NEGATIVE DECLARATION

FILE: DR08-0003-R

PROJECT NAME: Saratoga Retail

NAME OF APPLICANT: Peter L. Navarra

ASSESSOR'S PARCEL NO.: 120-690-07 and 120-690-08 **SECTION:** 2 **T:** 9N **R:** 8E

LOCATION: The property is located on the west side of El Dorado Hills Boulevard and south of the intersection with Saratoga Way in the El Dorado Hills Area. Supervisory District 1.

☐ **GENERAL PLAN AMENDMENT: FROM: TO:**

☐ **REZONING: FROM: TO:**

☐ **TENTATIVE PARCEL MAP** ☐ **SUBDIVISION TO SPLIT ACRES INTO LOTS SUBDIVISION (NAME):**

☐ **SPECIAL USE PERMIT TO ALLOW:**

☒ **OTHER:** Design Review

REASONS THE PROJECT WILL NOT HAVE A SIGNIFICANT ENVIRONMENTAL IMPACT:

☒ **NO SIGNIFICANT ENVIRONMENTAL CONCERNS WERE IDENTIFIED DURING THE INITIAL STUDY.**

☐ **MITIGATION HAS BEEN IDENTIFIED WHICH WOULD REDUCE POTENTIALLY SIGNIFICANT IMPACTS.**

☐ **OTHER:**

In accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), State Guidelines, and El Dorado County Guidelines for the Implementation of CEQA, the County Environmental Agent analyzed the project and determined that the project will not have a significant impact on the environment. Based on this finding, the Planning Department hereby prepares this NEGATIVE DECLARATION. A period of thirty (30) days from the date of filing this negative declaration will be provided to enable public review of the project specifications and this document prior to action on the project by COUNTY OF EL DORADO. A copy of the project specifications is on file at the County of El Dorado Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This Negative Declaration was adopted by the Planning Commission on December 14, 2017.

_____

Executive Secretary

Exhibit O

EL DORADO COUNTY PLANNING SERVICES
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

INITIAL STUDY
ENVIRONMENTAL CHECKLIST

Project Title: DR08-0003-R/ Saratoga Retail

Lead Agency Name and Address: El Dorado County, 2850 Fairlane Court, Placerville, CA 95667

Contact Person: Efren Sanchez, Assistant Planner | **Phone Number:** (530) 621-6591

Applicant's Name and Address: Peter J. Navarra, 3220 Northrop Ave. Sacramento, CA 95864

Project Agent's Name and Address: Dana J. Moore, 785 Orchard Drive, Suite 110 Folsom, CA 95630

Project Engineer's Name and Address: Chris Schulze TSD Engineering, Inc. 785 Orchard Drive, Suite 110 Folsom, CA 95630

Project Location: The property is located on the west side of El Dorado Hills Blvd at the intersection with Saratoga Way in the El Dorado Hills area.

Assessor's Parcel Number: 120-690-07, 120-690-08 **Acres:** 0.748/0.962 acres

Sections: Sec. 2 **T:** 9N **R:** 8E

General Plan Designation: Commercial (C)

Zoning: Community Commercial- Design Review-Community(CC-DC)

Description of Project: Design Review Revision to add 1 building, reduce the square footage by 6,907 square feet, and add two drive-through restaurants to DR08-0003/The Shops at El Dorado Hills, which was approved by the Planning Commission on January 22, 2009. The site revision splits building 2 into buildings 2A and 2B as detached buildings. Building 2A includes a drive-through restaurant of 2,800 square feet and building 2B is a proposed retail commercial building of 3,000 square feet. Building 3 would decrease its square footage to 4,658 with the change from restaurant to a drive-thru restaurant.

Surrounding Land Uses and Setting:

	Zoning	General Plan	Land Use/Improvements
Site	CC-DC	C	Undeveloped
North	CC-DC	C	Commercial Development
South	CC/TC	C/AP	US Highway 50 Access Ramp
East	CC-DC	C	Commercial Development
West	RM-DC	MFR	Multi-family Residential

Briefly describe the environmental setting: The project site is comprised of two undeveloped lots totaling approximately 1.71 acres in size at an elevation of approximately 630-feet above sea level. The site is situated at the west side of El Dorado Hills Blvd at the intersection with Saratoga Way in the El Dorado Hills area. The project sight has been roughly graded and used for Caltrans staging for Hwy 50 interchange work; there are no trees on the property. No sensitive plant or animal species were found onsite. The project site is located in Rare Plant Mitigation Area 2. No cultural resources exist onsite.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)

1. Community Development Services – Building Services
2. El Dorado County Air Quality Management District
3. El Dorado County Department of Transportation

4. El Dorado County Fire Protection District

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture and Forestry Resources		Air Quality
	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards & Hazardous Materials		Hydrology / Water Quality
	Land Use / Planning		Mineral Resources		Noise
	Population / Housing		Public Services		Recreation
	Transportation/Traffic		Tribal Cultural Resources		Utilities / Service Systems

DETERMINATION

On the basis of this initial evaluation:

☒ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and 2) has been addressed by Mitigation Measures based on the earlier analysis as described in attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION, pursuant to applicable standards; and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or Mitigation Measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: 11/2/17

Printed Name: Efren Sanchez, Assistant Planner For: El Dorado County

Signature: _____ Date: 11-2-17

Printed Name: Roger Trout, Director of Planning and Building Department For: El Dorado County

PROJECT DESCRIPTION

Introduction

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from the proposed project.

Project Description

Design Review Revision to add 1 building, reduce the square footage by 6,907 square feet, and add two drive-through restaurants to DR08-0003/The Shops at El Dorado Hills, which was approved by the Planning Commission on January 22, 2009. The site revision splits building 2 into buildings 2A and 2B as detached buildings. Building 2A includes a drive-through restaurant of 2,800 square feet and building 2B is a proposed retail commercial building of 3,000 square feet. Building 3 would decrease its square footage to 4,658 with the change from restaurant to a drive-thru restaurant.

Project Location and Surrounding Land Uses

The property is located on the west side of El Dorado Hills Blvd at the intersection with Saratoga Way in the El Dorado Hills Area. The site is in El Dorado Hills community region and is within a commercial district. The surrounding land uses are residential development to the west and northwest, commercial development to the north and east, and road development (Highway 50) and commercial development across Highway 50 to the south.

Project Characteristics

1. Transportation/Circulation/Parking

   The primary access to the site would be from an existing encroachment onto Saratoga Way, a County maintained road (Phase I). The addition to the project (Phase II), two additional driveways will serve the site; one full access drive south of the main site driveway, and one egress-only driveway at the south end of the project site. The El Dorado County Transportation Division (EDCTD) and the El Dorado Hills Fire Protection District have reviewed the proposed access and circulation for the project. The EDCTC analyzed the submitted focused traffic analysis and recommended modifications to conditions of approval (DR08-0003), such as the additional driveway between building 2B and building 3 shall be designed as a right-in, right-out only driveway. The applicant shall obtain approval of the final design of this driveway from the Department of Transportation prior to issuance of any building permit for buildings 2A, 2B, or 3. The project proposes to utilize 68 off-street parking spaces, which would be adequate parking in accordance with section 130.35.030 of the County Zoning Ordinance.

2. Utilities and Infrastructure

   There are existing electrical facilities that would be extended within the parcel of the project. Domestic water service is available at the site but requires upgrades of a 10-inch water line to provide both fire flow and receive service, as required by the El Dorado Irrigation District (EID). It appears that part of the existing 10-inch water line and associated dedicated easement are in conflict with a proposed building, therefore, coordination for the abandonment of easement shall be done with EID prior to any grading activity occurs on site. The site has a 21-inch gravity sewer line abutting the southern property line, which has the adequate capacity for the proposed buildings.

3. Construction Considerations

   Construction of the project would consist of on-site road encroachment, sidewalks, grading improvements; utility trenching and drainage system installation; erosion control measures; construction of facility structures, parking lot paving and landscaping, and associated improvements. Both building and grading permits will be required.

4. CEQA Section 15183. Projects Consistent with a Community Plan, General Plan, or Zoning.

   a. CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare environmental studies.

   b. In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:

      1. Are peculiar to the project or the parcel on which the project would be located,

      2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,

      3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or

      4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more adverse impact than discussed in the prior EIR.

Project Schedule and Approvals

This Initial Study is being circulated for public and agency review for a 30-day period. Written comments on the Initial Study should be submitted to the project planner indicated in the Summary section, above. Following the close of the written comment period, the Initial Study will be considered by the Lead Agency in a public meeting and will be certified if it is determined to be in compliance with CEQA. The Lead Agency will also determine whether to approve the project.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. If the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is a fair argument that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of Mitigation Measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the Mitigation Measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL IMPACTS

I. **AESTHETICS.** *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?			**X**	
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**
c. Substantially degrade the existing visual character quality of the site and its surroundings?			**X**	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			**X**	

Discussion:

A substantial adverse effect to Visual Resources would result in the introduction of physical features that are not characteristic of the surrounding development, substantially change the natural landscape, or obstruct an identified public scenic vista.

a. **Scenic Vista:** A review of the Important Public Scenic Views identified in the El Dorado County General Plan revealed that the only scenic vista near the project site would be from southbound Salmon Falls Road between Highway 49 and the Folsom Reservoir towards the south and west. The project site is located east of Salmon Falls Road and would not affect views at this scenic vista. The project site would not be visible from any other identified public scenic vista; therefore, the proposed project would have no impact on scenic vistas.

b. **Scenic Highways:** The nearest state scenic highway to the project would be Highway 50 from Placerville to South Lake Tahoe. The project site is located over 17 miles west of this portion of Highway 50. The proposed project will be visible from Highway 50 in the El Dorado Hills area, which is not a scenic corridor. Because the project is not located adjacent to a designated scenic highway, it would have no impact on scenic resources within a state scenic highway.

c. **Visual Character:** The project will significantly change the existing visual character from vacant land to developed commercial land with associated buildings, parking, landscaping, and lighting. This change will result in a less than significant change in visual character as seen from residential property west and northwest of the site, which will no longer have unimpeded views across the vacant Phase II of the site towards development east of the site and hillside views in the background. Nevertheless, the El Dorado County General Plan and Zoning Ordinance has designated this land as commercial, with anticipated potentially significant impacts in the General Plan EIR (available for review online at http://co.el-dorado.ca.us/Planning/GeneralPlanEIR.htm or at 2850 Fairlane Court, Placerville, CA 95667) resulting from the development of land associated with commercially zoned property adjacent to residentially zoned property. Design elements have been incorporated into the project to soften views of the project from surrounding residential properties, and to ensure that the project is consistent with surrounding commercial development. These design elements include landscaping, articulated/stepped walls, tower elements of varying heights, arches, stone veneer on retaining walls, trellises with creeping vines, and relatively large windows as seen from residential development to the west. Other design elements include the use of colors and hues consistent with surrounding residential and commercial development.

Thus, residents will not be looking at flat, unarticulated walls devoid of character or landscaping and monotone color schemes typical of the rear walls of commercial buildings.

The proposed project would not be anticipated to significantly degrade the visual character or quality of the site and its surroundings in ways not anticipated for lands designated by the General Plan for commercial land uses. The project site is designated with a Design Community (DC) combined zone to ensure architectural supervision and consistency with the community design guidelines and standards. The project design, through incorporation of architectural features and styling, proposed construction materials, and colors of the physical elements, were analyzed for consistency. The project was determined to be substantially consistent with the Community Design Standards, and was reviewed for consistency with General Plan Policies as well as substantial conformance. The project impacts would be less than significant with proposed design and conditions.

d. **Light and Glare:** The lighting associated with commercial development on this site would create new sources of light and glare that will have an impact on residential development to the west. As it relates to changing the character of this parcel from vacant land that generates no light to a lighted commercial parcel, which is similar to existing commercial development in the area. All future outdoor lighting for new development is required conformance to Section 130.34 of the El Dorado County Zoning Ordinance, and be fully shielded pursuant to the Illumination Engineering Society of Northern America's (IESNA) full cut-off designation. This ordinance requires that no light spills over onto adjacent properties as demonstrated by a photometric study that will be reviewed for compliance during the building permit process. The impacts would be less than significant.

Finding: The proposed project has the potential to result in the construction of 10,134 square feet of commercial development consisting of buildings, landscape, lighting, and parking. This development is entirely consistent with the character of surrounding commercial development. Although, the proposed project will result in a change in the current character of the property, the property is designated and zoned for the proposed use and has incorporated design features to ensure compatibility with surrounding commercial development and soften impacts to surrounding residential development. For the "Aesthetics" category, the thresholds of significance have not been exceeded. As conditioned and with adherence to El Dorado County Code of Ordinances (County Code), applicable General Plan Policies, and the Community Design Standards, no significant environmental impacts to aesthetics would be anticipated to result from the project.

II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by California Department of forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Locally Important Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				**X**

II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by California Department of forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				**X**
d. Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				**X**

Discussion: A substantial adverse effect to Agricultural Resources would occur if:

- There is a conversion of choice agricultural land to non-agricultural uses, or impairment of the agricultural productivity of agricultural land;
- The amount of agricultural land in the County is substantially reduced; or
- Agricultural uses are subjected to impacts from adjacent incompatible land uses.

a. **Conversion of Prime Farmland.** The proposed project would not convert any prime farmland, unique farmland, farmland of statewide importance, or locally important farmland to non-agricultural use. The El Dorado County Resource Conservation District has reviewed the project and did not identify important Agricultural Preserves or Districts within the project area. This property is located within an urban community and designated and zoned for the proposed use. There would be no impact.

b. **Williamson Act Contract.** The project site is not currently under Williamson Act Contract, nor would the site qualify for a contract under the Williamson Act. There are no agricultural activities within the vicinity of the project site, nor are any lands in the vicinity of the project designated or zoned for agricultural. There would be no impact.

c. **Non-agricultural Use.** This project is located in an area designated for commercial uses. There are no agricultural opportunities available in close proximity to the project site which may be impacted by development of the proposed property. As such, there would be no impact.

Findings: No impacts to agricultural land are expected and no mitigation is required. For this "Agriculture" category, there would be no impact.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			**X**	
d. Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e. Create objectionable odors affecting a substantial number of people?			**X**	

Discussion: The El Dorado County Air Pollution Control District (APCD) has developed a Guide to Air Quality Assessment (2002) to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant impacts could result. A substantial adverse effect on air quality would occur if:

- Emissions of ROG and No_x will result in construction or operation emissions greater than 82lbs/day (Table 3.2);
- Emissions of PM_{10}, CO, SO_2 and No_x, as a result of construction or operation emissions, will result in ambient pollutant concentrations in excess of the applicable National or State Ambient Air Quality Standard (AAQS). Special standards for ozone, CO, and visibility apply in the Lake Tahoe Air Basin portion of the County; or
- Emissions of toxic air contaminants cause cancer risk greater than 1 in 1 million (10 in 1 million if best available control technology for toxics is used) or a non-cancer Hazard Index greater than 1. In addition, the project must demonstrate compliance with all applicable District, State and U.S. EPA regulations governing toxic and hazardous emissions.

a. **Air Quality Plan:** El Dorado County has adopted the Rules and Regulations of the El Dorado County Air Quality Management District (2000) establishing rules and standards for the reduction of stationary source air pollutants (ROG/VOC, NOx, and O3). The EDC/State Clean Air Act Plan has set a schedule for implementing and funding transportation contract measures to limit mobile source emissions. The project would not conflict with or obstruct implementation of either plan. Roadway improvements will require an encroachment permit and grading permit and will undergo review to determine if any further actions or approvals are needed, including any measures for sediment control. Any activities associated with future plans for grading and construction would require a Fugitive Dust Mitigation Plan (FDMP) for grading and construction activities. Such a plan would address grading measures and operation of equipment to minimize and reduce the level of defined particulate matter exposure and/or emissions to a less than significant level. Therefore, the potential impacts of the project would be anticipated to be less than significant.

b-c. **Air Quality Standards and Cumulative Impacts:** Minor roadway improvements and commercial building construction are proposed as part of the project. Although this would contribute air pollutants due to construction and possible additional vehicle trips to and from the site, these impacts would be minimal. Existing regulations implemented at issuance of building and grading permits would ensure that any construction related PM10 dust emissions would be reduced to acceptable levels. The El Dorado County AQMD reviewed the application materials for this project and determined that by implementing typical conditions including Rule 215 (Architectural Coating) and 501 and 523 (New Paint Source), which are included in the list of recommended conditions, the project would

have a less than significant impact. The conditions would be implemented, reviewed, and approved by the AQMD prior to and concurrently with any grading, improvement, or building permit approvals. With full review for consistency with General Plan Policies, impacts would be anticipated to be less than significant.

d. **Sensitive Receptors:** The CEQA Guidelines (14 CCR 15000) identify sensitive receptors as facilities that house or attract children, the elderly, people with illnesses, or others that are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent hospitals are examples of sensitive receptors. Near the project, there are no nearby sensitive receptors. No sources of substantial pollutant concentrations will be emitted by the commercial development, during construction or following construction. There would be no impact.

e. **Objectionable Odors:** Table 3-1 of the Guide to Air Quality Assessment (AQMD, 2002) does not list the proposed use of the parcels as a use known to create objectionable odors. The requested Parcel Map would not generate or produce objectionable odors. The project was reviewed by the Air Quality Management District and the determination was made the impact would be less than significant.

FINDING: The proposed project would not affect the implementation of regional air quality regulations or management plans. The proposed project would not be anticipated to cause substantial adverse effects to air quality, nor exceed established significance thresholds for air quality impacts.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				**X**
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				**X**
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			**X**	
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			**X**	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				**X**
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				**X**

Discussion: A substantial adverse effect on Biological Resources would occur if the implementation of the project would:

- Substantially reduce or diminish habitat for native fish, wildlife or plants;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a native plant or animal community;
- Reduce the number or restrict the range of a rare or endangered plant or animal;
- Substantially affect a rare or endangered species of animal or plant or the habitat of the species; or
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.

a. **Special Status Species:** The proposed project represents an urban infill project on a site that has been previously disturbed due to development activities in the area associated with Highway 50 and adjacent roadways. The site has been rough graded and is relatively level with no significant vegetation. The only vegetation onsite consists of annual grassland. No tress exist onsite. There are no natural communities, plant or animal, that exist onsite. A highway, a major road, surrounds the site and a collector road, and as such, human activities would tend to scare sensitive animal species from the site. The site is located within Rare Plant Mitigation Area 2, and the applicant during phase I of the project prepared a special status plant survey (Special-Status Plant Survey for Westside Commercial, El Dorado County, California. ECORP Consulting, Inc. Environmental Consultants, September 20, 2006). This report is available for review in the project file located at 2850 Fairlane Court, Placerville, CA. The report identified special-status species that had the potential to exist onsite and targeted those species during the onsite survey. The survey did not identify any special-status species on the project site. No impacts to special-status species or sensitive natural communities would occur as a result of this project.

b-c. **Riparian Habitat and Wetlands:** There is no riparian on site or in proximity of the site that would be impacted by the proposed project. Thus, there would be no impact to riparian habitat. There is no wetland on site or in proximity of the site that would be impacted by the proposed project. Thus, there would be no impact to wetland habitat.

d. **Migration Corridors:** Migratory Deer Herd Habitats occur within some areas of El Dorado County. The project site does not include, nor it is adjacent to any migratory deer herd habitats as shown in the El Dorado County General Plan. This project is located in an urbanized area, adjacent to major roadways, and residential and commercial development. Wildlife does not generally have access to this area given the project sites urban character, and thus it is devoid of wildlife corridors. As such, impacts to wildlife corridors is considered to be less than significant.

e. **Local Policies:** Local protection of biological resources includes the IBC overlay, oak woodland preservation, rare plants and special-status species, and wetland preservation with the goal to preserve and protect sensitive natural resources within the County. The project is not located in the IBC. As discussed above in (a), there are no significant biological resources on the project site. There would be no impact.

f. **Adopted Plans**: This project would not conflict with the provisions of an adopted Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Protected and sensitive and natural resources/areas within El Dorado County include: Recovery Plan Area for California Red-legged Frog, Pine Hill Preserve, Migratory Deer Herd Habitats and Sensitive Terrestrial Communities as listed in the California Natural Diversity Database. The project site does not include, nor is it adjacent to any of these Protected and Sensitive Natural Habitat areas. There would be no impact.

FINDING: No impacts to protected species, habitat, wetlands, or oak trees were identified for this project. For this Biological Resources category, impacts would be less than significant.

V. CULTURAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				**X**
b. Cause a substantial adverse change in the significance of archaeological resource pursuant to Section 15064.5?				**X**
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				**X**
d. Disturb any human remains, including those interred outside of formal cemeteries?			**X**	

Discussion: In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a historical or cultural resource significant or important. A substantial adverse effect on Cultural Resources would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a prehistoric or historic archaeological site or property that is historically or culturally significant to a community or ethnic or social group; or a paleontological site except as a part of a scientific study;
- Affect a landmark of cultural/historical importance;
- Conflict with established recreational, educational, religious or scientific uses of the area; or
- Conflict with adopted environmental plans and goals of the community where it is located.

a. **Historic or Archeological Resources.** The applicant has conducted a cultural resources record search (letter from North Central Information Center (NCIC) to Sycamore Environmental Services dated March 21, 2007) that indicated that no recorded resources exist onsite or in the near vicinity of the project. Given previous disturbance on the site and surrounding areas, little potential exists for any historical resources. As such, no mitigation is required, and impacts are less than significant.

b. **Pre-Historic Resources.** As discussed in (a.), a cultural resources records search was prepared for the property. No prehistoric resources have been identified near the project site, nor are any expected to exist onsite. The NCIC concluded that given the environmental setting there is low to moderate potential for pre-historic or ethnohistoric-period Native American sites in the project area. In addition, as discussed above, there has been significant previous disturbance to the site due to the construction of Highway 50 and the Saratoga Way. This disturbance has resulted in rough grading of the site that would have removed any cultural materials. As such, no mitigation is required, and impacts are less than significant.

c. **Paleontological Resources.** There are no unique paleontological or geologic features located on the project site. As such, impacts to these resources are less than significant.

d. **Human Remains.** Based on the results of the cultural resource investigation, the project is unlikely to disturb any human remains. In the event that remains are discovered, all work shall be halted and the significance of the remains shall be evaluated in accordance with California Health and Safety Code Section 7050.5; Public Resources Code Sections 5097.94, 5097.98, and 5097.99. Impacts are considered to be less than significant.

FINDING: No significant cultural resources have been identified on the project site. The site has been previously disturbed, it is determined that there are no significant historic or pre-historic resources on the subject property that would be affected

by the project. Standard conditions of approval would apply in the event of accidental discovery during any future construction. This project would be anticipated to have a less than significant impact within the Cultural Resources category.

