phase 1&2)
- Existing With Project (Build-out)
- Near Term With Project (Phase 1)
- Near Term With Project (Phase 1&2)
- Near Term With Project (Build-out)

- Long Term Cumulative Year 2030 With Project (Build-out)
- Conclusions & Recommendations

The analysis procedures, methodologies, and assumptions for the alternatives analysis are based on the same criteria used in our analysis of the proposed project with two exceptions. First, the analysis utilizes the City's current pedestrian-cross timings (longer than previously used, to account for greater proportion of slower pedestrians in the population) at study intersections. Second, the SANDAG forecasting model was modified to reflect the alternative project as well as additional elements of the Pacific Highlands Ranch project. The prior SANDAG model inadvertently omitted portions of the Pacific Highlands Ranch project. Based on the alternative project trip generation and project distribution resulting from the new model, the alternative project study area remained the same as the originally proposed project study area. Further, the distribution of the alternative project prepared by the new model run was similar to the model run for the originally proposed project. Therefore, the same distribution was used for the alternative project analysis.

The alternative project analysis results in no changes to the impacts or mitigation compared to the proposed project, see **Attachment 1**. Although the numerical results differ slightly, the impacts of the alternative project do not change based on the City's significance criteria, and the proposed mitigation is unchanged.

Alternative Project Description & Trip Generation

The alternative project consists of an overall lower floor area of 1.4 million SF from the proposed project of 1.8 million SF. **Attachment 1-1** shows the alternative site plan.

Attachment 2 provides a development summary for each phase of the alternative. The office development square footage analyzed in this memo is slightly greater than that proposed by the applicant in **Attachment 2**. Due to further refinements of the alternative which occurred following our analysis, the total office square footage contained in the alternative plan is 492,840 square feet of gross floor area (with 484,000 square feet of gross leasable area), and therefore less than the 497,000 square feet of office uses assumed in our study (see **Attachment 3** trip generation assumptions). The square footage difference is not significant and the analysis is conservative, slightly over-estimating traffic generation in comparison to the amount of office use now proposed. Also note that terminology used in **Attachments 2 and 3** differ somewhat with regard to office uses.

Attachment 3 characterizes the office uses consistent with terminology used in the City's Trip Generation Manual (corporate office and multi-tenant office) whereas **Attachment 2** uses the terms corporate office and professional office which are contained in the project description in the draft EIR. These are various terms typically associated with commercial office use. As with the original traffic study, for trip generation analysis in all phases this memo uses the City's Trip Generation Manual terminology.

For comparison, Table 2-1 from the original traffic study, attached hereto as **Attachment 2-1**, describes the proposed project which contained 806,000 square feet of office and retail development, a 150 room hotel, and 608 multi-family residential units.

As shown in **Attachment 3**, the alternative in Phase 1 would generate 10,596 average daily trips (ADT) using driveway rates. The proposed project Phase 1 would generate 10,262 ADT. A credit for mixed use trip reductions has been used for the alternative which provides a total reduction of 352 ADT. After taking credit for the mixed use reductions, the net new driveway trips for the alternative Phase 1 is 10,245 ADT with 851 AM peak hour trips and 1,195 PM peak hour trips. With mixed use reductions, the proposed project would generate 9,888 ADT with 894 AM peak hour trips and 1,188 PM peak hour trips.

As shown in **Attachment 4**, the alternative in Phase 1 & 2 would generate 18,579 ADT using driveway rates. The proposed project Phase 1&2 would generate 18,419 ADT. A credit for mixed use reductions has been used for the alternative which provides a total reduction of 549 ADT. After taking credit for the mixed use reductions, the net new driveway trips for the alternative Phase 1&2 is 18,030 ADT with 1,127 AM peak hour trips and 2,014 PM peak hour trips. With mixed use reductions, the proposed project would generate 17,812 ADT with 1,182 AM peak hour trips and 2,021 PM peak hour trips.

As shown in **Attachment 5**, the alternative in Build-out would generate 24,934 ADT using driveway rates. The proposed project Build-out would generate 28,365 ADT. A credit for mixed use reductions has been used for the alternative which provides a total reduction of 1,081 ADT. After taking credit for the mixed use reductions, the net new driveway trips for the alternative Build-out is 23,854 ADT with 1,377 AM peak hour trips and 2,568 PM peak hour trips. With mixed use reductions, the proposed project would generate 26,961 ADT with 1,538 AM peak hour trips and 2,932 PM peak hour trips.

Project Only (By Phase)

The distribution percentages for the alternative are the same as the distribution used for the proposed project. For a full discussion on the project's distribution, refer to Section 3.2 in the approved traffic study.

The alternative's ADT volumes for Phase 1 are shown in **Attachment 6**. For AM/PM peak hour volumes in Phase 1, see **Attachment 7**.

For project only street segment ADT volumes for Phase 1&2, refer to **Attachment 8**. **Attachment 9** shows the AM/PM peak hour volumes in Phase 1&2.

Attachment 10 shows the project only ADT volumes for Build-out of the alternative. **Attachment 11** includes the AM/PM peak hour traffic volumes in Build-out.

Existing Conditions

Existing conditions are set forth in Section 5.0 of the original traffic study. For convenience, several tables are reproduced as attachments hereto. **Attachment 12** shows the average daily traffic volumes in the existing condition. The street segment analysis is provided in **Attachment 13**. Existing lane configurations is shown in **Attachment 14** and peak hour volumes in **Attachment 15**. The existing intersection levels of service are provided in **Attachment 16**, freeway segment levels of service in **Attachment 17**, and ramp meter analysis in **Attachment 18**.

Transportation Demand Management (TDM)

The Transportation Demand Management (TDM) has changed from the proposed project. Please reference the updated TDM plan in Appendix J dated February 28, 2013 for a full discussion of the strategy designed to reduce traffic impacts by the project.

Access & On-Site Analysis

The Access and On-Site Analysis has not changed from the proposed project. The previous analysis remains valid for the alternative since the proposed project represents a worst case scenario. Traffic is reduced in the alternative at build-out compared to the proposed project and all stop controlled intersections on-site operate at acceptable levels of service. Please refer to Section 14.0 in the approved traffic study for an analysis and discussion of on-site traffic.

Existing + Project (Phase 1)

This section discusses the analysis results when adding the alternative only traffic in Phase 1 to the existing condition. **Attachment 19** shows the Existing with Project (Phase 1) average daily traffic volumes. Street segment levels of service are provided in **Attachment 20** showing three segments operating at unacceptable levels of service.

Attachment 21 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 22** showing only one intersection operating at an unacceptable level of service.

Freeway segment levels of service were evaluated in the Existing with Project (Phase 1) scenario, see **Attachment 23**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 24**.

Existing + Project (Phase 1&2)

This section discusses the analysis results when adding the alternative only traffic in Phase 1&2 to the existing condition. **Attachment 25** shows the Existing with Project (Phase 1&2) average daily traffic volumes. Street segment levels of service are provided in **Attachment 26** showing three segments operating at unacceptable levels of service.

Attachment 27 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 28** showing only one intersection operating at an unacceptable level of service.

Freeway segment levels of service were evaluated in the Existing with Project (Phase 1&2) scenario, see **Attachment 29**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 30**.

Existing + Project (Build-out)

This section discusses the analysis results when adding the alternative only traffic in build-out to the existing condition. **Attachment 31** shows the Existing with Project (Build-out) average daily traffic volumes. Street segment levels of service are provided in **Attachment 32** showing four segments operating at unacceptable levels of service.

Attachment 33 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 34** showing two intersections operating at unacceptable levels of service.

Freeway segment levels of service were evaluated in the Existing with Project (Build-out) scenario, see **Attachment 35**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 36**.

Near Term + Project (Phase 1)

The ten cumulative projects evaluated in the approved traffic study did not change in the alternative analysis. For detailed information on the cumulative projects along with traffic volumes, refer to Section 7.0 in the approved traffic study. Traffic from the cumulative projects was added to existing traffic to reflect a "Near Term" scenario. Since the existing condition did not change and the cumulative projects did not change, then the Near Term without Project scenario and analysis did not change in the alternative. A full analysis of the Near Term without Project scenario can be found in Section 8.0 of the approved traffic study.

This section discusses the analysis results when adding the alternative only traffic in Phase 1 to the Near Term condition. **Attachment 37** shows the Near Term with Project (Phase 1) average daily traffic volumes. Street segment levels of service are provided in **Attachment 38** showing three segments operating at unacceptable levels of service.