VI. GEOLOGY AND SOILS. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				**X**
ii) Strong seismic ground shaking?				**X**
iii) Seismic-related ground failure, including liquefaction?				**X**
iv) Landslides?				**X**
b. Result in substantial soil erosion or the loss of topsoil?			**X**	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				**X**
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risks to life or property?				**X**
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				**X**

Discussion: A substantial adverse effect on Geologic Resources would occur if the implementation of the project would:

- Allow substantial development of structures or features in areas susceptible to seismically induced hazards such as groundshaking, liquefaction, seiche, and/or slope failure where the risk to people and property resulting from earthquakes could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards;
- Allow substantial development in areas subject to landslides, slope failure, erosion, subsidence, settlement, and/or expansive soils where the risk to people and property resulting from such geologic hazards could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards; or
- Allow substantial grading and construction activities in areas of known soil instability, steep slopes, or shallow depth to bedrock where such activities could result in accelerated erosion and sedimentation or exposure of people, property, and/or wildlife to hazardous conditions (e.g., blasting) that could not be mitigated through engineering and construction measures in accordance with regulations, codes, and professional standards.

a. **Seismic Hazards:**

i) According to the California Department of Conservation Division of Mines and Geology, there are no Alquist-Priolo fault zones within El Dorado County (DOC, 2007). The nearest such faults are located in Alpine and Butte Counties. There would be no impact.

ii) The potential for seismic ground shaking in the project area would be considered remote for the reason stated in Section i) above. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code. All structures would be built to meet the construction standards of the UBC for the appropriate seismic zone. Impacts would be less than significant.

iii) El Dorado County is considered an area with low potential for seismic activity. There are no landslide, liquefaction, or fault zones (DOC, 2007). There would be no impact.

iv) All grading activities onsite would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. Compliance with the Ordinance would reduce potential landslide impacts to a less than significant level.

b. **Soil Erosion:** For development proposals, all grading activities onsite would comply with the El Dorado County Grading, Erosion and Sediment Control Ordinance including the implementation of pre- and post-construction Best Management Practices (BMPs). Implemented BMPs are required to be consistent with the County's California Stormwater Pollution Prevention Plan (SWPPP) issued by the State Water Resources Control Board to eliminate run-off and erosion and sediment controls. Any grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the County of El Dorado Grading, Erosion, and Sediment Control Ordinance.

c. **Geologic Hazards:** Based on the Seismic Hazards Mapping Program administered by the California Geological Survey, no portion of El Dorado County is located in a Seismic Hazard Zone or those areas prone to liquefaction and earthquake-induced landslides (DOC, 2013). Therefore, El Dorado County is not considered to be at risk from liquefaction hazards. Lateral spreading is typically associated with areas experiencing liquefaction. Because liquefaction hazards are not present in El Dorado County, the county is not at risk for lateral spreading. All grading activities would comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. Impacts would be less than significant.

d. **Expansive Soils:** Expansive soils are those that greatly increase in volume when they absorb water and shrink when they dry out. When buildings are placed on expansive soils, foundations may rise each wet season and fall each dry season. This movement may result in cracking foundations, distortion of structures, and warping of doors and windows. The central portion of the county has a moderate expansiveness rating while the eastern and western portions have a low rating. Linear extensibility is used to determine the shrink-swell potential of soils.

e. **Septic Capability:** Public sewer would serve the proposed project. The El Dorado Irrigation District would provide sewer service. There would be no impact resulting from septic systems.

FINDING: No significant geophysical impacts are expected from the design review request either directly or indirectly. For this "Geology and Soils" category, the thresholds of significance have not been exceeded.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			**X**	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			**X**	

Background/Science

Cumulative greenhouse gases (GHG) emissions are believed to contribute to an increased greenhouse effect and global climate change, which may result in sea level rise, changes in precipitation, habitat, temperature, wildfires, air pollution levels, and changes in the frequency and intensity of weather-related events. While criteria pollutants and toxic air contaminants are pollutants of regional and local concern (see Section III. Air Quality above); GHG are global pollutants. The primary land-use related GHG are carbon dioxide (CO_2), methane (CH_4) and nitrous oxides (N_2O). The individual pollutant's ability to retain infrared radiation represents its "global warming potential" and is expressed in terms of CO_2 equivalents; therefore CO_2 is the benchmark having a global warming potential of 1. Methane has a global warming potential of 21 and thus has a 21 times greater global warming effect per metric ton of CH_4 than CO_2. Nitrous Oxide has a global warming potential of 310. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e/yr$). The three other main GHG are Hydroflourocarbons, Perflourocarbons, and Sulfur Hexaflouride. While these compounds have significantly higher global warming potentials (ranging in the thousands), all three typically are not a concern in land-use development projects and are usually only used in specific industrial processes.

GHG Sources

The primary man-made source of CO_2 is the burning of fossil fuels; the two largest sources being coal burning to produce electricity and petroleum burning in combustion engines. The primary sources of man-made CH_4 are natural gas systems losses (during production, processing, storage, transmission and distribution), enteric fermentation (digestion from livestock) and landfill off-gassing. The primary source of man-made N_2O is agricultural soil management (fertilizers), with fossil fuel combustion a very distant second. In El Dorado County, the primary source of GHG is fossil fuel combustion mainly in the transportation sector (estimated at 70% of countywide GHG emissions). A distant second are residential sources (approximately 20%), and commercial/industrial sources are third (approximately 7%). The remaining sources are waste/landfill (approximately 3%) and agricultural (<1%).

Regulatory Setting:

Federal Laws, Regulations, and Policies

At the federal level, USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration (NHTSA) established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses.

Federal Laws, Regulations, and Policies

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the *California Climate Solutions Act of 2006* (Stats. 2006, ch. 488) (Health & Safety Code, Section 38500 et seq.). AB 32 requires a statewide GHG emissions reduction to 1990 levels by the year 2020. AB 32 requires the California Air Resources Board (CARB) to implement and enforce the statewide cap. When AB 32 was signed, California's annual GHG emissions were estimated at 600 million metric tons of CO_2 equivalent ($MMTCO_2e$) while 1990 levels were estimated at 427 $MMTCO_2e$. Setting 427 $MMTCO_2e$ as the emissions target for 2020, current (2006) GHG emissions levels must be reduced by 29%. CARB adopted the AB 32 Scoping Plan in December 2008 establishing various actions the state would implement to achieve this reduction (CARB, 2008). The Scoping Plan recommends a community-wide GHG reduction goal for local governments of 15%.

In June 2008, the California Governor's Office of Planning and Research's (OPR) issued a Technical Advisory (OPR, 2008) providing interim guidance regarding a proposed project's GHG emissions and contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing GHG emissions: Identify and quantify the project's GHG emissions, assess the significance of the impact on climate change; and if the impact is found to be significant, identify alternatives and/or Mitigation Measures that would reduce the impact to less than significant levels (CEC, 2006).

Analysis Methodology

El Dorado County Air Quality Management District (EDCAQMD) prefers the use of the California Emissions Estimator Model (CalEEMod) for quantification of project-related GHG and criteria pollutant emissions. CalEEMod is a statewide model providing a uniform GHG analysis platform for government agencies, land use planners, and environmental professionals. It quantifies direct emissions from construction and operation (including vehicle use), and indirect emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The software incorporates the most recent vehicle emission factors from the Emission Factors (EMFAC) model provided by CARB, and average trip generation factors published by the Institute of Transportation Engineers (ITE). The model uses and quantifies mitigation measures reduction benefits found in the California Air Pollution Control Officers Association's (CAPCOA) document *Quantifying Greenhouse Gas Mitigation Measure (2010)*, and is accepted by CARB.

Impact Significance Criteria

CEQA does not provide clear direction on addressing climate change. It requires lead agencies identify project GHG emissions impacts and their "significance," but is not clear what constitutes a "significant" impact. As stated above, GHG impacts are inherently cumulative, and since no single project could cause global climate change, the CEQA test is if impacts are "cumulatively considerable." Not all projects emitting GHG contribute significantly to climate change. CEQA authorizes reliance on previously approved plans (i.e., a Climate Action Plan (CAP), etc.) and mitigation programs adequately analyzing and mitigating GHG emissions to a less than significant level. "Tiering" from such a programmatic-level document is the preferred method to address GHG emissions. El Dorado County does not have an adopted CAP or similar program-level document; therefore, the project's GHG emissions must be addressed at the project-level.

Unlike thresholds of significance established for criteria air pollutants in EDCAQMD's *Guide to Air Quality Assessment* (February 2002) ("CEQA Guide"), the District has not adopted GHG emissions thresholds for land use development projects. In the absence of County adopted thresholds, EDCAQMD recommends using the adopted thresholds of other lead agencies which are based on consistency with the goals of AB 32. Since climate change is a global problem and the location of the individual source of GHG emissions is somewhat irrelevant, it's appropriate to use thresholds established by other jurisdictions as a basis for impact significance determinations. Projects exceeding these thresholds would have a potentially significant impact and be required to mitigate those impacts to a less than significant level. Until the County adopts a CAP consistent with CEQA Guidelines Section 15183.5, and/or establishes GHG thresholds, the County will follow an interim approach to evaluating GHG emissions utilizing significance criteria adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) to determine the significance of GHG emissions.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) was utilized due to the close proximity to the County of El Dorado.

Discussion

Helix Environmental Planning, Inc. prepared an Air Quality Greenhouse Gas Emissions Analysis dated October 26, 2017 for the proposed project, which included the project's potential GHG emissions (Attachment 1). The study used California Emissions Estimator Model (CalEEMod) found the net operational emissions total 626 $MTCO_2E$ and concluded that such emissions are less than significant and mitigation is unwarranted. Operation emissions were estimated for both the existing entitlement and the proposed project using CalEEMod version 2016.3.1. Operational emission sources included energy use (electricity and natural gas); area sources (landscaping equipment); mobile sources; solid waste generation; and water conveyance and treatment. The emissions from mobile sources associated with the project were calculated based on the trip rates provided in the Saratoga Retail Phase 2 Transportation Impact Study (TIS) (Kimley Horn 2017), CalEEMod default trip lengths, and emission factors from EMFAC2014.

El Dorado County Air Quality Management District (EDCAQMD) reviewed the applicant's Air Quality Greenhouse Gas Emissions Analysis and concurs with its findings and conclusions.

Conclusion

Short-term construction GHG emissions are a one-time release of GHG and are not expected to significantly contribute to global climate change over the lifetime of the proposed project. Construction emissions have been included with the operational emissions in order to present a worst-case scenario. The proposed project is incorporating various features and mitigation measures identified above that would reduce the project's annual operational GHG emissions by at least **626** MTCO2e/yr. These features and mitigation measures are consistent with those suggested by the Office of the Attorney General and CAPCOA. Therefore, the proposed project's GHG emissions would be less than significant.

FINDING: The project would result in less than significant impacts to greenhouse gas emissions. For this Greenhouse Gas Emissions category, there would be no significant adverse environmental effect as a result of the project.

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			**X**	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				**X**
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				**X**
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				**X**
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				**X**
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				**X**

Discussion: A substantial adverse effect due to hazardous materials would occur if implementation of the project would:

- Expose people and property to hazards associated with the use, storage, transport, and disposal of hazardous materials where the risk of such exposure could not be reduced through implementation of Federal, State, and local laws and regulations;

- Expose people and property to risks associated with wildland fires where such risks could not be reduced through implementation of proper fuel management techniques, buffers and landscape setbacks, structural design features, and emergency access; or
- Expose people to safety hazards as a result of former on-site mining operations.

a,b. **Hazardous Materials:** The project may involve transportation, use, and disposal of hazardous materials such as construction materials, paints, fuels, landscaping materials, and building cleaning supplies. The majority of the use of these hazardous materials would occur primarily during construction. Any uses of hazardous materials would be required to comply with all applicable federal, state, and local standards associated with the handling and storage of hazardous materials. Prior to any use of hazardous materials, the project would be required to obtain a Hazardous Materials Business Plan through the Environmental Management - Solid Waste and Hazardous Materials Division of EI Dorado County. If the commercial facilities will store reportable quantities of hazardous materials (55 gallons) or generate hazardous waste, prior to commencing operations the owner/operator must obtain a Hazardous Materials Business Plan through the Environmental Management - Solid Waste and Hazardous Materials Division of EDC. The project includes COAs from the Division that require a Hazardous Materials Business Plan, obtaining a hazardous waste generator identification number from the California Department of Toxic Substances Control, training all employees to properly handle hazardous materials and wastes, and implementing proper hazardous materials and hazardous waste storage methods, if applicable, to insure the project follows proper procedures for any materials considered to be hazardous. The site is not located in an area of naturally occurring asbestos (El Dorado County, 2005). As such, impacts would be less than significant.

c. **Hazardous Material near Schools:** There are no public schools within ¼ mile of the project site. Kinder Care Learning Center is located within 0.15 miles of the project site; however, the proposed project would not include any operation that would use acutely hazardous materials or generate hazardous air emissions. There would be no impact.

d. **Hazardous Sites:** No parcels within EDC are included on the Cortese List, which lists known hazardous sites in California. The project site is not included on a list of hazardous materials sites pursuant to Government Code section 65962.5 (DTSC, 2015). There would be no impact with the approval of the proposed project.

e-f. **Aircraft Hazards, Private Airstrips:** According to the EDC Zoning Map, the project site is not within any airport safety zone or airport land use plan area. The project is not located in the vicinity of a public or private airstrip. As such, the project would not be subject to any land use limitations contained within any adopted Comprehensive Land Use Plan and there would be no immediate hazard for people working in the project area or safety hazard resulting from airport operations and aircraft over-flights in the vicinity of the project site. No impacts would be anticipated to occur within these categories.

g. **Emergency Plan:** The project was reviewed by the El Dorado County Transportation District and El Dorado Hills Fire Department. The proposed project would not impair implementation of any emergency response plan or emergency evacuation plan. All businesses would be required to implement individual emergency response plans as part of their normal operations. This impact would be considered less than significant.

h. **Wildfire Hazards:** The project is a commercial infill project located within an urban area that has adequate infrastructure in terms of fire hydrants, fire flow, and roadways. The project site is located within a moderate fire hazard area, which would not generally be subjected to wildland fires as it is surrounded by existing development and roadways. The project will be required to meet all requirements of the El Dorado Hills Fire Department. The project will incorporate measures specified in the County Fire Hazard Ordinance, which includes riles and regulations covering emergency access, signing, numbering, and emergency water, fire hazard impacts are considered to be less than significant.

FINDING: The proposed project would not be anticipated to expose the area to significant hazards relating to the use, storage, transport, or disposal of hazardous materials. Any proposed future use of hazardous materials would be subject to review and approval of a Hazardous Materials Business Plan issued by the Environmental Management — Solid Waste and Hazardous Materials Division. The project would not be anticipated to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, nor is it anticipated to expose people or structures to a

significant risk of loss, injury or death involving wildland fires. For this "Hazards and Hazardous Materials" category, impacts would be less than significant.

IX. HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?			**X**	
a. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			**X**	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or -off-site?			**X**	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			**X**	
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			**X**	
f. Otherwise substantially degrade water quality?			**X**	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			**X**	
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			**X**	
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			**X**	
j. Inundation by seiche, tsunami, or mudflow?			**X**	

Discussion: A substantial adverse effect on Hydrology and Water Quality would occur if the implementation of the project would:

- Expose residents to flood hazards by being located within the 100-year floodplain as defined by the Federal Emergency Management Agency;
- Cause substantial change in the rate and amount of surface runoff leaving the project site ultimately causing a substantial change in the amount of water in a stream, river or other waterway;
- Substantially interfere with groundwater recharge;

- Cause degradation of water quality (temperature, dissolved oxygen, turbidity and/or other typical stormwater pollutants) in the project area; or
- Cause degradation of groundwater quality in the vicinity of the project site.

a. **Water Quality Standards:** The project proposes to construct commercial/retail buildings. Commercial/retail uses would not directly discharge any wastewater or other effluent into streams. Wastewater generated by future land uses would be collected by EID's Wastewater Treatment Plant. Wastewater from the project site would be treated and discharged in accordance with Regional Water Quality Control Board (RWQCB) waste discharge requirements. The impact is less than significant.

b. **Groundwater Supplies:** There is no evidence that the project would substantially reduce or alter the quantity of groundwater in the vicinity, or materially interfere with groundwater recharge in the area of the proposed project as soil types on the project site are not generally conducive to groundwater recharge (volcanic bedrock), and the site represents a relatively small are in terms of recharge capability. The project is required to connect to the El Dorado Irrigation District (EID) water line (see Utility and Services Systems category). There would be no draw from groundwater sources in the area with the approval of this project and impacts in this category would be less than significant.

c-f. **Drainage Patterns:** The proposed project would not significantly alter or change any existing on site or off site drainage patterns. Currently drainage from the site, in the form of sheet flow, would flow to surrounding streets and drainage ditches. These patterns will remain post project, as all drainage from the site would be channeled to existing drainage infrastructure through the proposed storm drain system as shown on preliminary grading and drainage plans. There would be no impact.

The project would require coverage under the Regional Water Quality Control Board General Permit for Discharges of Storm Water Associated with Construction Activity. Construction activities subject to this permit include clearing, grading and disturbances to the ground such as stockpiling or excavation. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Section A of the Construction General Permit describes the elements that must be contained in a SWPPP including, site map(s), Best Management Practices (BMPs), a visual and chemical monitoring program; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Implementation of an approved SWPPP would reduce the potential for impact to less than significant.

g-j. **Flood-related Hazards:** The project site is not located within any mapped 100-year flood areas as shown on Firm Panel Number 06017C0725E, revised September 26, 2008, and would not result in the construction of any structures that would impede or redirect flood flows (FEMA, 2008). No dams that would result in potential hazards related to dam failures are located in the project area. The risk of exposure to seiche, tsunami, or mudflows would be remote. Impacts would be less than significant.

FINDING: The proposed project would require an encroachment permit through the EDCTD and site improvement and grading permit through Building Services Division that would address erosion and sediment control. As conditioned and with adherence to County Code Section 110.14, no significant hydrological impacts are expected with the development of the project either directly or indirectly. For this "Hydrology" category, impacts would be less than significant.

X. LAND USE PLANNING. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact

X. LAND USE PLANNING. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Physically divide an established community?				**X**
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				**X**
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				**X**

Discussion: A substantial adverse effect on Land Use would occur if the implementation of the project would:

- Result in the conversion of Prime Farmland as defined by the State Department of Conservation;
- Result in conversion of land that either contains choice soils or which the County Agricultural Commission has identified as suitable for sustained grazing, provided that such lands were not assigned urban or other nonagricultural use in the Land Use Map;
- Result in conversion of undeveloped open space to more intensive land uses;
- Result in a use substantially incompatible with the existing surrounding land uses; or
- Conflict with adopted environmental plans, policies, and goals of the community.

a. **Established Community:** The project would not divide an established community. The project is proposed on property designated by the County's General Plan as commercial and all impacts associated with commercial projects at this location have been considered in the General Plan EIR (available for review at 2850 Fairlane Court, Placerville, CA 95667), therefore, there would be no impact to an established community.

b. **Land Use Consistency:** The parcel is zoned Community Commercial with a Design Community (CC-DC) combining zone. The intent of the –DC combining zone is to ensure architectural supervision and consistency with the EDC Community Design Standards, which is used to evaluate the architectural and site design in commercial districts. The project is a commercial infill project on commercially designated and zoned property. The project is consistent with the General Plan; therefore, there would be no impact.

c. **Habitat Conservation Plan:** The project site is not within the boundaries of an adopted Natural Community Conservation Plan or any other conservation plan. As such, the proposed project would not conflict with an adopted conservation plan. There would be no impact.

FINDING: The proposed use of the land would be consistent with the Zoning Ordinance and General Plan. There would be no impact to land use goals or standards resulting from the project.

XI. MINERAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				**X**
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**

Discussion: A substantial adverse effect on Mineral Resources would occur if the implementation of the project would:

- Result in obstruction of access to, and extraction of mineral resources classified MRZ-2x, or result in land use compatibility conflicts with mineral extraction operations.

a-b. **Mineral Resources:** The project site is not in an area where mineral resources classified as MRZ-2a or MRZ-2b by the State Geologist is present (El Dorado County General Plan, Figure CO-1). Approximately 8.19 miles to the northeast from the proposed project are MRZ-2-classified areas, and the project site has not been delineated in the General Plan or in a specific plan as a locally important mineral resource recovery site. There are no current mining activities adjacent to or in the vicinity of the project site that could affect existing uses. There would be no impact.

FINDING: No impacts to energy and mineral resources are expected with the proposed project either directly or indirectly. For this "Mineral Resources" category, there would be no impacts.

XII.NOISE. *Would the project result in:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			**X**	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			**X**	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			**X**	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			**X**	

XII.NOISE. *Would the project result in:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise level?			**X**	
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?			**X**	

Discussion: A substantial adverse effect due to Noise would occur if the implementation of the project would:

- Result in short-term construction noise that creates noise exposures to surrounding noise sensitive land uses in excess of 60dBA CNEL;
- Result in long-term operational noise that creates noise exposures in excess of 60 dBA CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dBA, or more; or
- Results in noise levels inconsistent with the performance standards contained in Table 6-1 and Table 6-2 in the El Dorado County General Plan.

TABLE 6-2
NOISE LEVEL PERFORMANCE PROTECTION STANDARDS
FOR NOISE SENSITIVE LAND USES
AFFECTED BY NON-TRANSPORTATION* SOURCES

Noise Level Descriptor	**Daytime 7 a.m. - 7 p.m.**		**Evening 7 p.m. - 10 p.m.**		**Night 10 p.m. - 7 a.m.**	
	Community	**Rural**	**Community**	**Rural**	**Community**	**Rural**
Hourly L_{eq}, dB	55	50	50	45	45	40
Maximum level, dB	70	60	60	55	55	**50**

Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The County can impose noise level standards which are up to 5 dB less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

In Community areas the exterior noise level standard shall be applied to the property line of the receiving property. In Rural Areas the exterior noise level standard shall be applied at a point 100' away from the residence. The above standards shall be measured only on property containing a noise sensitive land use as defined in Objective 6.5.1. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all effected property owners and approved by the County.

*Note: For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Control of noise from facilities of regulated public facilities is preempted by California Public Utilities Commission (CPUC) regulations. All other noise sources are subject to local regulations. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, schools, hospitals, commercial land uses, other outdoor land use, etc.

a. **Noise Exposures:** An Environmental Noise Assessment dated August 31, 2017 (Attachment 2: Helix 2017) was submitted for the project. The noise analysis evaluated project-related noises and determined that the operations of the project's HVAC units, drive-through speakers at The Habit Burger Grill, and project traffic to nearby Saratoga Way would not generate noise levels above County Standards.

The Habit Burger drive-through speaker would emit noise levels of approximately 29 dBA Leq to the nearest residence west of the project site. Noise levels would not exceed the County's 40 dBA Leq nighttime limit for non-transportation noise sources consisting of human speech.

b. **Groundborne Shaking:** The project may generate groundborne vibration or groundborne noise levels during construction, however, those impacts are temporary and would be confined to standard construction hour limitation, as described in d) below. The nearest sensitive land use to groundborne vibrations or noise are the residences west of the project site across Saratoga Way, which are approximately 135 feet away or more. It is unlikely that residences would experience groundborn vibrations or noise impacts at that distance. The impacts would be less than significant.

c. **Permanent Noise Increases:** The project would result in an increase in ambient noise levels in the project vicinity, due mainly to vehicle traffic generated by the proposed commercial development; however, this development would occur in an area of substantial commercial development, adjacent to busy roadways (El Dorado Hills Boulevard and Highway 50). The noise levels the project would generate would not be greater than those generated by the shopping center to the east and by traffic on Saratoga Way, El Dorado Hills Boulevard, and Highway 50. The contribution of the project to noise levels would be relatively minor.

The Environmental Noise Assessment (Helix 2017) analyzed the existing ambient noise environment in the project vicinity and defined it as primarily created by traffic noise emanating from Saratoga Way. The Environmental Noise Assessment utilized trip generation and distribution form the Transportation Impact Study. Noise levels generated by existing traffic on Saratoga Way, the nearest roadway to the affected Noise Sensitive Land Uses (NSLU), are approximately 45 dBA Community Noise Equivalent Level (CNEL). Although traffic noise for nearby NSLUs would increase perceptibly, noise levels would remain below the General Plan Noise Element standards of 60 dBA CNEL for residential exterior use areas. Impacts would be less than significant.

d. **Temporary Increase in Ambient Noise Levels:** The project would include construction activities for the grading, construction, and implementation of Best Management Practice (BMP). The short-term noise increases would potentially exceed the thresholds established by the General Plan. Standard Conditions of Approval would limit the hours of construction activities to 7:00am to 7:00pm Monday through Friday and 8:00am to 5:00pm on weekends

and federally recognized holidays. Adherence to the limitations of construction would be anticipated to reduce potentially significant impacts to a less than significant level.

e-f. **Aircraft Noise:** The project site is not located within an airport land use plan or in the immediate vicinity of a private air strip. There would be no impacts.

FINDING: As conditioned, and with adherence to County Code, no significant direct or indirect impacts to noise levels are expected either directly or indirectly. For this Noise category, the thresholds of significance would not be exceeded.

XIII. POPULATION AND HOUSING. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure)?			**X**	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				**X**
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				**X**

Discussion: A substantial adverse effect on Population and Housing would occur if the implementation of the project would:

- Create substantial growth or concentration in population;
- Create a more substantial imbalance in the County's current jobs to housing ratio; or
- Conflict with adopted goals and policies set forth in applicable planning documents.

a. **Population Growth:** The project may induce some population growth in the area directly by proposing commercial development that would generate employment. However, potential employees would most likely come from the community of El Dorado Hills and nearby communities. Few employees are likely to come from areas farther away. The project is consistent with the land use designation under the County General Plan, which anticipates population growth in the County based on these designations. Therefore, anticipated population growth would not be altered by this project. The project would utilize existing infrastructure, and therefore would not require new infrastructure that may indirectly induce population growth. Impacts related to population growth would be less than significant.

b. **Housing Displacement:** The project will not displace any existing housing. There would be no impact.

c. **Replacement Housing:** The proposed project will not displace any people. There would be no impact.

FINDING: The project would not displace housing. There is no potential for a significant impact due to substantial growth with the proposed design review request, as this commercial land use was considered in the 2004 General Plan and would be considered an infill project. For this "Population and Housing" category, the thresholds of significance have not been exceeded.

XIV. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Fire protection?			**X**	
b. Police protection?			**X**	
c. Schools?			**X**	
d. Parks?			**X**	
e. Other government services?				**X**

Discussion: A substantial adverse effect on Public Services would occur if the implementation of the project would:

- Substantially increase or expand the demand for fire protection and emergency medical services without increasing staffing and equipment to meet the Department's/District's goal of 1.5 firefighters per 1,000 residents and 2 firefighters per 1,000 residents, respectively;
- Substantially increase or expand the demand for public law enforcement protection without increasing staffing and equipment to maintain the Sheriff's Department goal of one sworn officer per 1,000 residents;
- Substantially increase the public school student population exceeding current school capacity without also including provisions to adequately accommodate the increased demand in services;
- Place a demand for library services in excess of available resources;
- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Be inconsistent with County adopted goals, objectives or policies.

a. **Fire Protection:** The El Dorado Hills Fire Department provides structural fire protection services to the project area. They did not respond with any concerns that the project would significantly affect their ability to provide adequate fire protection. Development of the project would result in a minor increase in the demand for fires protection services, but would not prevent them from meeting their response times for the project or its designated service area any more than exists today. The Fire District would review the project improvement plans for conformance with their COAs regarding adequate fire flow, vegetation and fuel modification, and sprinkler and fire alarm requirements prior to issuance of final occupancy for a building permit. Upon fulfillment of the conditions of approval, impacts would be less than significant.

b. **Police Protection:** The El Dorado County Sheriff's Department would provide law enforcement services to the proposed development. The El Dorado Hills Satellite Sheriff Station is located at 981 Governors Drive approximately 2.2 miles north of the project site. The development of commercial square footage on the project site may result in a small increase in calls for service but would not significantly impact the Department. The project applicant would be responsible for the payment of development fees to the Department to offset any project impacts. As a result, this impact would be considered less than significant.

c-e. **Schools:** School services in the El Dorado Hills area are provided by the Buckeye Union Elementary School District and the El Dorado Union High School District. The proposed project is a commercial, which by itself would not

generate an increase in student population requiring additional facilities. As discussed in the Population and Housing section, the project may attract new employees, but most would come from the surrounding area. The project is not expected to attract a significant number of new residents. Future development would be required to pay impact fees for new facilities adopted by both districts, which would mitigate any potential impacts of the project. The impact would be less than significant.

d. **Parks:** The proposed project is a commercial project and would not generate a need for parks. As such, impacts are considered to be less than significant.

e. **Other Government Services:** No other government services would be required as a result of the proposed commercial project. There would be no impact.

FINDING: Adequate public services are available to serve the project. There would be insignificant levels of increased demands to services anticipated as a result of the project. For this Public Services category, impacts would be less than significant.

XV. RECREATION.	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			**X**	
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			**X**	

Discussion: A substantial adverse effect on Recreational Resources would occur if the implementation of the project would:

- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Substantially increase the use of neighborhood or regional parks in the area such that substantial physical deterioration of the facility would occur.

a-b. **Parks and Recreational Services:** The project does not include any increase in permanent population that would contribute to increased demand on recreation facilities or contribute to increased use of existing facilities such that physical deterioration of the facility would occur. The project would not generate an increase demand for park services, therefore, it would not require construction or expansion of additional facilities. Impacts would be less than significant.

FINDING: Less than significant impacts to open space or park facilities would result as part of the project. For this Recreation category, impacts would be less than significant.

XVI. TRANSPORTATION/TRAFFIC. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			**X**	
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			**X**	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				**X**
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				**X**
e. Result in inadequate emergency access?			**X**	
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				**X**

Discussion: The Transportation and Circulation Policies contained in the County General Plan establish a framework for review of thresholds of significance and identification of potential impacts of new development on the County's road system. These policies are enforced by the application of the Transportation Impact Study (TIS) Guidelines, the County Design and Improvements Standards Manual, and the County Encroachment Ordinance, with review of individual development projects by the Transportation and Long Range Planning Divisions of the Community Development Agency. A substantial adverse effect to traffic would occur if the implementation of the project would:

- Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system;
- Generate traffic volumes which cause violations of adopted level of service standards (project and cumulative); or
- Result in or worsen Level of Service (LOS) F traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county as a result of a residential development project of 5 or more units.

a,b. **Traffic Increases:** This project is located on the northwest corner of the US-50 interchange with El Dorado Hills Boulevard and southwest corner of El Dorado Hills Boulevard and Saratoga Way, in El Dorado Hills. The project seeks to encroachment onto Saratoga Way, a County maintained road. A Traffic Study was prepared by Kimley-Horn and Associates, Inc. in May of 2017 to establish and analyze existing and future traffic conditions base on the additional traffic generated by the proposed development of Saratoga Retail project. Results of the study can be found in the report (Attachment 3: *Saratoga Retail Phase 2, El Dorado Hills, California,* Kimley-Horn and Associates, Inc. May 25, 2017) which is on file with El Dorado County Planning Services, 2850 Fairlane Court, Placerville, CA 95667. The report was circulated to the El Dorado County Department of Transportation and Long

Range Planning Division of Community Development Services. Both agencies concurred with the findings of the report.

Access to the site is provided at the existing main site driveway intersection with Saratoga Way. Two additional driveways will serve the site; one full access driveway south of the main site driveway, and one egress-only driveway at the south end of the project site. These driveway will distribute traffic onto area roadways as described in the traffic study. A summary of the analysis is provided below:

The project analysis focused on the existing roadway network in the vicinity of the proposed development, as well as adjacent and key intersections in the vicinity of the project site, including the following intersections:

1. El Dorado Hills Blvd @ Saratoga Way
2. El Dorado Hills Blvd @ US-50 WB Ramps
3. Latrobe Rd @ US-50 EB Ramps
4. Latrobe Rd @ Town Center Blvd
5. Latrobe Rd @ White Rock Rd
6. White Rock Rd @ Windfield Way
7. White Rock Rd @ Post St
8. Saratoga Way @ Mammouth Way
9. Saratoga Way @ Main Project Dwy
10. Saratoga Way @ Arrowhead Dr

Based on the County's requirements, four different scenarios were analyzed for the traffic study. These scenarios included:

A. Existing (2017) Conditons
B. Existing (2017) plus Proposed Project Conditions
C. Cumulative (2035) Conditions
D. Cumulative (2035) plus Proposed Project Conditions

The study found that the project would be expected to generate approximately 3,529 new daily trips, with 286 new trips occurring during the AM peak-hour, and 241 new trips occurring during the PM peak-hour based on trip generation rates contained in the *Trip Generation Manual, 9th Edition,* published by the Institute of Transportation Engineers (ITE). The proposed project would result in a less than significant impacts to study area intersections which are projected to operate at acceptable Levels of Service during peak hours.

For all other discretionary projects that worsen (Defined as a project that triggers Policy TC-Xe [A] or [B] or [C] traffic on the County road system, the County shall condition the project to construct all road improvements necessary to maintain or attain Level of Service standards detailed in this Transportation and Circulation Element. All 2004 General Plan Traffic Impact Mitigation Fees for all projects shall be paid at the building permit stage. (Press Release August 8, 2017, Measure E updates)

c. **Air Traffic:** The project site is not within an airport safety zone. No changes in air traffic patterns would occur or be affected by the proposed project. There would be no impact.

d. **Design Hazards:** Kimley-Horn and Associates, Inc. evaluated the project for potential hazards in their traffic analysis, which included a sight distance evaluation and a preliminary traffic safety evaluation. The study found that the project would not create or exacerbate hazards in the area, nor were there any hazards that might impact the project, as long as project landscaping is maintained in such a manner so as not to obstruct sight distance along Saratoga Way. According to the project site plan there appears to be adequate sight distance on-site to facilitate safe and orderly circulation. There would be no impact.

e. **Emergency Access:** Fire Safe Regulations state that on-site roadways shall "provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency…" All project roadways shall be designed and constructed in accordance with these requirements. As shown in the project site plan, the turn radius for a firetruck is depicted circulating through the proposed project. As such, the proposed project is considered to allow for adequate access and on-site circulation for

emergency vehicles. The fire department review of plans associated with building permit would ensure compliance with these standards. There would be no impact.

f. **Alternative Transportation.** El Dorado Transit currently operates a "Sacramento Commuter" bus route that operates Monday through Friday only. This route has multiple stops within the Town Center development located south of US-50 along Latrobe Road. No other public transit services are known to operate in the project area. Nevertheless, the proposed project promotes safe and efficient access to the existing transit system by providing pedestrian connectivity to and through the project site.

FINDING: The project would not exceed the thresholds for traffic identified within the General Plan. For this Transportation/Traffic category, the thresholds of significance would not be exceeded and impacts would be less than significant.

XVII. TRIBAL CULTURAL RESOURCES. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Section 21074?			**X**	

Discussion:

In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a TCR significant or important. To be considered a TCR, a resource must be either: (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or: (2) a resource that the lead agency chooses, in its discretion, to treat as a TCR and meets the criteria for listing in the state register of historic resources pursuant to the criteria set forth in Public Resources Code Section 5024.1(c). A substantial adverse change to a TCR would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a TCR such that the significance of the resource would be materially impaired

a. Tribal Cultural Resources: To date, no California Native American Tribe has submitted a letter to the County requesting consultation under AB52 on projects within the County's jurisdiction. Further, the geographic area of the project site is not known to contain any TCRs. The geographic area of the project site is not known to contain any TCRs.

FINDING: No significant TCRs are known to exist on the project site. As a result, the proposed project would not cause a substantial adverse change to a TCR and there would be no impact.

XVIII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*				
	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact

XVIII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			**X**	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			**X**	
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			**X**	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			**X**	
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			**X**	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			**X**	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			**X**	

Discussion: A substantial adverse effect on Utilities and Service Systems would occur if the implementation of the project would:

- Breach published national, state, or local standards relating to solid waste or litter control;
- Substantially increase the demand for potable water in excess of available supplies or distribution capacity without also including provisions to adequately accommodate the increased demand, or is unable to provide an adequate on-site water supply, including treatment, storage and distribution;
- Substantially increase the demand for the public collection, treatment, and disposal of wastewater without also including provisions to adequately accommodate the increased demand, or is unable to provide for adequate on-site wastewater system; or
- Result in demand for expansion of power or telecommunications service facilities without also including provisions to adequately accommodate the increased or expanded demand.

a. **Wastewater Requirements**: Wastewater treatment would be provided for the site by El Dorado Irrigation District (EID). The Regional Water Quality Control Board sets treatment requirements for the collection, processing, and disposal of waste, which EID must comply. It has been determined that the proposed project would utilize approximately 6.0 equivalent dwelling units (EDUs) of wastewater treatment. The proposed project would require 12 EDUs of sewer service. There is a 21-inch gravity sewer line abutting the southern property line. This sewer line has adequate capacity at this time. To receive service from this line, an extension of facilities of adequate size must be constructed. EID will need to review and approve any proposed grading and/or structures that are proposed in the vicinity of this sewer line. As the project would utilize EDUs already accounted for by the EID, the project would not lead to the EID's wastewater treatment plant (WWTP) exceeding treatment requirements. Impacts would be less than significant.

b. **Construction of New Facilities:** A 10-inch water line is located on the parcel(s) to be developed. The El Dorado Hills Fire Department has determined that the minimum fire flow for this project is 1,500 GPM for a 2-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire flow. To provide this fire flow and receive service, the project applicants must connect to the 10-inch water line. Based on preliminary project plans it appears that the part of the existing 10-inch water line and associated dedicated easement are in conflict with a proposed building. It also appears that a retaining wall is proposed adjacent to the 10-inch water line currently serving a previous phase of this project. The proposed abandonment of a portion of the existing 10-inch water line and associated easements must be coordinated with the District and completed as necessary before any grading activity occurs on site. The improvement plans shall include details on the proposed retaining wall, including calculations, to verify that the proposed structure will not negatively impact the existing District facilities in this area. The hydraulic grade line for the existing water distribution facilities is 960 feet above mean sea level at static conditions and 890 feet above mean sea level during fire flow and maximum day demands. The project would connect to this sewer line with appropriate pressure reduction as determined by the EID; no facilities expansion would be required as a result of this connection. Given this fact, there will not be a need to expand water or wastewater facilities as a result of this project. Impacts would be less than significant.

c. **New Stormwater Facilities:** The proposed project would not require construction of new or expansion of stormwater drainage facilities offsite. As discussed in the Hydrology and Water Quality section, the project would be required to comply with the provisions of the County's Design and Improvement Standards Manual related to storm drainage. Compliance with these provisions would ensure existing drainage facilities can accommodate the additional runoff. The project will construct an onsite stormwater drainage facilities which will tie into the existing stormwater drainage system adjacent to the site. The impacts are less than significant.

d. **Sufficient Water Supply:** As of January 1, 2016, there were approximately 20,417 equivalent dwelling units (EDUs) of water supply available in the El Dorado Hills Water Supply Region. The proposed project would require 12 EDUs of water supply. There would be less than significant impacts to water supply, as the EID has already accounted for provision of water service to this project.

e. **Adequate Wastewater Capacity:** The existing EID facilities are adequate to serve the proposed project with no expansion of either the infrastructure or the wastewater treatment plant. Impacts to wastewater facilities would be less than significant.

f-g. **Solid Waste Disposal and Requirements:** El Dorado Disposal distributes municipal solid waste to Forward Landfill in Stockton and Kiefer Landfill in Sacramento. Pursuant to El Dorado County Environmental Management Solid Waste Division staff, both facilities have sufficient capacity to serve the County. Recyclable materials are distributed to a facility in Benicia and green wastes are sent to a processing facility in Sacramento. County Ordinance No. 4319 requires that new development provide areas for adequate, accessible, and convenient storing, collecting and loading of solid waste and recyclables. This project does not propose to add any activities that would generate additional solid waste. Impacts would be less than significant.

FINDING: No significant utility and service system impacts would be expected with the project, either directly or indirectly. For this Utilities and Service Systems category, impacts would be less than significant.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE. *Does the project:*	Potentially Significant Impact	Less than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			**X**	
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			**X**	
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

Discussion:

a. No substantial evidence contained in the project record has been found that would indicate that this project would have the potential to significantly degrade the quality of the environment. As conditioned or mitigated, and with adherence to County permit requirements, this project would not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of California history, pre-history, or tribal cultural resources. Any impacts from the project would be less than significant due to the design of the project and required standards that would be implemented prior to DR08-0003-R or with the building permit processes and/or any required project specific improvements on the property.

b. Cumulative impacts are defined in Section 15355 of the California Environmental Quality Act (CEQA) Guidelines as *two or more individual effects, which when considered together, would be considerable or which would compound or increase other environmental impacts.*

The project would not involve development or changes in land use that would result in an excessive increase in population growth. Impacts due to increased demand for public services associated with the project would be offset by the payment of fees as required by service providers to extend the necessary infrastructure services. The project would not be anticipated to contribute substantially to increased traffic in the area and the project would not require an increase in the wastewater treatment capacity of the County. Due to the size of the proposed project, types of activities proposed, and site-specific environmental conditions, which have been disclosed in the Project Description and analyzed in Items I through XVI, there would be no significant impacts anticipated related to agriculture resources, air quality, biological resources, cultural resources, geology/soils, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation,

traffic/transportation, or utilities/service systems that would combine with similar effects such that the project's contribution would be cumulatively considerable. For these issue areas, either no impacts, or less than significant impacts would be anticipated.

As outlined and discussed in this document, as conditioned and with compliance with County Codes, this project would be anticipated to have a less than significant project-related environmental effect which would cause substantial adverse effects on human beings, either directly or indirectly. Based on the analysis in this study, it has been determined that the project would have less than significant cumulative impacts.

c. Based on the discussion contained in this document, no potentially significant impacts to human beings are anticipated to occur with respect to potential project impacts. The project would not include any physical changes to the site, and any future development or physical changes would require review and permitting through the County. Adherence to these standard conditions would be expected to reduce potential impacts to a less than significant level.

FINDINGS: It has been determined that the proposed project would not result in significant environmental impacts. The project would not exceed applicable environmental standards, nor significantly contribute to cumulative environmental impacts.

INITIAL STUDY ATTACHMENTS

Attachment 1 .....Greenhouse Gas Emission Analysis
Attachment 2 .....Noise Assessment
Attachment 3 .....Traffic Impact Study

SUPPORTING INFORMATION SOURCE LIST

CAPCOA Guide (August 2010): http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-QuantificationReport-9-14-Final.pdf

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October 26, 2017

Mr. Peter Navarra
3220 Northrop Avenue
Sacramento, CA 95864

Subject: **Greenhouse Gas Emissions Analysis for the Saratoga Retail Phase 2 Project, El Dorado County, CA**

Dear Mr. Navarra:

HELIX Environmental Planning, Inc. (HELIX) has performed a greenhouse gas (GHG) emissions assessment for the operations of the proposed Saratoga Retail Phase 2 Project (project). This letter summarizes the results of the modeling and a determination of significance based on comparison to thresholds deemed applicable through consultation with the El Dorado County Air Quality Management District (EDCAQMD).

PROJECT DESCRIPTION

The project is located on a 0.75-acre site in the community of El Dorado Hills in unincorporated El Dorado County (County). The site is bounded by El Dorado Hills Boulevard to the east and Saratoga Way to the west. The project involves the expansion of an existing retail center to include two restaurants and a retail building totaling 10,458 square feet (SF). The northern building would support a 2,800 SF Habit Burger Grill restaurant with two outdoor patio areas and drive-through lane. The southern building would support a 4,658 SF Chick-fil-A restaurant with associated drive-through lanes. A 3,000 SF retail building would be located between the two restaurants, along the project's western edge with an exterior covered patio. The project also proposes 68 additional parking spaces to serve the project. The site is currently vacant with no above-ground structures. The site is in a designated Community region, and is zoned Commercial Limited with a General Plan land use designation of C (Commercial).

EXISTING ENTITLEMENT

Phase 2 of the Saratoga Retail Project had previously been entitled to include a total development of 17,314 SF split between two buildings. The northern building was planned to include an 8,500 SF sit-down restaurant and 3,039 SF of general retail space. The southern building was planned to include 5,775 SF of general retail space.

Emissions associated with the existing entitlement were estimated using the California Emissions Estimator Model (CalEEMod), as described below. As shown in Table 1, Existing Entitlement GHG Emissions, the existing entitlement would result in 940 metric tons of carbon dioxide equivalents (MT CO_2e) per year.

Table 1
Existing Entitlement GHG Emissions
(MT CO_2e)

Emission Sources	Annual Emissions (MT CO_2e)
Area Sources	<0.5
Energy Sources	117
Vehicular (Mobile) Sources	775
Solid Waste Sources	42
Water Sources	6
TOTAL EMISSIONS	**940**

Source: CalEEMod output data is provided in Appendix A
Note: The total presented is the sum of the unrounded values as shown in Appendix A.
MT=metric tons; CO_2e=carbon dioxide equivalent

METHODOLOGY AND ASSUMPTIONS

Operational emissions were estimated for both the existing entitlement and the proposed project using CalEEMod version 2016.3.1. Operational emission sources include energy use (electricity and natural gas); area sources (landscaping equipment); mobile sources; solid waste generation; and water conveyance and treatment. The emissions from mobile sources associated with the project were calculated based on the trip rates provided in the Saratoga Retail Phase 2 Transportation Impact Study (TIS) (Kimley Horn 2017), CalEEMod default trip lengths, and emission factors from EMFAC2014.

Several measures associated with compliance with updated regulations would be required to be implemented as part of development. These measures include GHG source categories of water, energy, and solid waste. Emissions associated with these source categories were estimated using CalEEMod defaults with the following reductions applied: a 20 percent reduction to indoor and outdoor water use through mandatory compliance with 2016 California Green Building Standards Code (CALGreen); a 25 percent reduction in solid waste generation in compliance with Assembly Bill 341; and a 5 percent reduction to Title 24 regulated energy consumption to meet the current 2016 Title 24 Energy Efficiency Standards. These regulatory reductions were applied to both the existing entitlement and the proposed project. All modeling output files are provided in Attachment A of this letter.

OPERATIONAL GHG EMISSIONS ANALYSIS

The final determination of a project's significant effects is within the purview of the lead agency pursuant to State CEQA Guidelines Section 15064(b). Neither El Dorado County nor the EDCAQMD has established a quantitative threshold of significance to determine project-specific impacts related to GHG emissions. Therefore, the significance thresholds adopted for use by the Sacramento Metropolitan Air Quality Management District (SMAQMD) located just to the west of El Dorado County have been applied to this analysis for the purpose of determining significance.

As illustrated in Table 2, *Annual Operational GHG Emissions*, the net operational emissions total 626 MT CO_2e, which is less than the SMAQMD threshold of 1,100 MT CO_2e per year. As such, emissions are considered less than significant and mitigation is unwarranted.

Table 2
Annual Operational GHG Emissions
(MT CO_2e)

Emission Sources	Annual Emissions (MT CO_2e)
Habit Burger	
Area Sources	<0.5
Energy Sources	30
Vehicular (Mobile) Sources	449
Solid Waste Sources	12
Water Sources	2
Subtotal	*493*
General Retail	
Area Sources	<0.5
Energy Sources	9
Vehicular (Mobile) Sources	357
Solid Waste Sources	1
Water Sources	<0.5
Subtotal	*367*
Chick-Fil-A	
Area Sources	<0.5
Energy Sources	50
Vehicular (Mobile) Sources	633
Solid Waste Sources	20
Water Sources	3
Subtotal	*706*
Total Proposed Project	***1,566***
Less Existing Entitlement	***(940)***
NET OPERATIONAL EMISSIONS	**626**

Source: CalEEMod output data is provided in Appendix A
Note: The total presented is the sum of the unrounded values as shown in Appendix A.
MT=metric tons; CO_2e=carbon dioxide equivalent

CONCLUSION

Net operational GHG emissions from the project would be less than the threshold being applied to this analysis and GHG emission impacts would be less than significant.