Attachment 39 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 40** showing three intersections operating at unacceptable levels of service.

Freeway segment levels of service were evaluated in the Near Term with Project (Phase 1) scenario, see **Attachment 41**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 42**.

Near Term + Project (Phase 1&2)

This section discusses the analysis results when adding the alternative only traffic in Phase 1&2 to the Near Term condition. **Attachment 43** shows the Near Term with Project (Phase 1&2) average daily traffic volumes. Street segment levels of service are provided in **Attachment 44** showing four segments operating at unacceptable levels of service.

Attachment 45 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 46** showing four intersections operating at unacceptable levels of service.

Freeway segment levels of service were evaluated in the Near Term with Project (Phase 1&2) scenario, see **Attachment 47**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 48**.

Near Term + Project (Build-out)

This section discusses the analysis results when adding the alternative only traffic in Build-out to the Near Term condition. **Attachment 49** shows the Near Term with Project (Build-out) average daily traffic volumes. Street segment levels of service are provided in **Attachment 50** showing four segments operating at unacceptable levels of service.

Attachment 51 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 52** showing five intersections operating at unacceptable levels of service.

Freeway segment levels of service were evaluated in the Near Term with Project (Build-out) scenario, see **Attachment 53**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange is provided in **Attachment 54**.

Long Term Cumulative Year 2030 + Project (Build-out)

The Long Term Cumulative Year 2030 without Project scenario volumes did not change significantly (less than 1%), so therefore, the volumes used for analysis remained the same as in the proposed project. For example, along Del Mar Heights Road between High Bluff Drive and First Avenue, the future volume is projected to be 43,200 ADT vs. 42,900 ADT in the proposed project. The small increase of 300 daily trips (less than 1%) is the result of additional traffic from the future Pacific Highlands Ranch project. The slight increase along major arterials such as Del Mar Heights Road and El Camino Real (typically 100 ADT) would not change the results of the analysis. Therefore, the future Year 2030 volumes from the proposed project were used for the Reduced Main Street Alternative analysis. For a full discussion of how the Long Term Cumulative Year 2030 without project volumes were developed and complete analysis, refer to Section 12.0 in the approved traffic study.

Long Term Cumulative Year 2030 with Project volumes were derived by adding the alternative (Build-out) traffic to Long Term Cumulative Year 2030 without Project traffic. **Attachment 55** shows the Long Term Cumulative Year 2030 with Project (Build-out) average daily traffic volumes. Street segment levels of service are provided in **Attachment 56** showing three segments operating at unacceptable levels of service.

Attachment 57 shows the AM and PM peak hour traffic volumes. Intersection levels of service are shown in **Attachment 58** showing five intersections operating at unacceptable levels of service.

Freeway segment levels of service were evaluated in the Long Term Cumulative Year 2030 with Project (Build-out) scenario, see **Attachment 59**. As shown, all freeway segments operate at acceptable levels of service. A ramp meter analysis at the I-5 / Del Mar Heights Road interchange, SR-56 EB on-ramp / El Camino Real, and SR-56 EB on-ramp / Carmel Country Road is provided in **Attachment 60**.

Conclusions & Recommendations

Based on the alternative project analysis, the significant impacts and mitigation identified in the March 23, 2012 traffic study are unchanged. While the alternative would reduce the overall ADT, it would not avoid any of the significant traffic impacts associated with the proposed project. Nevertheless, the impacts to street segments, intersections, and ramp meters would be less severe due to the decrease in the overall trip generation of the Reduced Main Street Alternative.

The development of the alternative would have the following transportation impacts:

Direct Impacts – Existing + Project Scenario

Streets Segments:

The alternative in the Existing with Project (Phase 1) scenario has three (3) significant direct street segment project impacts as shown in **Attachment 61**. In Existing with Project (Phase 1&2), the alternative has three (3) significant direct street segment project impacts as shown in **Attachment 62**. **Attachment 63** shows the alternative has four (4) significant direct street segment project impacts in the Existing with Project (Build-out) scenario.

Intersections:

The alternative in the Existing with Project (Phase 1) scenario has no significant direct project intersection impacts as shown in **Attachment 64**. In Existing with Project (Phase 1&2), the alternative has one (1) significant direct intersection impact as shown in **Attachment 65**. **Attachment 66** shows the alternative has one (1) significant direct intersection project impact in the Existing with Project (Build-out) scenario.