Sincerely,

Victor Ortiz
Air Quality Specialist

Attachments:
A CalEEMod Outputs

REFERENCES

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Saratoga Retail - Habit Burger

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	2.80	1000sqft	0.06	2,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	405	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Land Use - 2,800 sqft Habit Burger

Construction Phase -

Vehicle Trips - KHA2017

Energy Use - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Saratoga Retail - Habit Burger - El Dorado-Mountain County County, Annual

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	405
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	722.03	400.87
tblVehicleTrips	SU_TR	542.72	400.87
tblVehicleTrips	WD_TR	496.12	400.87

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Saratoga Retail - Habit Burger - El Dorado-Mountain County County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy											0.0000	30.1913	30.1913	1.2500e-003	5.1000e-004	30.3741
Mobile											0.0000	448.8646	448.8646	0.0209	0.0000	449.3872
Waste											6.5465	0.0000	6.5465	0.3869	0.0000	16.2186
Water											0.2696	0.8797	1.1493	0.0278	6.7000e-004	2.0420
Total											**6.8161**	**479.9356**	**486.7517**	**0.4368**	**1.1800e-003**	**498.0219**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy											0.0000	29.8756	29.8756	1.2400e-003	5.0000e-004	30.0565
Mobile											0.0000	448.8646	448.8646	0.0209	0.0000	449.3872
Waste											4.9098	0.0000	4.9098	0.2902	0.0000	12.1639
Water											0.2157	0.7038	0.9195	0.0222	5.3000e-004	1.6336
Total											**5.1256**	**479.4440**	**484.5696**	**0.3345**	**1.0300e-003**	**493.2413**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.80**	**0.10**	**0.45**	**23.42**	**12.71**	**0.96**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/28/2018	9/27/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,200; Non-Residential Outdoor: 1,400; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	448.8646	448.8646	0.0209	0.0000	449.3872
Unmitigated											0.0000	448.8646	448.8646	0.0209	0.0000	449.3872

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	1,122.43	1,122.43	1122.43	1,048,710	1,048,710
Total	1,122.43	1,122.43	1,122.43	1,048,710	1,048,710

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.512962	0.041542	0.225677	0.140684	0.035619	0.007151	0.016044	0.009270	0.001580	0.001207	0.005638	0.000826	0.001801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	12.6999	12.6999	9.1000e-004	1.9000e-004	12.7787
Electricity Unmitigated											0.0000	12.8079	12.8079	9.2000e-004	1.9000e-004	12.8874
NaturalGas Mitigated											0.0000	17.1758	17.1758	3.3000e-004	3.1000e-004	17.2778
NaturalGas Unmitigated											0.0000	17.3834	17.3834	3.3000e-004	3.2000e-004	17.4867

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	325752											0.0000	17.3834	17.3834	3.3000e-004	3.2000e-004	17.4867
Total												**0.0000**	**17.3834**	**17.3834**	**3.3000e-004**	**3.2000e-004**	**17.4867**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	321861											0.0000	17.1758	17.1758	3.3000e-004	3.1000e-004	17.2778
Total												**0.0000**	**17.1758**	**17.1758**	**3.3000e-004**	**3.1000e-004**	**17.2778**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	69720	12.8079	9.2000e-004	1.9000e-004	12.8874
Total		**12.8079**	**9.2000e-004**	**1.9000e-004**	**12.8874**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	69132	12.6999	9.1000e-004	1.9000e-004	12.7787
Total		**12.6999**	**9.1000e-004**	**1.9000e-004**	**12.7787**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total											**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total											**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.9195	0.0222	5.3000e-004	1.6336
Unmitigated	1.1493	0.0278	6.7000e-004	2.0420

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.849894 / 0.0542486	1.1493	0.0278	6.7000e-004	2.0420
Total		**1.1493**	**0.0278**	**6.7000e-004**	**2.0420**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	0.679916 / 0.0433989	0.9195	0.0222	5.3000e-004	1.6336
Total		**0.9195**	**0.0222**	**5.3000e-004**	**1.6336**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.9098	0.2902	0.0000	12.1639
Unmitigated	6.5465	0.3869	0.0000	16.2186

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	32.25	6.5465	0.3869	0.0000	16.2186
Total		**6.5465**	**0.3869**	**0.0000**	**16.2186**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	24.1875	4.9098	0.2902	0.0000	12.1639
Total		**4.9098**	**0.2902**	**0.0000**	**12.1639**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Saratoga Retail - General Retail

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	3.00	1000sqft	0.07	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	405	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Land Use - 3,000 sf general retail

Construction Phase -

Vehicle Trips - KHA2017

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	405
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	42.04	187.34
tblVehicleTrips	SU_TR	20.43	187.34
tblVehicleTrips	WD_TR	44.32	187.34

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Saratoga Retail - General Retail - El Dorado-Mountain County County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy											0.0000	8.8212	8.8212	5.7000e-004	1.3000e-004	8.8756
Mobile											0.0000	356.4280	356.4280	0.0146	0.0000	356.7916
Waste											0.6394	0.0000	0.6394	0.0378	0.0000	1.5841
Water											0.0705	0.3085	0.3790	7.2600e-003	1.8000e-004	0.6129
Total											**0.7099**	**365.5577**	**366.2676**	**0.0602**	**3.1000e-004**	**367.8643**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Energy											0.0000	8.6185	8.6185	5.6000e-004	1.3000e-004	8.6716
Mobile											0.0000	356.4280	356.4280	0.0146	0.0000	356.7916
Waste											0.4796	0.0000	0.4796	0.0283	0.0000	1.1881
Water											0.0564	0.2468	0.3032	5.8100e-003	1.4000e-004	0.4903
Total											**0.5360**	**365.2933**	**365.8292**	**0.0493**	**2.7000e-004**	**367.1417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.50**	**0.07**	**0.12**	**18.13**	**12.90**	**0.20**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/28/2018	9/27/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,500; Non-Residential Outdoor: 1,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	356.4280	356.4280	0.0146	0.0000	356.7916
Unmitigated											0.0000	356.4280	356.4280	0.0146	0.0000	356.7916

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	562.02	562.02	562.02	865,529	865,529
Total	562.02	562.02	562.02	865,529	865,529

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.512962	0.041542	0.225677	0.140684	0.035619	0.007151	0.016044	0.009270	0.001580	0.001207	0.005638	0.000826	0.001801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	7.5158	7.5158	5.4000e-004	1.1000e-004	7.5625
Electricity Unmitigated											0.0000	7.6605	7.6605	5.5000e-004	1.1000e-004	7.7080
NaturalGas Mitigated											0.0000	1.1026	1.1026	2.0000e-005	2.0000e-005	1.1092
NaturalGas Unmitigated											0.0000	1.1607	1.1607	2.0000e-005	2.0000e-005	1.1676

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	21750											0.0000	1.1607	1.1607	2.0000e-005	2.0000e-005	1.1676
Total												**0.0000**	**1.1607**	**1.1607**	**2.0000e-005**	**2.0000e-005**	**1.1676**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	20662.5											0.0000	1.1026	1.1026	2.0000e-005	2.0000e-005	1.1092
Total												**0.0000**	**1.1026**	**1.1026**	**2.0000e-005**	**2.0000e-005**	**1.1092**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	41700	7.6605	5.5000e-004	1.1000e-004	7.7080
Total		**7.6605**	**5.5000e-004**	**1.1000e-004**	**7.7080**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	40912.5	7.5158	5.4000e-004	1.1000e-004	7.5625
Total		**7.5158**	**5.4000e-004**	**1.1000e-004**	**7.5625**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Unmitigated											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total											**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total											**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3032	5.8100e-003	1.4000e-004	0.4903
Unmitigated	0.3790	7.2600e-003	1.8000e-004	0.6129

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	0.222218 / 0.136198	0.3790	7.2600e-003	1.8000e-004	0.6129
Total		**0.3790**	**7.2600e-003**	**1.8000e-004**	**0.6129**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	0.177774 / 0.108958	0.3032	5.8100e-003	1.4000e-004	0.4903
Total		**0.3032**	**5.8100e-003**	**1.4000e-004**	**0.4903**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4796	0.0283	0.0000	1.1881
Unmitigated	0.6394	0.0378	0.0000	1.5841

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	3.15	0.6394	0.0378	0.0000	1.5841
Total		**0.6394**	**0.0378**	**0.0000**	**1.5841**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	2.3625	0.4796	0.0283	0.0000	1.1881
Total		**0.4796**	**0.0283**	**0.0000**	**1.1881**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Saratoga Retail - Chick-fil-a

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	4.66	1000sqft	0.11	4,658.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	405	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Land Use - 4,658 sqft Chick-fil-a

Construction Phase -

Vehicle Trips - KHA2017

Energy Use - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	405
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	722.03	395.95
tblVehicleTrips	SU_TR	542.72	0.00
tblVehicleTrips	WD_TR	496.12	395.95

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005
Energy											0.0000	50.2253	50.2253	2.0800e-003	8.5000e-004	50.5294
Mobile											0.0000	632.1932	632.1932	0.0294	0.0000	632.9292
Waste											10.8966	0.0000	10.8966	0.6440	0.0000	26.9958
Water											0.4488	1.4641	1.9128	0.0462	1.1100e-003	3.3985
Total											**11.3453**	**683.8827**	**695.2280**	**0.7217**	**1.9600e-003**	**713.8529**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005
Energy											0.0000	49.7003	49.7003	2.0600e-003	8.4000e-004	50.0012
Mobile											0.0000	632.1932	632.1932	0.0294	0.0000	632.9292
Waste											8.1724	0.0000	8.1724	0.4830	0.0000	20.2468
Water											0.3590	1.1713	1.5303	0.0370	8.9000e-004	2.7188
Total											**8.5314**	**683.0648**	**691.5962**	**0.5514**	**1.7300e-003**	**705.8961**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.80**	**0.12**	**0.52**	**23.59**	**11.73**	**1.11**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/28/2018	9/27/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 6,987; Non-Residential Outdoor: 2,329; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	632.1932	632.1932	0.0294	0.0000	632.9292
Unmitigated											0.0000	632.1932	632.1932	0.0294	0.0000	632.9292

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	1,844.33	1,844.33	0.00	1,477,032	1,477,032
Total	1,844.33	1,844.33	0.00	1,477,032	1,477,032

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Fast Food Restaurant with Drive Thru	0.512962	0.041542	0.225677	0.140684	0.035619	0.007151	0.016044	0.009270	0.001580	0.001207	0.005638	0.000826	0.001801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	21.1272	21.1272	1.5100e-003	3.1000e-004	21.2583
Electricity Unmitigated											0.0000	21.3069	21.3069	1.5300e-003	3.2000e-004	21.4391
NaturalGas Mitigated											0.0000	28.5731	28.5731	5.5000e-004	5.2000e-004	28.7429
NaturalGas Unmitigated											0.0000	28.9185	28.9185	5.5000e-004	5.3000e-004	29.0903

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	541912											0.0000	28.9185	28.9185	5.5000e-004	5.3000e-004	29.0903
Total												**0.0000**	**28.9185**	**28.9185**	**5.5000e-004**	**5.3000e-004**	**29.0903**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	535439											0.0000	28.5731	28.5731	5.5000e-004	5.2000e-004	28.7429
Total												**0.0000**	**28.5731**	**28.5731**	**5.5000e-004**	**5.2000e-004**	**28.7429**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	115984	21.3069	1.5300e-003	3.2000e-004	21.4391
Total		**21.3069**	**1.5300e-003**	**3.2000e-004**	**21.4391**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Fast Food Restaurant with Drive Thru	115006	21.1272	1.5100e-003	3.1000e-004	21.2583
Total		**21.1272**	**1.5100e-003**	**3.1000e-004**	**21.2583**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005
Unmitigated											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005
Total											**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	8.0000e-005	8.0000e-005	0.0000	0.0000	9.0000e-005
Total											**0.0000**	**8.0000e-005**	**8.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5303	0.0370	8.9000e-004	2.7188
Unmitigated	1.9128	0.0462	1.1100e-003	3.3985

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	1.41447 / 0.0902851	1.9128	0.0462	1.1100e-003	3.3985
Total		**1.9128**	**0.0462**	**1.1100e-003**	**3.3985**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Fast Food Restaurant with Drive Thru	1.13157 / 0.0722281	1.5303	0.0370	8.9000e-004	2.7188
Total		**1.5303**	**0.0370**	**8.9000e-004**	**2.7188**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	8.1724	0.4830	0.0000	20.2468
Unmitigated	10.8966	0.6440	0.0000	26.9958

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	53.68	10.8966	0.6440	0.0000	26.9958
Total		**10.8966**	**0.6440**	**0.0000**	**26.9958**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	40.26	8.1724	0.4830	0.0000	20.2468
Total		**8.1724**	**0.4830**	**0.0000**	**20.2468**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Saratoga Retail - Allowed

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	8.50	1000sqft	0.20	8,500.00	0
Strip Mall	8.81	1000sqft	0.20	8,814.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	70
Climate Zone	1			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	405	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Land Use - 8,500 sf sit-down restaurant; 8,814 sf general retail

Construction Phase -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - http://www.pgecurrents.com/2017/02/09/pge-cuts-carbon-emissions-with-clean-energy-2/

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	BuildingSpaceSquareFeet	8,810.00	8,814.00
tblLandUse	LandUseSquareFeet	8,810.00	8,814.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	405
tblProjectCharacteristics	OperationalYear	2018	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Saratoga Retail - Allowed - El Dorado-Mountain County County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Energy											0.0000	117.5686	117.5686	5.4700e-003	1.9400e-003	118.2834
Mobile											0.0000	774.6460	774.6460	0.0332	0.0000	775.4769
Waste											22.4102	0.0000	22.4102	1.3244	0.0000	55.5203
Water											1.0256	3.5764	4.6019	0.1056	2.5400e-003	7.9987
Total											**23.4358**	**895.7913**	**919.2270**	**1.4687**	**4.4800e-003**	**957.2796**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Energy											0.0000	116.0149	116.0149	5.4000e-003	1.9100e-003	116.7203
Mobile											0.0000	774.6460	774.6460	0.0332	0.0000	775.4769
Waste											16.8077	0.0000	16.8077	0.9933	0.0000	41.6403
Water											0.8205	2.8611	3.6815	0.0845	2.0300e-003	6.3989
Total											**17.6281**	**893.5223**	**911.1504**	**1.1164**	**3.9400e-003**	**940.2367**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**24.78**	**0.25**	**0.88**	**23.99**	**12.05**	**1.78**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	9/28/2018	9/27/2018	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 25,971; Non-Residential Outdoor: 8,657; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Architectural Coating - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	774.6460	774.6460	0.0332	0.0000	775.4769
Unmitigated											0.0000	774.6460	774.6460	0.0332	0.0000	775.4769

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
High Turnover (Sit Down Restaurant)	1,080.78	1,346.15	1120.64	1,304,578	1,304,578
Strip Mall	390.46	370.37	179.99	550,596	550,596
Total	1,471.23	1,716.52	1,300.63	1,855,175	1,855,175

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
High Turnover (Sit Down Restaurant)	0.512962	0.041542	0.225677	0.140684	0.035619	0.007151	0.016044	0.009270	0.001580	0.001207	0.005638	0.000826	0.001801
Strip Mall	0.512962	0.041542	0.225677	0.140684	0.035619	0.007151	0.016044	0.009270	0.001580	0.001207	0.005638	0.000826	0.001801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated											0.0000	60.6347	60.6347	4.3400e-003	9.0000e-004	61.0110
Electricity Unmitigated											0.0000	61.3877	61.3877	4.4000e-003	9.1000e-004	61.7686
NaturalGas Mitigated											0.0000	55.3802	55.3802	1.0600e-003	1.0200e-003	55.7093
NaturalGas Unmitigated											0.0000	56.1810	56.1810	1.0800e-003	1.0300e-003	56.5148

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	988890											0.0000	52.7709	52.7709	1.0100e-003	9.7000e-004	53.0845
Strip Mall	63901.5											0.0000	3.4100	3.4100	7.0000e-005	6.0000e-005	3.4303
Total												**0.0000**	**56.1810**	**56.1810**	**1.0800e-003**	**1.0300e-003**	**56.5148**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
High Turnover (Sit Down Restaurant)	977079											0.0000	52.1407	52.1407	1.0000e-003	9.6000e-004	52.4505
Strip Mall	60706.4											0.0000	3.2395	3.2395	6.0000e-005	6.0000e-005	3.2588
Total												**0.0000**	**55.3802**	**55.3802**	**1.0600e-003**	**1.0200e-003**	**55.7093**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	211650	38.8811	2.7800e-003	5.8000e-004	39.1224
Strip Mall	122515	22.5065	1.6100e-003	3.3000e-004	22.6462
Total		**61.3877**	**4.3900e-003**	**9.1000e-004**	**61.7686**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
High Turnover (Sit Down Restaurant)	209865	38.5532	2.7600e-003	5.7000e-004	38.7925
Strip Mall	120201	22.0815	1.5800e-003	3.3000e-004	22.2185
Total		**60.6347**	**4.3400e-003**	**9.0000e-004**	**61.0110**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Unmitigated											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Total											**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**0.0000**	**3.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.3000e-004
Total											**0.0000**	**3.1000e-004**	**3.1000e-004**	**0.0000**	**0.0000**	**3.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.6815	0.0845	2.0300e-003	6.3989
Unmitigated	4.6019	0.1056	2.5400e-003	7.9987

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	2.58004 / 0.164683	3.4890	0.0843	2.0200e-003	6.1989
Strip Mall	0.652579 / 0.399968	1.1129	0.0213	5.2000e-004	1.7997
Total		**4.6019**	**0.1056**	**2.5400e-003**	**7.9987**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
High Turnover (Sit Down Restaurant)	2.06403 / 0.131747	2.7912	0.0674	1.6200e-003	4.9591
Strip Mall	0.522063 / 0.319974	0.8903	0.0171	4.1000e-004	1.4398
Total		**3.6815**	**0.0845**	**2.0300e-003**	**6.3989**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	16.8077	0.9933	0.0000	41.6403
Unmitigated	22.4102	1.3244	0.0000	55.5203

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	101.15	20.5325	1.2134	0.0000	50.8685
Strip Mall	9.25	1.8777	0.1110	0.0000	4.6518
Total		**22.4102**	**1.3244**	**0.0000**	**55.5203**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
High Turnover (Sit Down Restaurant)	75.8625	15.3994	0.9101	0.0000	38.1514
Strip Mall	6.9375	1.4083	0.0832	0.0000	3.4889
Total		**16.8077**	**0.9933**	**0.0000**	**41.6403**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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August 31, 2017

Peter Navarra
3220 Northrop Avenue
Sacramento, CA 95864

Subject: The Habit Burger Restaurant Project Noise Assessment

Dear Mr. Navarra:

HELIX Environmental Planning, Inc. (HELIX) has performed a noise assessment for the operational impacts of the proposed The Habit Burger Restaurant Project (project). This letter summarizes modeling to assess the noise impacts associated with traffic generation; heating, cooling, and air conditioning (HVAC); and operation of the drive-through speaker system planned for the exterior of the project's The Habit Burger Grill component.

PROJECT DESCRIPTION AND ENVIRONMENTAL SETTING

The project is located on a 0.75-acre site in the community of El Dorado Hills in unincorporated El Dorado County (County). The site is bounded by El Dorado Hills Boulevard to the east and Saratoga Way to the west. The project involves the expansion of an existing retail center to include two restaurants and a retail building totaling 10,400 square feet (SF). The northern building would support a 2,800 SF The Habit Burger Grill restaurant with two outdoor patio areas. The Habit Burger Grill restaurant would have an associated drive-through lane with an exterior speaker setup for the taking of customer orders. The southern building would support a 4,900 SF Chick-fil-A restaurant with associated drive-through lanes and exterior speaker setup. A 2,700 SF retail building would be located between the two restaurants, along the project's western edge with an exterior covered patio. The project also proposes 66 additional parking spaces to serve the project. The site is currently vacant with no above-ground structures. The site is in a designated Community region, and is zoned Commercial Limited with a General Plan land use designation of C (Commercial).

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors are individual locations that may be affected by noise. NSLUs in the project vicinity include multi-family residences to the west across Saratoga Way, with the nearest residences approximately 100 feet west of the project boundary.

TERMINOLOGY

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting (dBA) to approximate the hearing sensitivity of humans. Time-averaged noise levels are

expressed by the symbol L_{EQ}, with a specified duration. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours have an added 5 dBA weighting, and noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting.

NOISE MODELING SOFTWARE

Modeling of the exterior noise environment for this report was accomplished using Computer Aided Noise Abatement (CadnaA) version 2017 and Traffic Noise Model (TNM) version 2.5. CadnaA is a model-based computer program developed by *DataKustik* for predicting noise impacts in a wide variety of conditions. CadnaA assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project-related information, such as noise source data, barriers, structures, and topography to create a detailed model for the prediction of outdoor noise impacts.

The TNM was released in February 2004 by the U.S. Department of Transportation (USDOT), and calculates the daytime average hourly L_{EQ} from three-dimensional model inputs and traffic data (Caltrans 2004).

For traffic noise, the one-hour L_{EQ} noise level is calculated utilizing peak-hour traffic; peak-hour traffic volumes can be estimated based on the assumption that 10 percent of the average daily traffic would occur during a peak hour. The model-calculated one-hour L_{EQ} noise output is the equivalent to the CNEL (Caltrans Technical Noise Supplement, November 2009).

NOISE STANDARDS

Table 6-1 of the County General Plan regulates the maximum allowable noise exposure from transportation noise sources to existing land uses. These noise standards include a maximum of 45 dBA L_{EQ} worst-case hour for residential interior spaces and 60 dBA CNEL for residential outdoor activity areas.

Table 6-2 of the General Plan regulates standards for operational noise exposure limits for NSLUs, not including transportation noise sources. These standards are depicted in Table 1, *Noise Level Performance Protection Standards for Noise Sensitive Land Uses Affected by Non-Transportation Sources*.

Because The Habit Burger Grill's speaker system would emit noise consisting primarily of speech, each of these standards would be lowered by 5 dBA. The drive-through order window would likely be in operation during nighttime hours (past 10 p.m.). Therefore, the drive-through speaker noise must be below the County's lowest limit of 40 dBA L_{EQ} during nighttime hours.

Table 1
NOISE LEVEL PERFORMANCE PROTECTION STANDARDS FOR NOISE SENSITIVE LAND USES AFFECTED BY NON-TRANSPORTATION SOURCES[1]

Noise Level Descriptor	Daytime (7 a.m. to 7 p.m.)		Evening (7 p.m. to 10 p.m.)		Night (10 p.m. to 7 a.m.)	
	Community	Rural	Community	Rural	Community	Rural
Hourly L_{EQ}, dBA	55	50	50	45	45	40
Maximum level, dBA	70	60	60	55	55	50

Source: El Dorado County General Plan, Noise Element, Table 6-2
Each of the noise levels specified above shall be lowered by 5 dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

The County can impose noise level standards which are up to 5 dBA less than those specified above based upon determination of existing low ambient noise levels in the vicinity of the project site.

In Community areas, the exterior noise level standard shall be applied to the property line of the receiving property. In Rural areas the exterior noise level standard shall be applied at a point 100 feet away from the residence. The above standards shall be measured only on property containing a noise sensitive land use as defined in Objective 6.5.1 of the Noise Element. This measurement standard may be amended to provide for measurement at the boundary of a recorded noise easement between all effected property owners and approved by the County.

[1] For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways, railroad line operations and aircraft in flight. Control of noise from these sources is preempted by Federal and State regulations. Control of noise from facilities of regulated public facilities is preempted by California Public Utilities Commission (CPUC) regulations. All other noise sources are subject to local regulations. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, schools, hospitals, commercial land uses, other outdoor land uses, etc.

NOISE ANALYSIS AND IMPACTS

Drive-through Speaker

Existing and proposed features at the project site were included in the CadnaA noise model. These features would affect the emission, obstruction, and reflection of noise from the speaker. Because it is assumed that an idling automobile would be present when the speaker is operating, a single vehicle was included in the model directly opposite the speaker to account for any obstruction and reflection of sound that may occur. An existing 6-foot tall masonry wall is located along the eastern property boundary of the residential development and noise attenuation from this wall was taken into account in the noise modeling. To isolate noise generation from speaker noise, the model did not include traffic noise generated from vehicles along Saratoga Way. See Table 2, *Summary of Site Features Included in the Noise Model*.

Table 2
SUMMARY OF SITE FEATURES INCLUDED IN THE NOISE MODEL

Description	Height[1]
Proposed The Habit Burger Grill Restaurant Building	20 feet
Residential Development Masonry Wall[2]	6 feet
Drive-Through Menu Sign	5 feet
Automobile	4 feet

[1] Heights are estimated from visual inspection of the project area and from typical heights of objects/buildings.
[2] The masonry wall is located at the residential property line.

Specific planning for the proposed speaker system is not available at this point in the planning process. A speaker at a similar style restaurant was measured for this analysis (HELIX 2016). A sound level meter at approximately five feet from a typical speaker measured 86.4 dBA L_{EQ} averaged over one hour. The summed measurement time period data (20-second average) are shown in octave format in Table 3, *Octave Data of Measured Drive-through Speaker*.

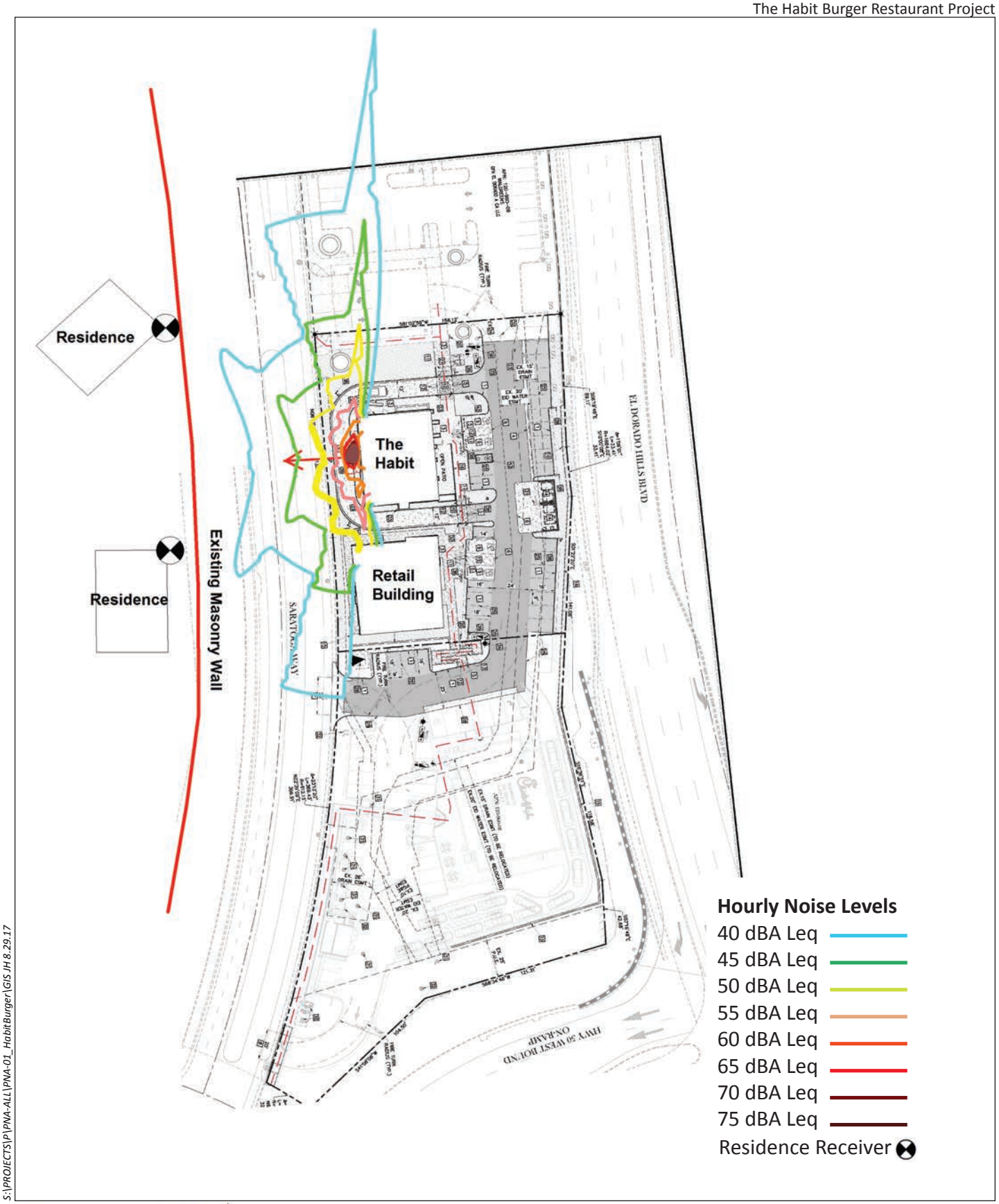
Table 3
OCTAVE DATA OF MEASURED DRIVE-THROUGH SPEAKER[1]

Octave Band Center Frequency (Hz)	63Hz	125Hz	250Hz	500Hz	1KHz	2KHz	4KHz	8KHz	dBA L_{EQ}*
Measured Sound Pressure	79.9	75.8	72.8	75.4	85.4	80.6	61.7	52.5	86.4

[1] Drive-through speaker measured at a distance of five feet from the source.

The measurement data in Table 3 depicts the dBA L_{EQ} during the continuous use of a speaker for one hour. For the purposes of this analysis, it is assumed that a speaker would be in use for approximately 30 minutes in each hour. The project's Traffic Impact Study (Kimley Horn 2017) measured drive-through traffic at three nearby restaurants. The study counted a maximum of 37 drive-through customers in a lunchtime hour at a nearby McDonald's restaurant. Assuming a one-minute customer order, the analysis for the proposed The Habit Burger Grill assumes a conservative 60 customers per hour, with the speaker in use for half of a single order.

Noise levels were modeled in CadnaA using the sample measurement described in the assumptions above, with the speaker located approximately 135 feet from the southern residence depicted on Figure 1, *Drive-through Speaker Noise Contours*. With these parameters, the drive-through speaker would emit noise levels of approximately 29 dBA L_{EQ} at the nearest residence west of The Habit Burger Grill. Noise levels would not exceed the County's 40 dBA L_{EQ} nighttime limit for non-transportation noise sources consisting of human speech. This represents a conservative assumption due to the assumed operational use of the speaker (30 minutes of a given hour) during the peak hour, which is not likely to occur during nighttime hours.



S:\PROJECTS\P\PNA-ALL\PNA-01_HabitBurger\GIS JH 8.29.17

0 100 Feet

Source: HELIX 2017

HELIX Environmental Planning

Drive-through Speaker Noise Contours

Because the drive-through speakers at the project's Chick-fil-A restaurant are directed south toward the onramp to U.S. Route 50 at a greater distance from nearby NSLUs, noise levels were determined to not be significant, and specific measurements of its speaker system were not analyzed.

HVAC

Specific planning for future HVAC systems is not available at this point in project design. Analysis using a typical rooftop commercial HVAC unit was analyzed for the project buildings. The unit used in this analysis is a Carrier Centurion Model 50 PG03-12 with a sound rating of 80 dBA sound power. This unit produces noise levels of 45 dBA L_{EQ} at 50 feet, which would be reduced by at least 5 dBA by standard parapet walls installed on a building's roofline. A single 10-ton HVAC unit is commonly required for every 350 square feet of habitable space (ASHRAE Handbook 2012). Using this calculation, two units for the Chick-fil-A restaurant, one unit for The Habit Burger Grill restaurant building, and one unit for the third retail building would be required. Based on the site plan, the closest NSLU to the project is the southern residence depicted on Figure 1. This residence is approximately 120 feet from the retail building's single HVAC unit. A single unit mounted on a rooftop with a standard parapet would emit a noise level of 40 dBA L_{EQ} at 50 feet. Noise levels at the nearest NSLU would therefore be less than the County's 45 dBA L_{EQ} nighttime limit for non-transportation noise sources.

Project Traffic

Using trip generation and distribution from the Transportation Impact Study, project traffic was calculated using Transportation Noise Model (TNM) version 2.5 software. Noise levels generated by existing traffic on Saratoga Way, the nearest roadway to the affected NSLUs, are approximately 45 dBA CNEL at the nearest residence. Additional traffic to this roadway would increase noise levels to approximately 52 dBA CNEL. Although traffic noise for nearby NSLUs would increase perceptibly, noise levels would remain below the General Plan Noise Element standards of 60 dBA CNEL for residential exterior use areas. Assuming an approximately 15 dBA CNEL reduction from standard construction materials, interior spaces at the existing residences would remain below General Plan residential standards of 45 dBA CNEL.

Conclusions

Operation of the project including HVAC units, the use of a drive-through speaker at The Habit Burger Grill, and project traffic to nearby Saratoga Way would not generate noise levels above County standards.

Jason Runyan
Noise Analyst

Charles Terry
Principal Acoustician

Attachments:

Figure 1: Drive-through Speaker Noise Contours

REFERENCES

ASHRAE. 2012. ASHRAE Handbook – HVAC Systems and Equipment.

HELIX Environmental Planning, Inc. 2016 February 18. Noise Impact Analysis Tacos El Gavilan Drive-Through Restaurant.

Kimley-Horn. 2017, May 3. Saratoga Retail Phase 2 El Dorado Hills, California.

Transportation Impact Study

Saratoga Retail Phase 2
El Dorado Hills, California

May 25, 2017

Prepared for:

Central Pacific Development Company

Prepared by:

Kimley»Horn

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Phone: (916) 858-5800

EXECUTIVE SUMMARY

This report documents the results of a transportation impact study completed for Saratoga Retail Phase 2 (the "proposed project" or "project"). The project represents an expansion and completion of the existing retail center located in the northwest corner of the US-50 interchange with El Dorado Hills Boulevard in El Dorado Hills. Kimley-Horn previously completed a traffic impact analysis for the Saratoga Way Mixed-Use Center project. At that time, a 32,900-square foot (sf) shopping center was contemplated. The project site has since been partially developed with a 13,368-sf Walgreens store on the northernmost portion of the property. The project now proposes to develop the remainder of project site with two restaurants and a small retail building totaling 10,400-sf of new uses. The purpose of this impact study is to identify potential environmental impacts to transportation facilities as required by the California Environmental Quality Act (CEQA). This study was performed in accordance with the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*, and the scope of work approved by the County.

The existing center is comprised of a 13,368-squrae foot (sf) Walgreens store. The project proposes to develop the remainder of project site with two restaurants and a small retail building totaling 10,400-sf of new uses. The currently proposed project has identified tenants for the two restaurants (Chick-fil-A and Habit Burger) in addition to a small (3,000-sf) general retail component. Access to the site is provided at the existing main site driveway intersection with Saratoga Way. Two additional driveways will serve the site; one full access driveway south of the main site driveway, and one egress-only driveway at the south end of the project site. The following transportation facilities are included in this evaluation:

Intersections:

1. El Dorado Hills Blvd @ Saratoga Way
2. El Dorado Hills Blvd @ US-50 WB Ramps
3. Latrobe Rd @ US-50 EB Ramps
4. Latrobe Rd @ Town Center Blvd
5. Latrobe Rd @ White Rock Rd
6. White Rock Rd @Windfield Way
7. White Rock Rd @ Post St
8. Saratoga Way @ Mammouth Way
9. Saratoga Way @ Main Project Dwy
10. Saratoga Way @ Arrowhead Dr

Roadway Segment:

1. Saratoga Way, west of El Dorado Hills Boulevard

Freeway Facilities:

1. US-50 Mainline
    a. Eastbound, west of El Dorado Hills Boulevard/Latrobe Road
    b. Westbound, west of El Dorado Hills Boulevard/Latrobe Road
    c. Eastbound, between Latrobe Road off-ramp and Latrobe Road on-ramp
    d. Westbound, between El Dorado Hills Blvd off-ramp and El Dorado Hills Blvd on-ramp
    e. Eastbound, east of El Dorado Hills Boulevard/Latrobe Road
    f. Westbound, east of El Dorado Hills Boulevard/Latrobe Road
2. US-50 Ramps
    a. Eastbound, diverge to Latrobe Road
    b. Eastbound, diverge to El Dorado Hills Boulevard
    c. Eastbound, merge from Latrobe Road
    d. Westbound, diverge to El Dorado Hills Boulevard/Latrobe Road
    e. Westbound, merge from El Dorado Hills Boulevard/Latrobe Road

Based on the County's requirements, this transportation impact study was conducted for the study facilities for the following scenarios:

A. Existing (2017) Conditions
B. Existing (2017) plus Proposed Project Conditions
C. Cumulative (2035) Conditions
D. Cumulative (2035) plus Proposed Project Conditions

Significant findings of this study include:

- The proposed project is estimated to generate approximately 3,529 new daily trips, with 286 new trips occurring during the AM peak-hour, and 241 new trips occurring during the PM peak-hour.
- The proposed project is understood to be consistent with the County's growth assumptions for Traffic Analysis Zone (TAZ) (#616) in which the project is located. However, in light of Measure E's requirements, although the County's Travel Demand Model (TDM) is considered to account for the project's proposed land use and the *General Plan's* cumulative traffic analysis should serve as the basis for the Cumulative (2035) traffic analysis of the project, a new evaluation of Cumulative (2035) conditions (with and without the proposed project) is included in this evaluation.
- As defined by the County, the addition of the proposed project to the Existing (2017) and Cumulative (2035) scenarios significantly worsens conditions at three study intersections. The impact can be mitigated to be ***less than significant***.
- Measure E was passed by El Dorado County voters on June 7, 2016, and became effective on July 29, 2016. Measure E amended General Plan Policies TX-Xa, TC-Xf, and TC-Xg and included several "implementation" statements. At the time of this report, the Board of Supervisors (Board) had moved forward with the implementation of the voter approved Measure E Initiative "as written and as it was before the voters." Measure E specifically states (amended General Plan Policy TX-Xf) that "For all other discretionary projects that worsen…traffic on the County road system, the County shall condition the project to construct all road improvements necessary to maintain or attain Level of Service standards…", and that "All necessary road capacity improvements shall be fully completed to prevent cumulative traffic impacts from new development from reaching Level of Service F during peak hours…" (General Plan Policy TC-Xa 3). As such, the Saratoga Retail Phase 2 project is directly affected by Measure E. Accordingly, although the Board continues to work through the implementation of the measure, this project will be required to, at a minimum, demonstrate consistency with the Measure's requirements. Moreover, consistent with Measure E, the Proposed Project will likely be conditioned to construct all mitigations identified under Existing (2017) Conditions, and to pay its fair share of Cumulative (2035) Conditions mitigations.

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INTRODUCTION

This report documents the results of a transportation impact study completed for Saratoga Retail Phase 2 (the "proposed project" or "project"). The project represents an expansion and completion of the existing retail center located in the northwest corner of the US-50 interchange with El Dorado Hills Boulevard in El Dorado Hills. Kimley-Horn previously completed a traffic impact analysis for the Saratoga Way Mixed-Use Center project[1]. At that time, a 32,900-square foot (sf) shopping center was contemplated. The project site has since been partially developed with a 13,368-sf Walgreens store on the northernmost portion of the property. The project now proposes to develop the remainder of project site with two restaurants and a small retail building totaling 10,400-sf of new uses. The purpose of this impact study is to identify potential environmental impacts to transportation facilities as required by the California Environmental Quality Act (CEQA). This study was performed in accordance with the El Dorado County Community Development Agency's *Transportation Impact Study Guidelines*[2], and the scope of work approved by the County[3].

The remaining sections of this report document the proposed project, analysis methodologies, impacts and mitigation, and general study conclusions.

PROJECT DESCRIPTION

The existing center is comprised of a 13,368-squrae foot (sf) Walgreens store. The project proposes to develop the remainder of project site with two restaurants and a small retail building totaling 10,400-sf of new uses. The currently proposed project has identified tenants for the two restaurants (Chick-fil-A and Habit Burger) in addition to a small (3,000-sf) general retail component. Access to the site is provided at the existing main site driveway intersection with Saratoga Way. Two additional driveways will serve the site; one full access driveway south of the main site driveway, and one egress-only driveway at the south end of the project site. The project location is shown in **Figure 1**, and the proposed project site plan is shown in **Figure 2**. The following transportation facilities are included in this evaluation:

Intersections:

1. El Dorado Hills Blvd @ Saratoga Way
2. El Dorado Hills Blvd @ US-50 WB Ramps
3. Latrobe Rd @ US-50 EB Ramps
4. Latrobe Rd @ Town Center Blvd
5. Latrobe Rd @ White Rock Rd
6. White Rock Rd @Windfield Way
7. White Rock Rd @ Post St
8. Saratoga Way @ Mammouth Way
9. Saratoga Way @ Main Project Dwy
10. Saratoga Way @ Arrowhead Dr

Figure 3 illustrates the study intersections facilities, existing traffic control, and existing lane configurations.

Roadway Segment:

1. Saratoga Way, west of El Dorado Hills Boulevard

[1] *Traffic Impact Analysis, Saratoga Way Mixed-Use Center,* Kimley-Horn and Associates, Inc., October 9, 2008.
[2] *Transportation Impact Study Guidelines,* El Dorado County Community Development Agency, November 2014.
[3] Memorandum from Cameron Shew, DKS, to Natalie Porter, El Dorado County Community Development Agency, March 6, 2017.

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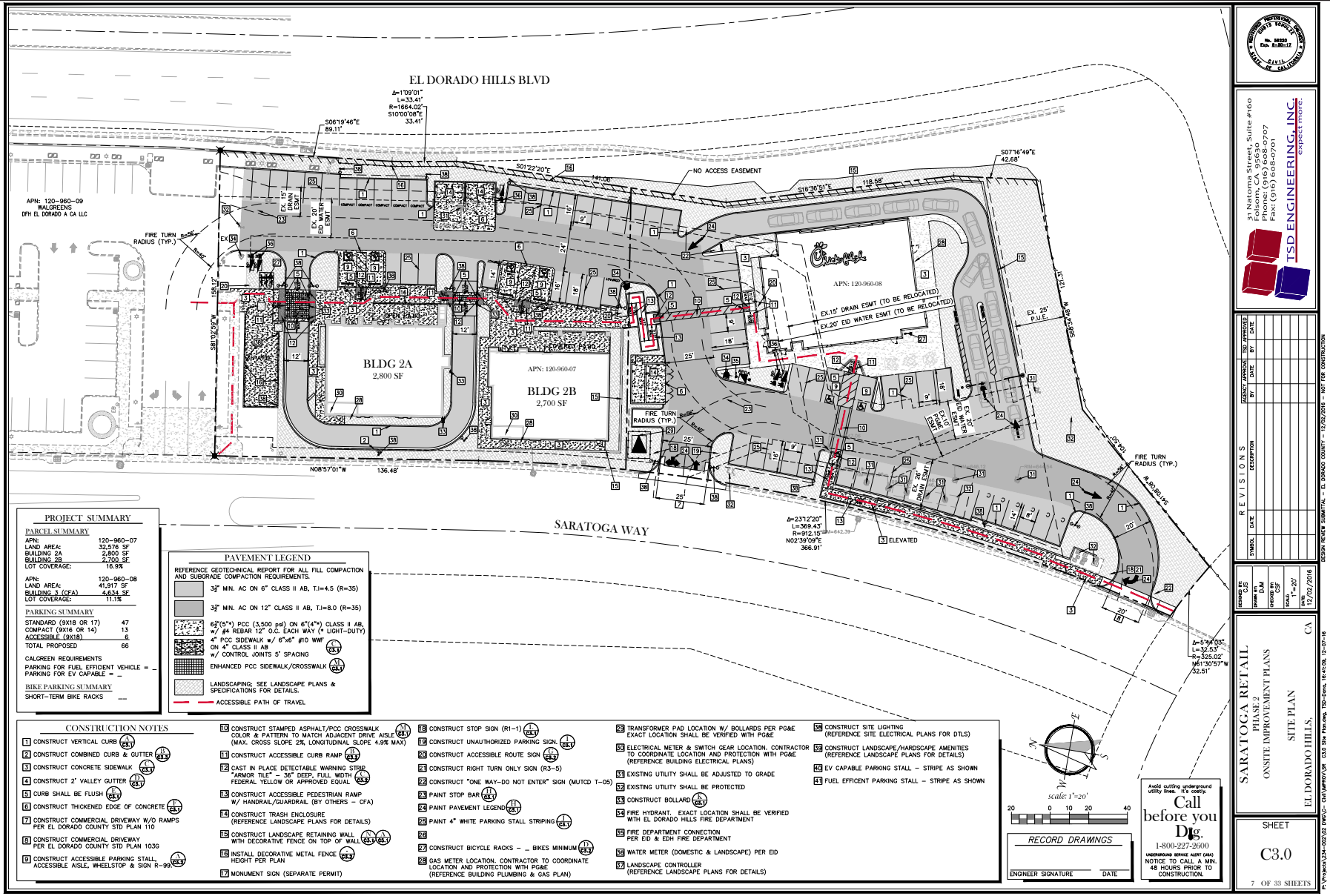
Figure 1
Project Site Vicinity Map



Source: TSD Engineering, Inc., February 3, 2017

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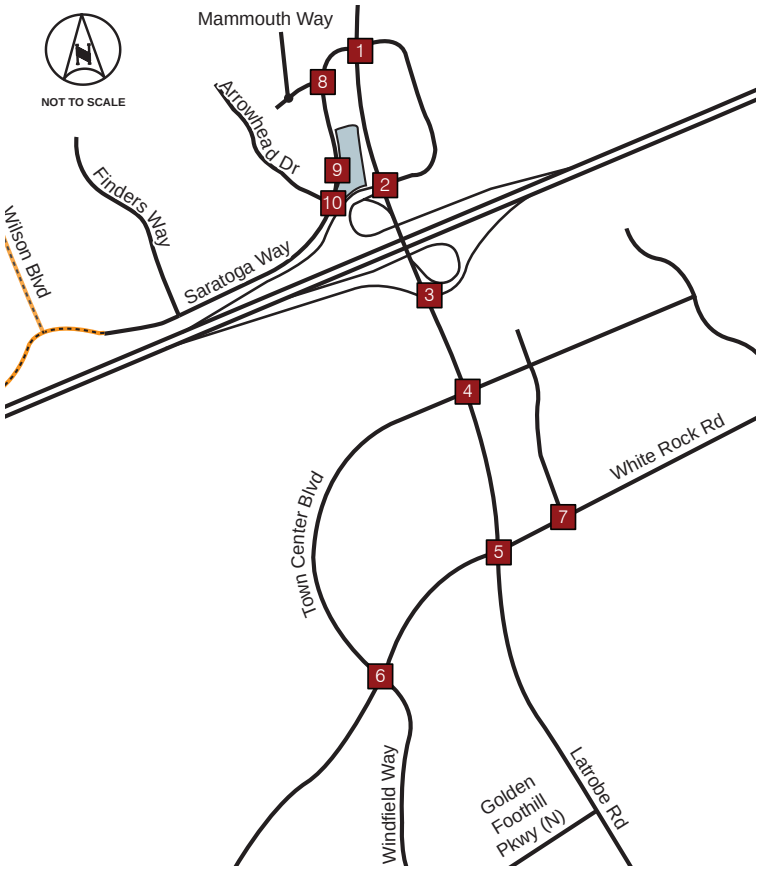
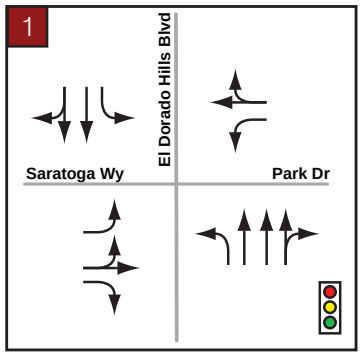
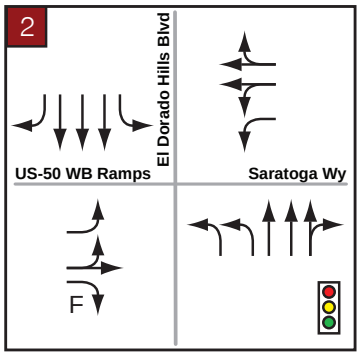
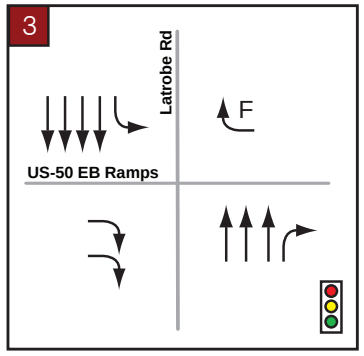
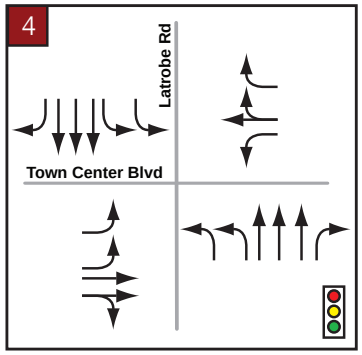
Figure 2
Proposed Project Site Plan