Freeway Main-lanes:

The alternative in the Existing with Project (Phase 1), (Phase 1&2), and (Build-out) scenarios have no significant direct project freeway main-lane impacts as shown in **Attachment 67, 68, and 69** respectively.

Freeway Ramp Meters:

The alternative in the Existing with Project (Phase 1), (Phase 1&2), and (Build-out) scenarios have no significant direct project freeway ramp meter impacts as shown in **Attachment 70, 71, and 72** respectively.

Direct Impacts Continued – Near Term Scenario

Streets Segments:

The alternative in the Near Term with Project (Phase 1) scenario has three (3) significant direct street segment project impacts as shown in **Attachment 73**. In Near Term with Project (Phase 1&2), the alternative has three (3) significant direct street segment project impacts as shown in **Attachment 74**. **Attachment 75** shows the alternative has four (4) significant direct street segment project impacts in the Near Term with Project (Build-out) scenario.

Intersections:

The alternative in the Near Term with Project (Phase 1) scenario has one (1) significant direct project intersection impact as shown in **Attachment 76**. In Near Term with Project (Phase 1&2), the alternative has three (3) significant direct intersection impacts as shown in **Attachment 77**. **Attachment 78** shows the alternative has four (4) significant direct intersection project impacts in the Near Term with Project (Build-out) scenario.

Freeway Main-lanes:

The alternative in the Near Term with Project (Phase 1), (Phase 1&2), and (Build-out) scenarios have no significant direct project freeway main-lane impacts as shown in **Attachment 79, 80, and 81** respectively.

Freeway Ramp Meters:

The alternative in the Near Term with Project (Phase 1), (Phase 1&2), and (Build-out) scenarios have no significant direct project freeway ramp meter impacts as shown in **Attachment 82, 83, and 84** respectively.

Long Term Cumulative Impacts – Year 2030 With Project Scenario

Streets Segments:

The alternative in the Year 2030 with Project (Build-out) scenario has three (3) significant long term cumulative street segment project impacts as shown in **Attachment 85**.

Intersections:

The alternative in the Year 2030 with Project (Build-out) scenario has seven (7) significant long term cumulative project intersection impacts as shown in **Attachment 86**.

Freeway Main-lanes:

The alternative in the Year 2030 with Project (Build-out) scenario has no significant long term cumulative project freeway main-lane impacts as shown in **Attachment 87**.

Freeway Ramp Meters:

The alternative in the Year 2030 with Project (Build-out) scenario has three (3) significant long term cumulative project freeway ramp meter impacts as shown in **Attachment 88**.

Mitigation

Attachment 89 shows a summary of the proposed mitigation as the alternative is constructed by phase.

Attachment 90 summarizes the “with project” levels of service which may be expected at intersections mitigated by the alternative. **Attachment 91** summarizes the “with project” levels of service which may be expected at street segments mitigated by the alternative.

Attachment 92 shows a summary of the improvements and fair share contributions to the intersections that have significant impacts as a result of the alternative. **Attachment 93** shows a summary of the improvements and fair share contributions to the street segments and ramp meters that have significant impacts as a result of the alternative.

The roadway improvements for the alternative are unchanged from the proposed project, however, the fair share contributions are reduced. **Attachments 92 and 93** provide the fair share percentages for each proposed improvement to street segments, intersections, or ramp meters.

Attachment 94 shows a summary of project features at the project's access.

If you have any questions or need additional information, please contact our office.

Appendix A – SANDAG Series 11 Year 2030 Traffic Model for Alternative

Appendix B – Existing + Project (Phase 1) Synchro Worksheets

Appendix C – Existing + Project (Phase 1&2) Synchro Worksheets

Appendix D – Existing + Project (Build-out) Synchro Worksheets

Appendix E – Near Term + Project (Phase 1) Synchro Worksheets

Appendix F – Near Term + Project (Phase 1&2) Synchro Worksheets

Appendix G – Near Term + Project (Build-out) Synchro Worksheets

Appendix H – Year 2030 + Project (Build-out) Synchro Worksheets

Appendix I – NT+P (Phase 1&2); NT+P (Build-out); and Year 2030 + Project (Build-out) With Mitigation Synchro Worksheets

Appendix J – Transportation Demand Management Program