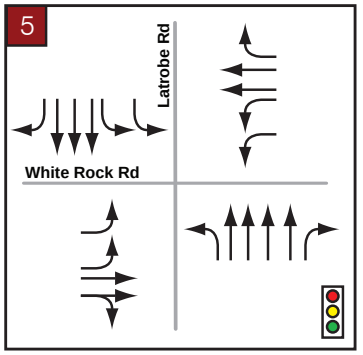


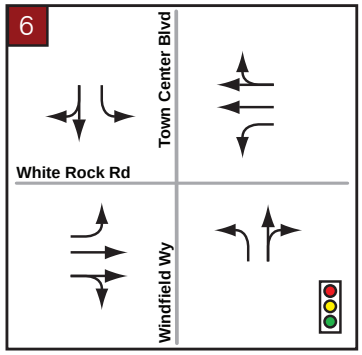


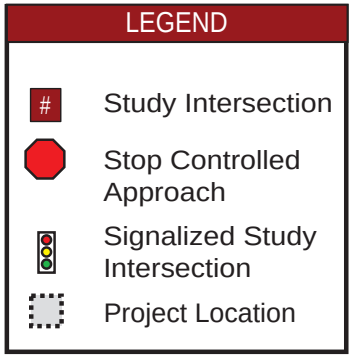


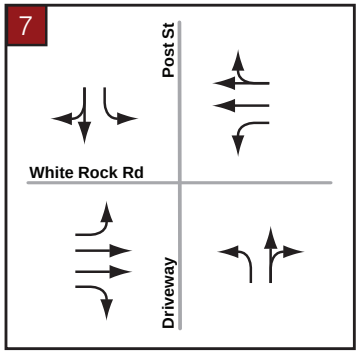


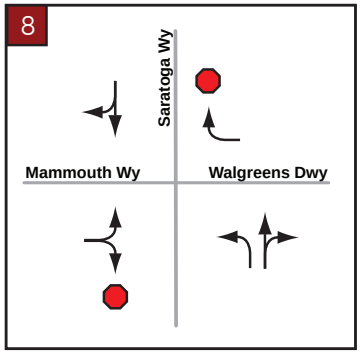


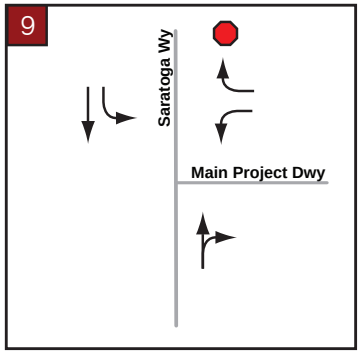












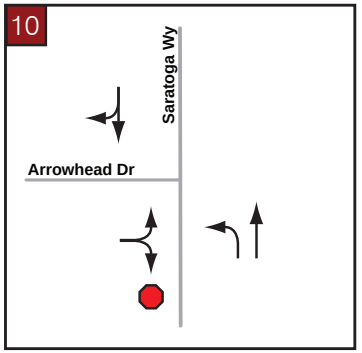


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Figure 3
Study Intersections, Traffic Control, and Lane Geometries

Freeway Facilities:

1. US-50 Mainline
    a. Eastbound, west of El Dorado Hills Boulevard/Latrobe Road
    b. Westbound, west of El Dorado Hills Boulevard/Latrobe Road
    c. Eastbound, between Latrobe Road off-ramp and Latrobe Road on-ramp
    d. Westbound, between El Dorado Hills Blvd off-ramp and El Dorado Hills Blvd on-ramp
    e. Eastbound, east of El Dorado Hills Boulevard/Latrobe Road
    f. Westbound, east of El Dorado Hills Boulevard/Latrobe Road
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    a. Eastbound, diverge to Latrobe Road
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    c. Eastbound, merge from Latrobe Road
    d. Westbound, diverge to El Dorado Hills Boulevard/Latrobe Road
    e. Westbound, merge from El Dorado Hills Boulevard/Latrobe Road

The study freeway facilities are depicted in **Figure 4.**

PROJECT AREA ROADWAYS

The following are descriptions of the primary roadways in the vicinity of the project.

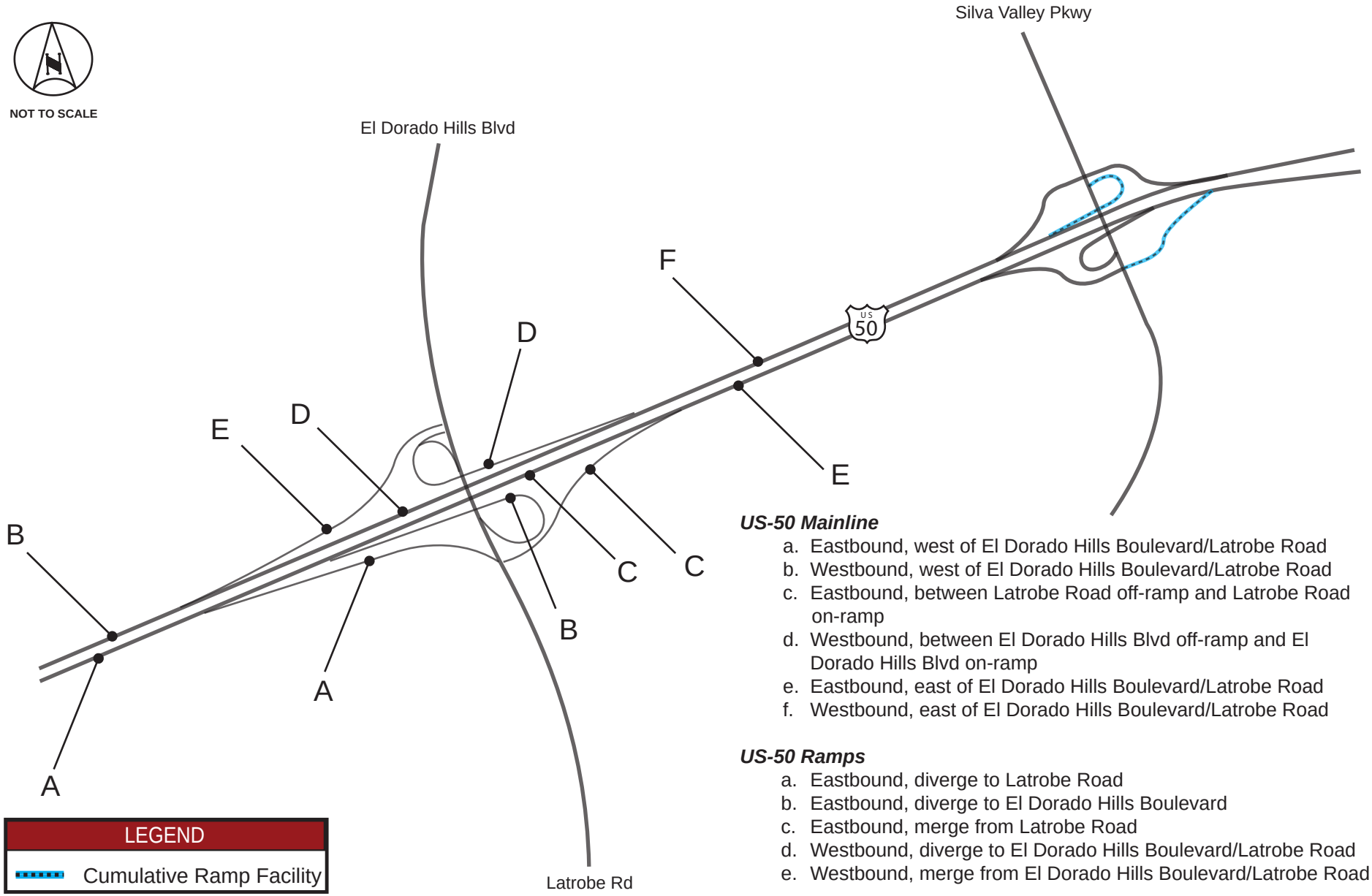
US Route 50 (US-50) is an east-west freeway located south of the project site. Generally, US-50 serves all of El Dorado County's major population centers and provides connections to Sacramento County to the west and the State of Nevada to the east. Primary access to the project site from US-50 is provided at the El Dorado Hills Boulevard/Latrobe Road interchange. Within the general project area, US-50 currently serves approximately 98,000 vehicles per day[4] (vpd) west of El Dorado Hills Boulevard/Latrobe Road.

El Dorado Hills Boulevard is a north-south arterial roadway that provides a primary connection to US-50 for western El Dorado County. South of US-50, El Dorado Hills Boulevard becomes **Latrobe Road**. North of the US-50 interchange area, this roadway carries approximately 33,600 vpd[5] with three through lanes in each direction. South of the interchange this roadway carries approximately 32,400 vpd[5] also with three travel lanes in each direction.

Saratoga Way is currently a two-lane roadway which parallels the north side of US-50 and terminates approximately 2,500-feet east of the El Dorado County/Sacramento County line. This roadway has long been planned as a four-lane divided facility (to be initially constructed as a two-lane roadway) providing vital connectivity between El Dorado Hills and Folsom, north of US-50. Saratoga Way currently serves approximately 1,500 vpd just west of El Dorado Hills Boulevard. Similar to Saratoga Way, **Wilson Boulevard** will be extended from its existing terminus providing connectivity to the aforementioned extension of Saratoga Way. Wilson Boulevard currently carries approximately 5,000 vpd[5] near El Dorado Hills Boulevard.

White Rock Road is an east-west arterial roadway that parallels US-50 to the south, connecting Rancho Cordova on the west with Latrobe Road in El Dorado County on the east. White Rock Road, which becomes **Silva Valley Parkway** north of US-50, accommodates approximately 10,500 vpd[5] in the vicinity of Latrobe Road.

[4] Caltrans, http://www.dot.ca.gov/trafficops/census/volumes2015/
[5] El Dorado County Community Development Agency, 2015.



US-50 Mainline

a. Eastbound, west of El Dorado Hills Boulevard/Latrobe Road
b. Westbound, west of El Dorado Hills Boulevard/Latrobe Road
c. Eastbound, between Latrobe Road off-ramp and Latrobe Road on-ramp
d. Westbound, between El Dorado Hills Blvd off-ramp and El Dorado Hills Blvd on-ramp
e. Eastbound, east of El Dorado Hills Boulevard/Latrobe Road
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US-50 Ramps

a. Eastbound, diverge to Latrobe Road
b. Eastbound, diverge to El Dorado Hills Boulevard
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d. Westbound, diverge to El Dorado Hills Boulevard/Latrobe Road
e. Westbound, merge from El Dorado Hills Boulevard/Latrobe Road

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Figure 4
Study Freeway Facilities

ASSESSMENT OF PROPOSED PROJECT

Proposed Project Trip Generation and Assignment

The number of trips anticipated to be generated by the proposed project was derived using data included in *Trip Generation Manual, 9th Edition,* published by the Institute of Transportation Engineers (ITE). The anticipated ITE trip generation characteristics for the proposed project are depicted in Table 1.

Table 1 – Proposed Project ITE Trip Generation

Land Use (ITE Code)	Size (ksf)	Daily Trips	AM Peak-Hour					PM Peak-Hour				
			Total Trips	IN		OUT		Total Trips	IN		OUT	
				%	Trips	%	Trips		%	Trips	%	Trips
Chick-fil-A (934)	4.6	2,284	209	51%	107	49%	102	150	52%	78	48%	72
Habit Burger (934)	2.8	1,390	127	51%	65	49%	62	91	52%	47	48%	44
Shopping Center (820)	3.0	696	18	62%	11	38%	7	57	48%	27	52%	30
Subtotal Trips:		*4,370*	*354*		*183*		*171*	*298*		*152*		*146*
Internal Trip Reduction	5%	-219	-18		-9		-9	-15		-8		-7
Net New Driveway Trips:		***4,152***	***337***		***174***		***163***	***283***		***144***		***139***
Pass-By/Diverted Trip Reduction	15%	-623	-50		-26		-24	-42		-22		-21
Net New External Trips:		***3,529***	***286***		***148***		***138***	***241***		***123***		***118***

Source: *Trip Generation Manual, 9th Edition* , ITE.

As shown in Table 1, the proposed project is estimated to generate approximately 3,529 new daily trips, with 286 new trips occurring during the AM peak-hour, and 241 new trips occurring during the PM peak-hour. Project traffic was distributed to the roadway network based on existing traffic volumes, output from the County's travel demand model, and professional judgment. The project trip distribution percentages are provided in Figure 5 (2017 scenario) and Figure 6 (2035 scenario) and the assignment of project trips are depicted in Figure 7 (2017 scenario) and Figure 8 (2035 scenario).

TRANSPORTATION IMPACT STUDY METHODOLOGY

This transportation impact study was performed in accordance with the County's transportation impact study guidelines[2].

Level of Service Definitions

Analysis of transportation facility significant environmental impacts is based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 2010.*

Intersection Analysis

The HCM includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. Table 2 presents intersection LOS definitions as defined in the HCM.

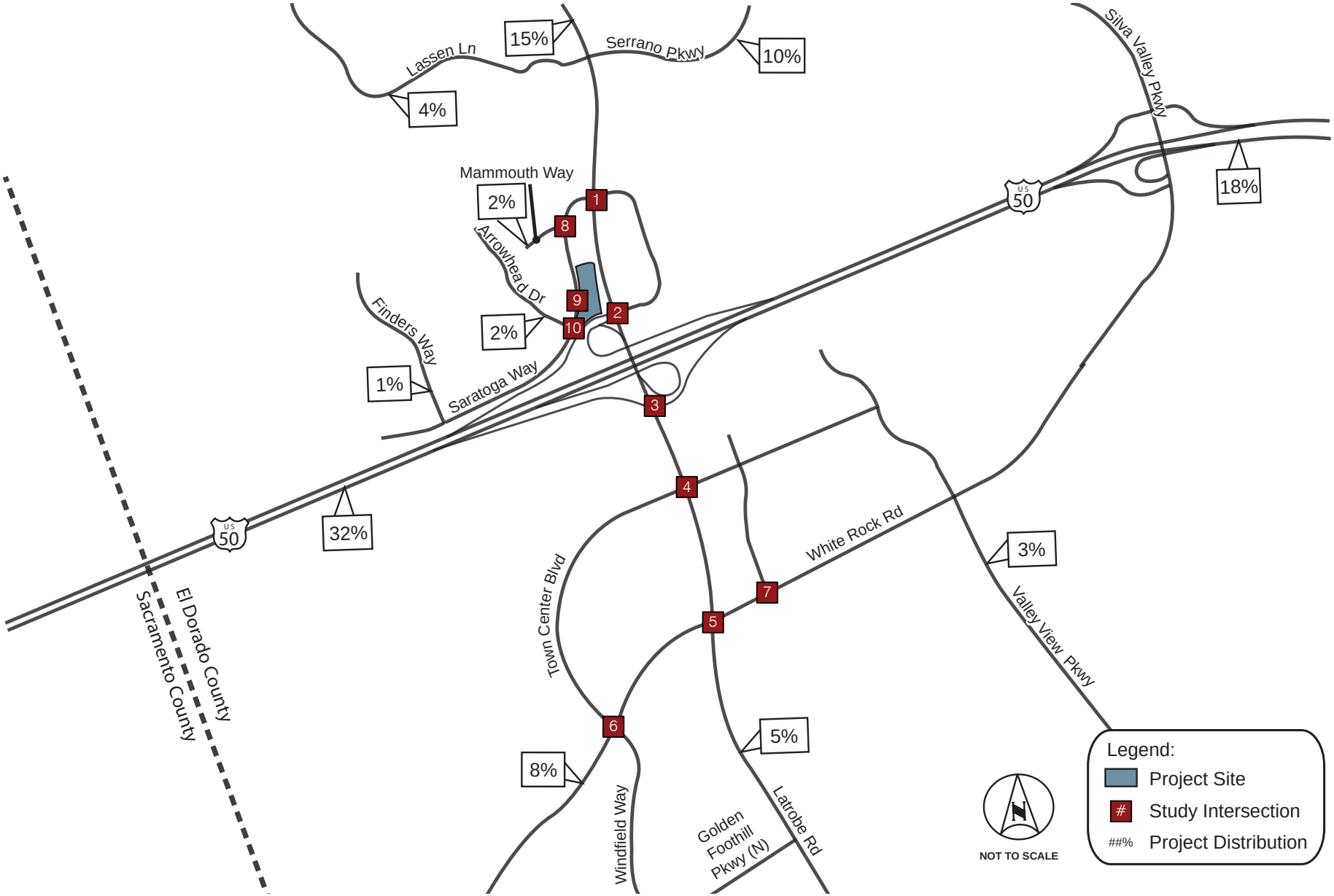

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Figure 5
Existing (2017) Proposed Project Trip Distribution

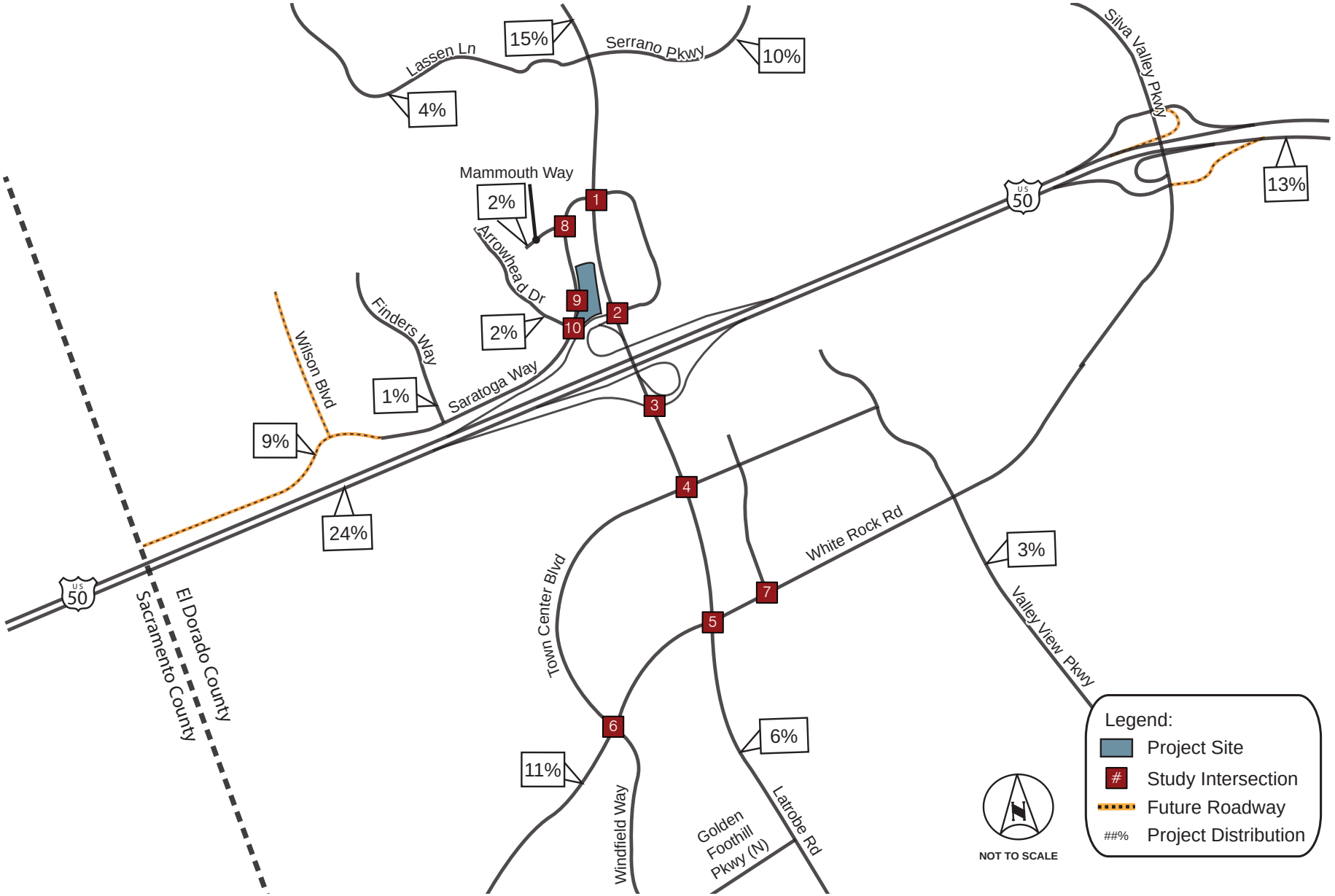

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Figure 6
Cumulative (2035) Proposed Project Trip Distribution

1			2			3			4		
51 / 42 ⇦ -8 / -6 ⇨	El Dorado Hills Blvd		53 / 45 ⇦ 56 / 47 ⇨	El Dorado Hills Blvd		22 / 19 ⇩ 33 / 29 ⇧	El Dorado Hills Blvd	⇦ 56 / 47	22 / 19 ⇩	Latrobe Rd	
Saratoga Wy		Park Dr	US-50 WB Ramps		Park Dr			US-50 EB Ramps			Town Center Blvd
40 / 34 ⇦		⇨	36 / 30 ⇦		⇧			⇧			⇧
116 / 99 ⇦		116 / 96 ⇨			80 / 66 ⇧			24 / 20 ⇧			24 / 20 ⇧

5			6			7			8		
11 / 9 ⇧ 7 / 6 ⇩ 4 / 4 ⇦	Latrobe Rd	⇦ 4 / 4		Town Center Blvd	⇦ 11 / 9		Post St	⇦ 4 / 4	166 / 138 ⇩	Saratoga Way	
		White Rock Rd			White Rock Rd			White Rock Rd	Mammouth Wy		Walgreens Dwy
12 / 10 ⇦		⇧ 7 / 6	12 / 10 ⇨	Windfield Way		4 / 4 ⇨			3 / 2 ⇦		⇧ 3 / 2 ⇩ 156 / 133

9			10		
85 / 71 ⇩ 84 / 70 ⇧	Saratoga Way	⇦ 79 / 67 ⇨ 1 / 1 ⇦	3 / 2 ⇦ 1 / 1 ⇨	Saratoga Way	
		Main Project Dwy	Arrowhead Dr		
		⇧ 80 / 68 ⇩ 1 / 1 ⇧	3 / 2 ⇦		⇧ 1 / 1

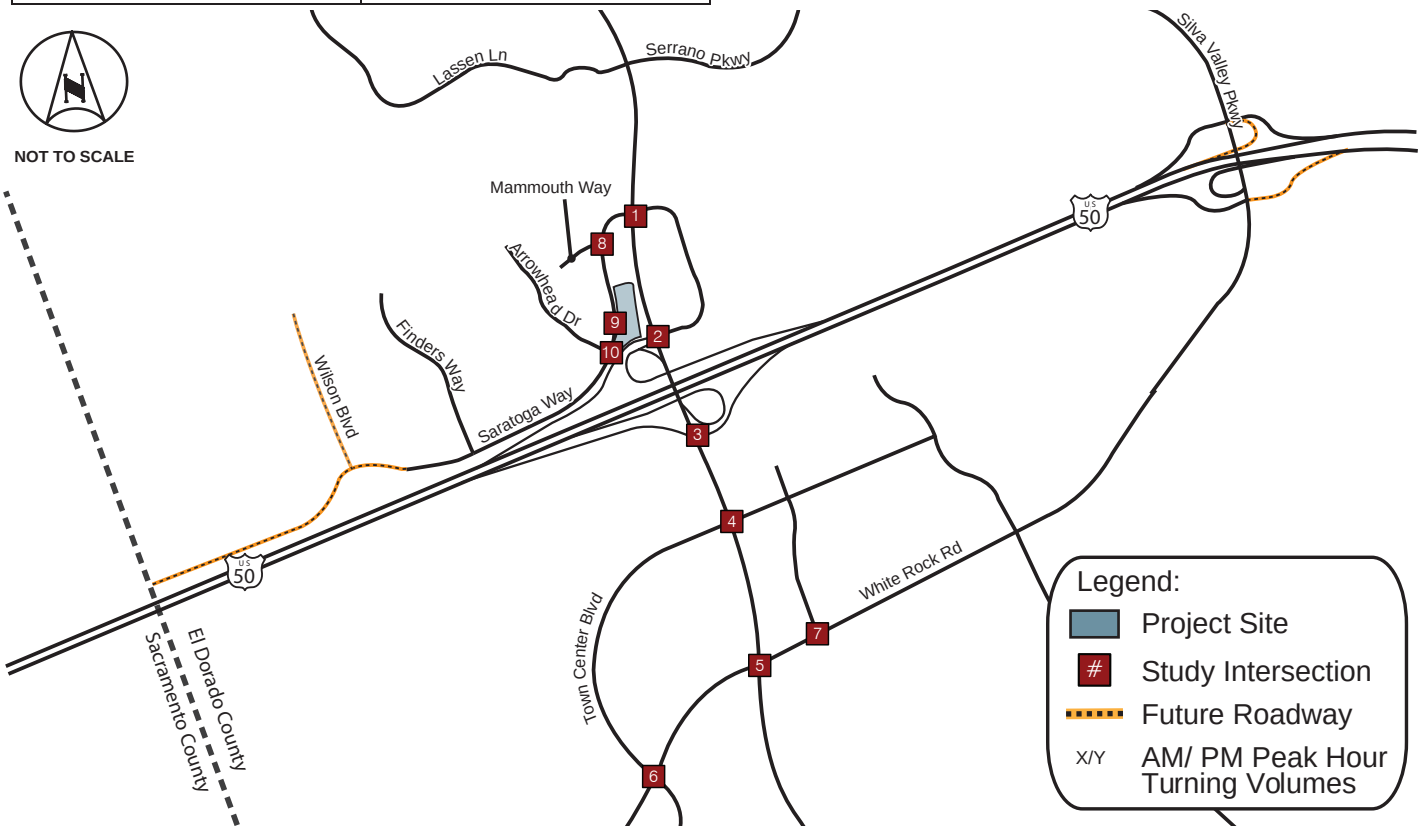

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Figure 7
Existing (2017) Proposed Project Trip Assignment

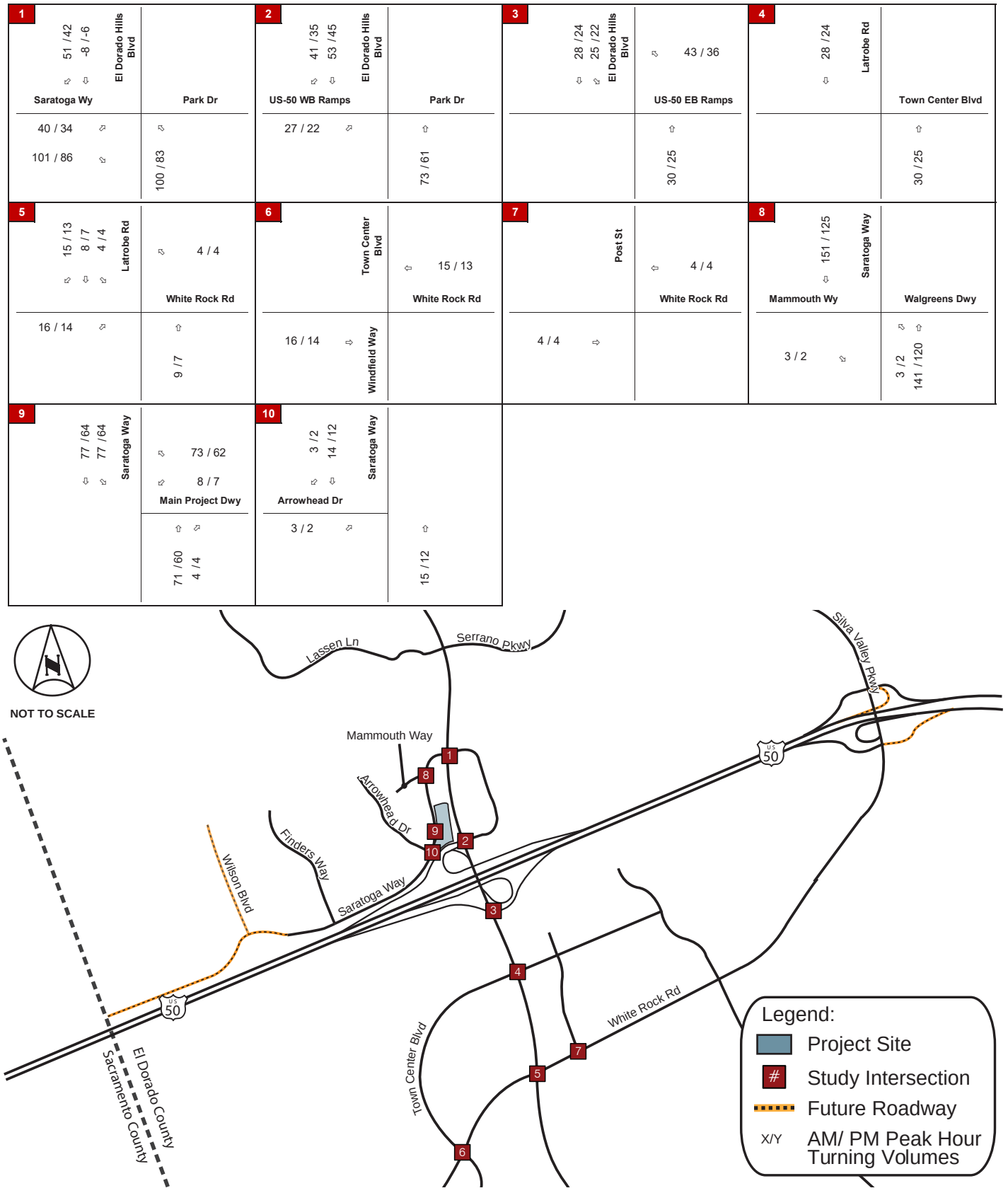

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Figure 8
Cumulative (2035) Proposed Project Trip Assignment

Table 2 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay* (sec/veh)	Average Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: Highway Capacity Manual, 2010
* Applied to the worst lane/lane group(s) for SSSC

Due to the close spacing of the El Dorado Hills Boulevard/Latrobe Road intersections in the vicinity of US-50 and along White Rock Road, LOS for Intersections #1-#5 and Intersections #5-7 was determined using the SimTraffic® micro-simulation analysis software. The existing conditions SimTraffic® models were originally provided by the County for use in this study[6]. These models were validated based on field observations of traffic volumes, driver behavior, lane utilization, and maximum vehicle queue lengths. As a result of these observations, adjustments were incorporated that improve the accuracy of the vehicles' behavior as they position for downstream turns. SimTraffic® measures of effectiveness are compared against the HCM intersection delay thresholds to equate SimTraffic® results to HCM LOS. For this simulation effort, a seed time of 10 minutes was used and 10 runs were averaged to obtain the results. LOS for the remaining study intersections was determined using the Synchro® traffic analysis software.

Roadway Segment Analysis

The HCM also includes procedures for analyzing multi-lane and two-lane roadway segments. For multilane roadways segments, LOS is determined based on the density of the traffic stream. For two-lane highways, the LOS calculation is dependent on the class of the roadway. Class I two-lane highways are highways generally have high speeds, Class II two-lane highways are lower speed highways that typically serve scenic routes or areas of rugged terrain, and Class III two-lane highways typically serve moderately developed areas with higher densities of local traffic and access. Specifically, for Class III highways, the percent of free-flow speed, which is the measure representing the ability of vehicles to travel at the posted speed limit, is used to determine LOS. Saratoga Way is either a Class III two-lane or a multi-lane roadway, depending on the analysis scenario. The LOS criteria for multi-lane and two-lane roadway segments are shown in Table 3 and Table 4, respectively.

[6] Email from Natalie Porter, El Dorado County Community Development Agency, October 24, 2014.

Table 3 – Multi-Lane Roadway Segment Level of Service Criteria

Level of Service (LOS)	Free Flow Speed (mph)	Density (pc/mi/ln)
A	All	> 0 – 11
B	All	> 11 – 18
C	All	> 18 – 26
D	All	> 26 – 35
E	60 55 50 45	> 35 – 40 > 35 – 41 > 35 – 43 > 35 – 45
F (demand exceeds capacity)	60 55 50 45	> 40 > 41 > 43 > 45

Source: Highway Capacity Manual, 2010

Table 4 – Two-Lane Roadway Segment (Class III) Level of Service Criteria

Level of Service (LOS)	Percent Free-Flow Speed (%)
A	> 91.7
B	> 83.3 – 91.7
C	> 75.0 – 83.3
D	> 66.7 – 75.0
E	≤ 66.7

Source: Highway Capacity Manual, 2010

Freeway Facility Analysis

Caltrans' traffic study guidelines[7] specify the use of vehicle density (passenger cars/mile/lane) as the appropriate measure of effectiveness for freeway facilities. The LOS criteria for basic freeway segments and freeway merge/diverge segments are summarized in Table 5. We understand that Caltrans District 3 prefers weaving sections to be analyzed using the Leisch Method[8]. As such, the freeway weaving sections in this study are evaluated using this methodology.

Table 5 – Freeway Facility Level of Service Criteria

Level of Service (LOS)	Basic Segments Density (pc/mi/ln)	Merge/Diverge Segments Density (pc/mi/ln)
A	≤ 11	≤ 10
B	> 11 – 18	> 10 – 20
C	> 18 – 26	> 20 – 28
D	> 26 – 35	> 28 – 35
E	> 35 – 45	> 35
F*	> 45*	*

Source: Highway Capacity Manual, 2010
* Demand exceeds capacity

[7] *Guide for the Preparation of Traffic Impact Studies*, Caltrans, December 2002.
[8] *Procedure for Analysis and Design of Weaving Sections,* Federal Highway Administration, February 1984.

Land Use Consistency and Analysis Scenarios

The proposed project is understood to be consistent with the County's growth assumptions for Traffic Analysis Zone (TAZ) (#616) in which the project is located. However, in light of Measure E's requirements, although the County's Travel Demand Model (TDM) is considered to account for the project's proposed land use and the *General Plan's* cumulative traffic analysis should serve as the basis for the Cumulative (2035) traffic analysis of the project, a new evaluation of Cumulative (2035) conditions (with and without the proposed project) is included in this evaluation. Accordingly, this LOS analysis was conducted for the study facilities for the following scenarios:

A. Existing (2017) Conditions
B. Existing (2017) plus Proposed Project Conditions
C. Cumulative (2035) Conditions
D. Cumulative (2035) plus Proposed Project Conditions

EXISTING (2017) CONDITIONS

New weekday AM and PM peak-period intersection turning movement traffic counts were conducted on March 14, 2017 for all ten (10) study intersections. These counts were conducted between the hours of 6:00 a.m. and 9:00 a.m., and 4:00 p.m. and 7:00 p.m. Freeway mainline volumes were obtained from Caltrans' Performance Measurement System[9] (PeMS) using data from March 4-26, 2015. When combined with the ramp terminal intersection turning movement counts, weaving segments and merge/diverge sections were also able to be evaluated.

Existing (2017) peak-hour turn movement volumes are presented in Figure 9, and the traffic count data sheets are provided in Appendix A. Analysis worksheets for this scenario are provided in Appendix B.

Intersections

Table 6 presents the intersection operating conditions for this analysis scenario. As indicated in Table 6, the study intersections operate from LOS A to LOS D.

Roadway Segment

Table 7 presents the roadway segment operating conditions for this analysis scenario. As indicated in Table 7, the study roadway segment operates from LOS A to LOS B.

Freeway Facilities

Table 8 presents the freeway facility operating conditions for this analysis scenario. As indicated in Table 8, the freeway facilities operate from LOS A to LOS D.

[9] http://pems.dot.ca.gov/

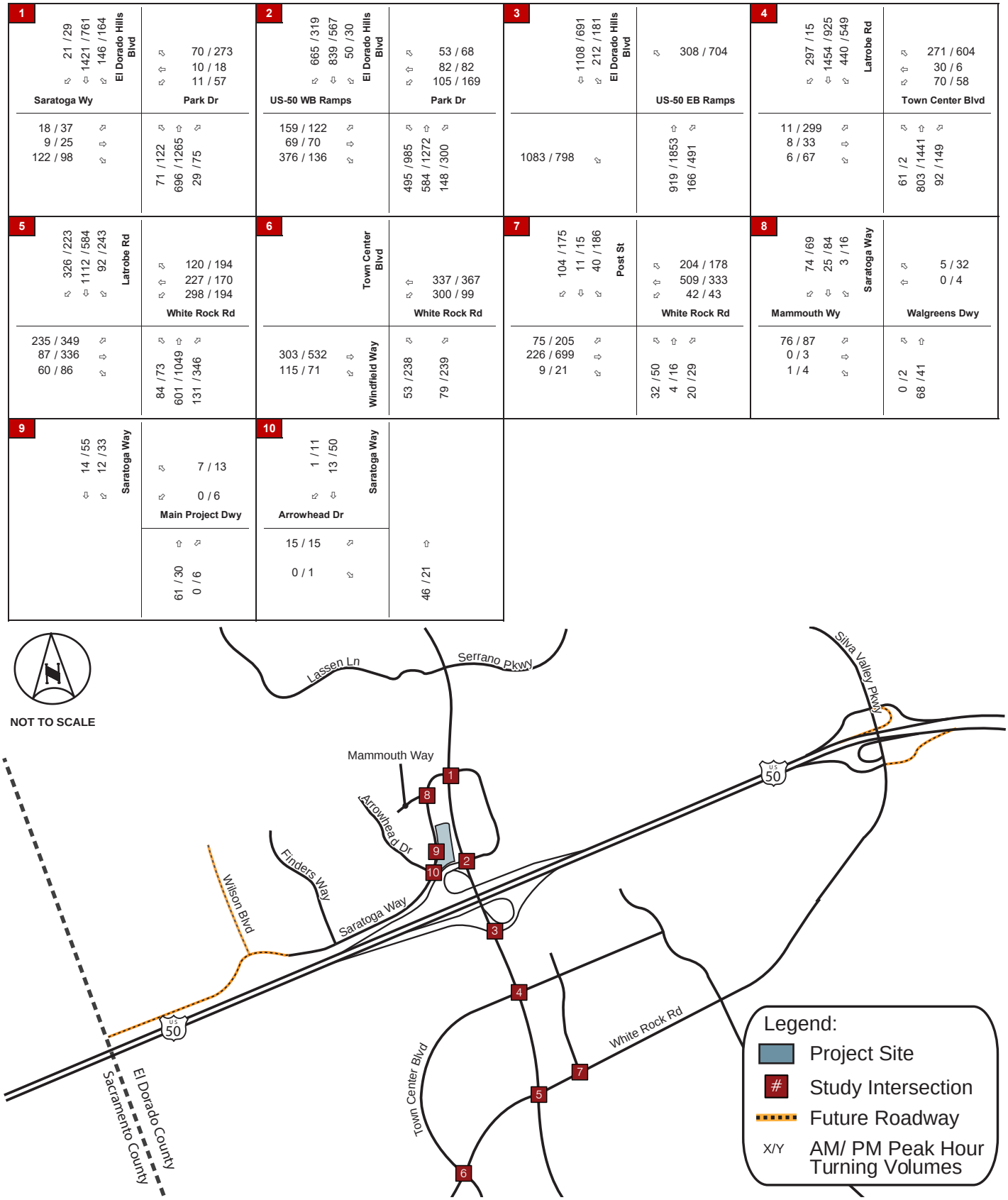


Figure 9
Existing (2017) Peak-Hour Traffic Volumes

Table 6 – Existing (2017) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2017)	
				Delay (sec)	LOS
1	El Dorado Hills Blvd @ Saratoga Way/Park Dr	Signal	AM	12.9	B
			PM	22.6	C
2	El Dorado Hills Blvd @ US-50 WB Ramps/ Park Dr	Signal	AM	30.9	C
			PM	44.2	D
3	Latrobe Rd @ US-50 EB Ramps	Signal	AM	14.5	B
			PM	13.7	B
4	Latrobe Rd @ Town Center Blvd	Signal	AM	16.3	B
			PM	48.3	D
5	Latrobe Rd @ White Rock Rd	Signal	AM	33.2	C
			PM	33.4	C
6	White Rock Rd @ Windfield Wy/ Town Center Blvd	Signal	AM	11.9	B
			PM	13.9	B
7	White Rock Rd @ Post St	Signal	AM	23.5	C
			PM	43.7	D
8	Saratoga Wy @ Mammouth Wy/ Walgreens Dwy	SSSC	AM	10.6	B
			PM	11.1	B
9	Saratoga Wy @ Main Project Site Dwy	SSSC	AM	8.6	A
			PM	8.8	A
10	Saratoga Wy @ Arrowhead Dr	SSSC	AM	9.0	A
			PM	9.0	A

Notes:
Side Street Stop Controlled (SSSC) intersection LOS corresponds to the worst approach.

Table 7 – Existing (2017) Roadway Segment Levels of Service

Scenario	Location	Peak-Hour	Analysis Direction	LOS	PFFS (%)	v/c
Existing (2017)	Saratoga Way, west of El Dorado Hills Blvd	AM	NB	A	92.0	0.06
			SB	A	92.0	0.03
		PM	NB	B	88.5	0.05
			SB	B	90.4	0.09

Notes:
PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Table 8 – Existing (2017) Freeway Facility Levels of Service

US-50				Existing (2017)	
Direction	Segment	Type	Peak Hour	Density[a]	LOS
Eastbound	West of Latrobe Rd Southbound Off- Ramp	Basic	AM	13.3	B
			PM	23.2	C
	Latrobe Rd Southbound Off-Ramp	Diverge	AM	22.6	C
			PM	24.8	C
	El Dorado Hills Blvd Northbound Off-Ramp	Diverge	AM	14.5	B
			PM	19.4	B
	El Dorado Hills Blvd Northbound Off-Ramp to Latrobe Rd On-Ramp	Basic	AM	6.6	A
			PM	14.4	B
	Latrobe Rd On-Ramp to Silva Valley Pkwy Off-Ramp	Weave[c]	AM	-	A
			PM	-	B
Westbound	Silva Valley On-Ramp to El Dorado Hills Blvd Off-Ramp	Weave[c]	AM	-	B
			PM	-	A
	El Dorado Hills Blvd Off-Ramp to El Dorado Hills Blvd On-Ramp	Basic	AM	19.4	C
			PM	12.2	B
	El Dorado Hills Blvd On-Ramp	Merge	AM	32.8	D
			PM	26.1	C
	West of El Dorado Hills Blvd On-Ramp	Basic	AM	34.4	D
			PM	24.2	C

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- **Bold** represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

EXISTING (2017) PLUS PROPOSED PROJECT CONDITIONS

The number of trips estimated to be generated by the proposed project were determined using the ITE *Trip Generation Manual* and were then assigned to the roadway network based on existing traffic volumes, output from the County's travel demand model, and professional judgment. Using these volumes, levels of service were determined at the study facilities. Existing (2017) plus Proposed Project peak-hour turn movement volumes are presented in Figure 10. Analysis worksheets for this scenario are provided in Appendix C.

Intersections

Table 9 presents the intersection operating conditions for this analysis scenario. As indicated in Table 9, the study intersections operate from LOS A to LOS D.

Table 9 – Existing (2017) plus Proposed Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2017)		Existing (2017) plus Proposed Project	
				Delay (sec)	LOS	Delay (sec)	LOS
1	El Dorado Hills Blvd @ Saratoga Way/Park Dr	Signal	AM	12.9	B	26.4	C
			PM	22.6	C	38.5	D
2	El Dorado Hills Blvd @ US-50 WB Ramps/ Park Dr	Signal	AM	30.9	C	29.7	C
			PM	44.2	D	52.5	D
3	Latrobe Rd @ US-50 EB Ramps	Signal	AM	14.5	B	14.9	B
			PM	13.7	B	14.1	B
4	Latrobe Rd @ Town Center Blvd	Signal	AM	16.3	B	17.9	B
			PM	48.3	D	49.2	D
5	Latrobe Rd @ White Rock Rd	Signal	AM	33.2	C	34.4	C
			PM	33.4	C	33.3	C
6	White Rock Rd @ Windfield Wy/ Town Center Blvd	Signal	AM	11.9	B	11.9	B
			PM	13.9	B	13.9	B
7	White Rock Rd @ Post St	Signal	AM	23.5	C	23.9	C
			PM	43.7	D	44.6	D
8	Saratoga Wy @ Mammouth Wy/ Walgreens Dwy	SSSC	AM	10.6	B	18.8	C
			PM	11.1	B	15.8	C
9	Saratoga Wy @ Main Project Site Dwy	SSSC	AM	8.6	A	9.4	A
			PM	8.8	A	9.6	A
10	Saratoga Wy @ Arrowhead Dr	SSSC	AM	9.0	A	9.0	A
			PM	9.0	A	9.1	A

Notes:
Side Street Stop Controlled (SSSC) intersection LOS corresponds to the worst approach.

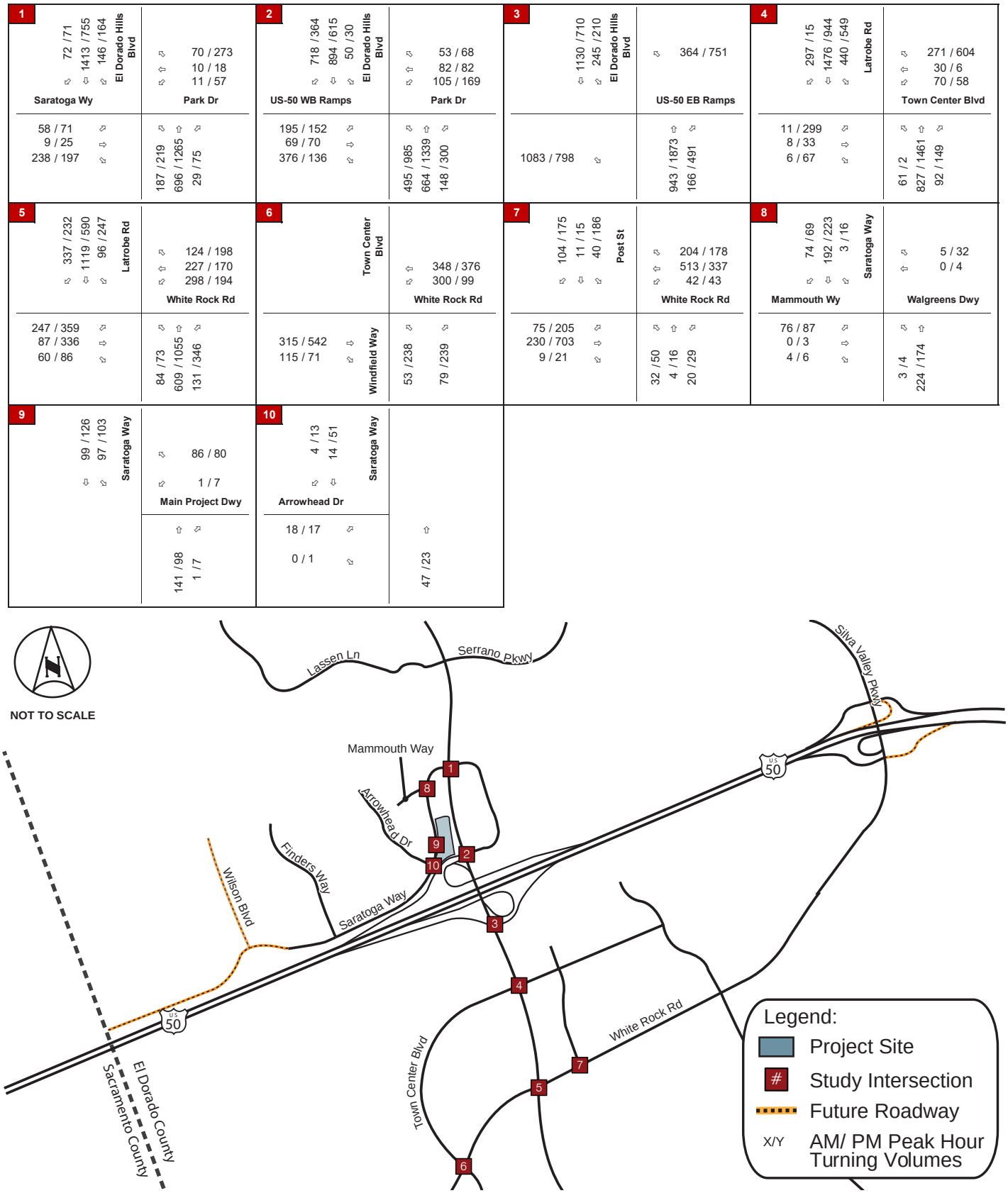


Figure 10
Existing (2017) plus Proposed Project Peak-Hour Traffic Volumes

Roadway Segment

Table 10 presents the roadway segment operating conditions for this analysis scenario. As indicated in Table 10, the study roadway segment operates at LOS C.

Table 10 – Existing (2017) plus Proposed Project Roadway Segment Levels of Service

Scenario	Location	Peak-Hour	Analysis Direction	LOS	PFFS (%)	v/c
Existing (2017) plus Project	Saratoga Way, west of El Dorado Hills Blvd	AM	NB	C	82.0	0.18
			SB	C	82.4	0.17
		PM	NB	C	82.1	0.17
			SB	C	81.4	0.2

Notes:

PFFS = Percent Free-Flow Speed, v/c = Volume to Capacity

Freeway Facilities

Table 11 presents the freeway facility operating conditions for this analysis scenario. As indicated in Table 11, the freeway facilities operate from LOS A to LOS E.

Table 11 – Existing (2017) plus Proposed Project Freeway Facility Levels of Service

US-50				Existing (2017)		Existing plus Project (2017)	
Direction	Segment	Type	Peak Hour	Density[a]	LOS	Density[a]	LOS
Eastbound	West of Latrobe Rd Southbound Off- Ramp	Basic	AM	13.3	B	13.5	B
			PM	23.2	C	23.5	C
	Latrobe Rd Southbound Off-Ramp	Diverge	AM	22.6	C	23.0	C
			PM	24.8	C	25.2	C
	El Dorado Hills Blvd Northbound Off-Ramp	Diverge	AM	14.5	B	15.0	B
			PM	19.4	B	19.8	B
	El Dorado Hills Blvd Northbound Off-Ramp to Latrobe Rd On-Ramp	Basic	AM	6.6	A	6.6	A
			PM	14.4	B	14.3	B
	Latrobe Rd On-Ramp to Silva Valley Pkwy Off-Ramp	Weave[c]	AM	-	A	-	A
			PM	-	B	-	B
Westbound	Silva Valley On-Ramp to El Dorado Hills Blvd Off-Ramp	Weave[c]	AM	-	B	-	B
			PM	-	A	-	A
	El Dorado Hills Blvd Off-Ramp to El Dorado Hills Blvd On-Ramp	Basic	AM	19.4	C	19.3	C
			PM	12.2	B	12.2	B
	El Dorado Hills Blvd On-Ramp	Merge	AM	32.8	D	33.2	D
			PM	26.1	C	26.4	C
	West of El Dorado Hills Blvd On-Ramp	Basic	AM	34.4	D	35.2	E
			PM	24.2	C	24.7	C

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- **Bold** represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

CUMULATIVE (2035) CONDITIONS

As described in the Land Use Consistency and Analysis Scenarios section of this report, future traffic estimates were prepared using the County's current TDM. The County provided the current draft Geodatabase associated with the TDM which has an updated roadway network per the County's 2016 Capital Improvement Program[10]. However, as the County indicated, this geodatabase "is still in draft form and has not been tested or used in any other project." As a result, Kimley-Horn reviewed the draft geodatabase and the roadway network for consistency with the 2016 Capital Improvement Program (CIP) to confirm its accuracy for use in this study.

In addition, in a manner consistent with other recent studies in the project area, analyses completed specifically considered the inclusion of the following projects[11]:

- Saratoga Estates
- Bass Lake Hills Specific Plan
- Carson Creek Specific Plan
- Promontory
- Ridgeview
- San Stino Residential
- Serrano
- Valley View Specific Plan
- Central El Dorado Hills Specific Plan
- Village of Marble Valley Specific Plan
- Lime Rock Specific Plan
- Spanos Apartments

Additionally, the following specific capital improvement projects in the immediate vicinity of the project site are anticipated to be completed prior to year 2035 and are included in this scenario:

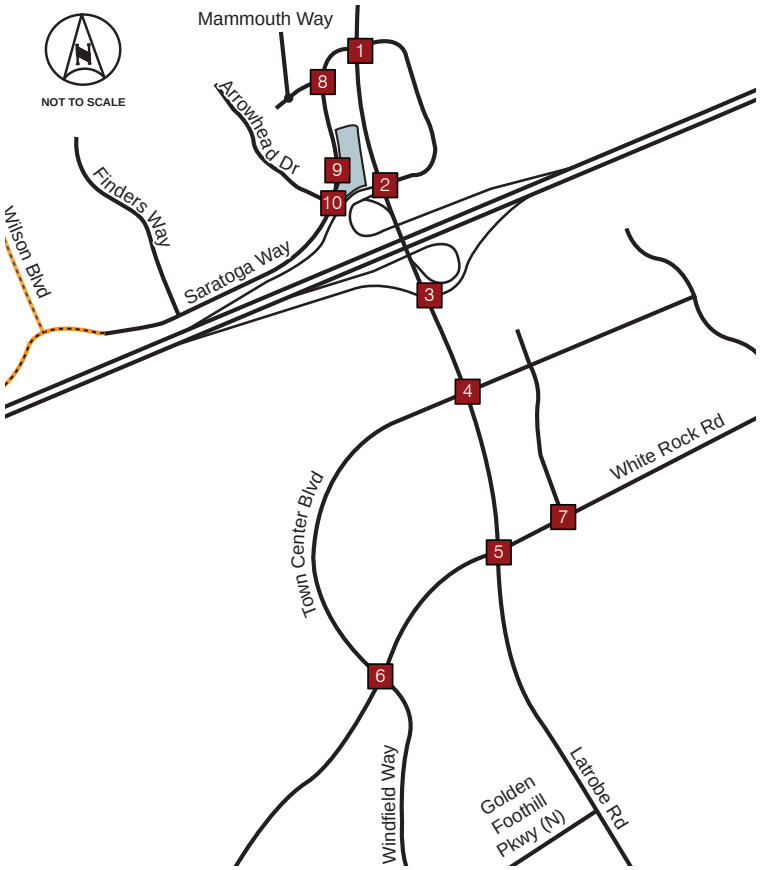
- Saratoga Way (4-Lane) Extension, including the restriction of left-turns out of Mamouth Way
- El Dorado Hills Boulevard @ Saratoga Way Intersection Improvements
- US-50/Silva Valley Parkway Interchange (Phase 2)
- US-50/Empire Ranch Road Interchange

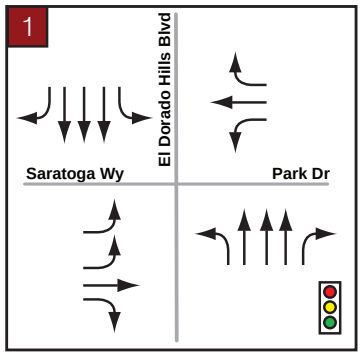
The difference between the resulting 2035 traffic estimate and the 2010 baseline model results (the growth) was then added to Existing (2017) traffic volumes to establish Cumulative (2035) traffic estimates for this study. Cumulative (2035) lane geometries and peak-hour turn movement volumes are presented in **Figure 11** and **Figure 12**, respectively. Analysis worksheets for this scenario are provided in **Appendix F**.

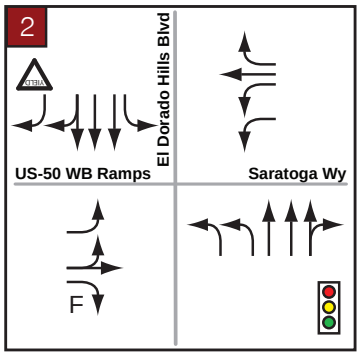
Intersections

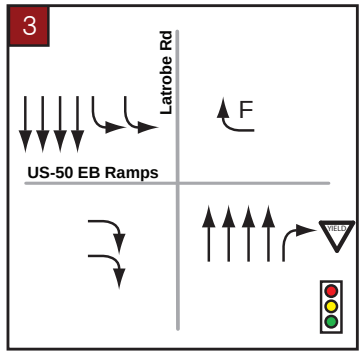
Table 12 presents the intersection operating conditions for this analysis scenario. As indicated in **Table 12**, the study intersections operate from LOS B to LOS E.

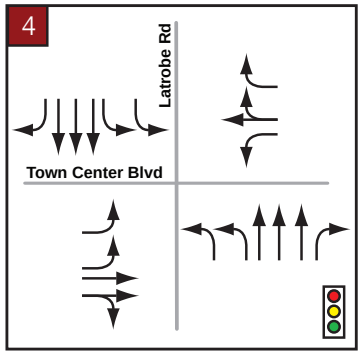
[10] Email from Katie Jackson, El Dorado County Community Development Agency, March 15, 2017.
[11] Email from Chirag Safi, Kittelson & Associates, Inc., October 20, 2014.

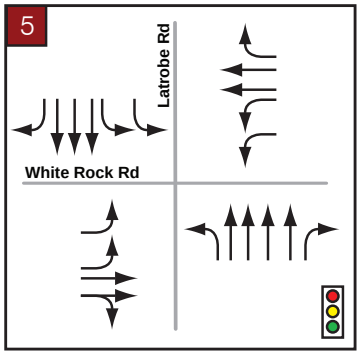


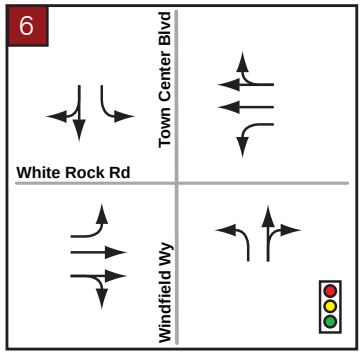


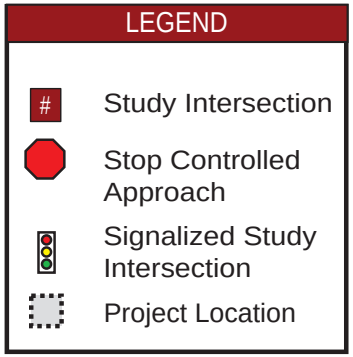


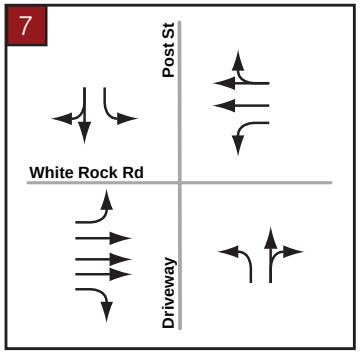


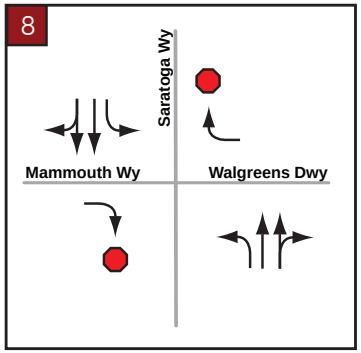


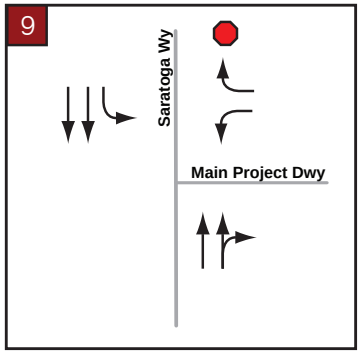












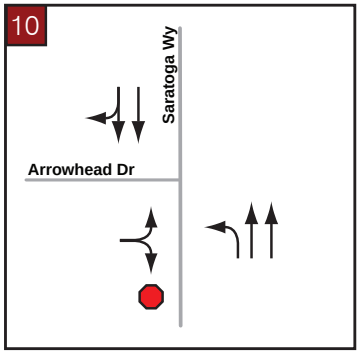


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Figure 11
Cumulative (2035) Conditions Lane Geometries

1

133 / 44	153 / 327	395 / 790
1456 / 930	189 / 90	35 / 12
190 / 233	163 / 256	131 / 77
El Dorado Hills Blvd	Park Dr	Town Center Blvd
Saratoga Wy		
69 / 284	161 / 132	51 / 2
116 / 339	699 / 1153	1121 / 1836
145 / 313	1 / 22	93 / 156

2

377 / 106	40 / 21	
1374 / 1387	198 / 238	
13 / 6	109 / 173	
El Dorado Hills Blvd	Park Dr	
US-50 WB Ramps		
99 / 87	523 / 1156	
134 / 127	722 / 1199	
189 / 29	157 / 317	

3

1397 / 1346	218 / 338
275 / 243	
El Dorado Hills Blvd	US-50 EB Ramps
1146 / 374	1184 / 2334
	381 / 705

4

412 / 83	395 / 790
1566 / 979	35 / 12
565 / 658	131 / 77
Latrobe Rd	Town Center Blvd
49 / 413	51 / 2
11 / 39	1121 / 1836
4 / 54	93 / 156

5

631 / 229	154 / 209	
956 / 623	555 / 371	
114 / 258	503 / 495	
Latrobe Rd	White Rock Rd	
303 / 551	201 / 97	
145 / 674	808 / 1234	
95 / 102	143 / 432	

6

26 / 53	691 / 536	
15 / 25	696 / 161	
Town Center Blvd	White Rock Rd	
44 / 30	85 / 310	
419 / 886	21 / 21	
145 / 127	124 / 441	
	Windfield Way	

7

148 / 243	192 / 170
10 / 12	1029 / 771
37 / 171	38 / 41
Post St	White Rock Rd
136 / 290	35 / 61
248 / 1046	2 / 13
18 / 28	20 / 28

8

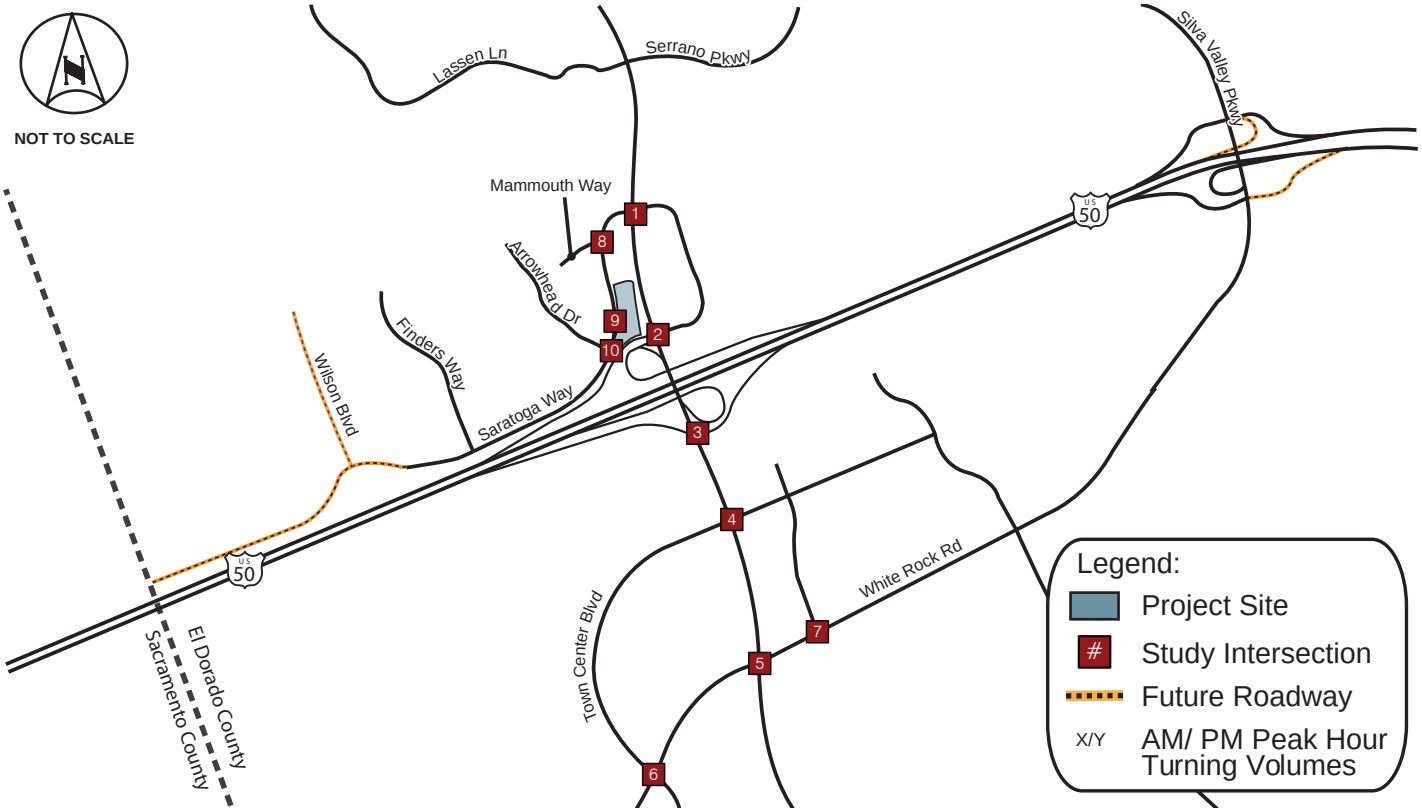
74 / 69	5 / 32	
406 / 181		
3 / 16		
Saratoga Way	Walgreens Dwy	
Mammouth Wy		
1 / 4	0 / 2	
	325 / 904	

9

395 / 152	7 / 17	
12 / 33	0 / 6	
Saratoga Way	Main Project Dwy	
	318 / 889	
	0 / 9	

10

1 / 11		
394 / 147		
Saratoga Way		
Arrowhead Dr		
91 / 105		
0 / 1		
	227 / 793	



Kimley»Horn

Figure 12
Cumulative (2035) Peak-Hour Traffic Volumes

Table 12 – Cumulative (2035) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Cumulative (2035)	
				Delay (sec)	LOS
1	El Dorado Hills Blvd @ Saratoga Way/Park Dr	Signal	AM	29.1	C
			PM	**94.7**	**F**
2	El Dorado Hills Blvd @ US-50 WB Ramps/ Park Dr	Signal	AM	26.8	C
			PM	**101.8**	**F**
3	Latrobe Rd @ US-50 EB Ramps	Signal	AM	12.3	B
			PM	16.5	B
4	Latrobe Rd @ Town Center Blvd	Signal	AM	22.5	C
			PM	78.9	E
5	Latrobe Rd @ White Rock Rd	Signal	AM	52.7	D
			PM	76.0	E
6	White Rock Rd @ Windfield Wy/ Town Center Blvd	Signal	AM	32.3	C
			PM	37.2	D
7	White Rock Rd @ Post St	Signal	AM	44.2	D
			PM	**133.7**	**F**
8	Saratoga Wy @ Mammouth Wy/ Walgreens Dwy	SSSC	AM	9.9	A
			PM	12.4	B
9	Saratoga Wy @ Main Project Site Dwy	SSSC	AM	9.3	A
			PM	15.4	C
10	Saratoga Wy @ Arrowhead Dr	SSSC	AM	14.8	B
			PM	16.2	C

Notes:

Bold represents unacceptable operations.

Side Street Stop Controlled (SSSC) intersection LOS corresponds to the worst approach.

Roadway Segment

Table 13 presents the roadway segment operating conditions for this analysis scenario. As indicated in Table 13, the study roadway segment operates at LOS A or LOS B.

Table 13 – Cumulative (2035) Roadway Segment Levels of Service

Scenario	Location	Peak-Hour	Analysis Direction	LOS	D (pc/mi/ln)
Cumulative (2035)	Saratoga Way, west of El Dorado Hills Blvd	AM	NB	A	4.1
			SB	A	6.0
		PM	NB	B	11.6
			SB	A	3.3

Notes:

D = Density (passenger cars, per mile, per lane)

Freeway Facilities

Table 14 presents the freeway facility operating conditions for this analysis scenario. As indicated in Table 14, the freeway facilities operate from LOS A to LOS D.

Table 14 – Cumulative (2035) Freeway Facility Levels of Service

US-50				Cumulative (2035)	
Direction	Segment	Type	Peak Hour	Density[a]	LOS
Eastbound	West of Latrobe Rd Southbound Off- Ramp	Basic	AM	15.2	B
			PM	19.3	C
	Latrobe Rd Southbound Off-Ramp	Diverge	AM	22.0	C
			PM	32.4	D
	El Dorado Hills Blvd Northbound Off-Ramp	Diverge	AM	16.3	B
			PM	30.2	D
	El Dorado Hills Blvd Northbound Off-Ramp to Latrobe Rd On-Ramp	Basic	AM	8.5	A
			PM	12.1	B
	Latrobe Rd On-Ramp to Silva Valley Pkwy Off-Ramp	Weave[c]	AM	-	A
			PM	-	B
Westbound	Silva Valley On-Ramp to El Dorado Hills Blvd Off-Ramp	Weave[c]	AM	-	B
			PM	-	B
	El Dorado Hills Blvd Off-Ramp to El Dorado Hills Blvd On-Ramp	Basic	AM	18.9	C
			PM	20.9	C
	El Dorado Hills Blvd On-Ramp to Scott Rd Off Ramp	Weave[c]	AM	-	D
			PM	-	D

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- **Bold** represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

CUMULATIVE (2035) PLUS PROPOSED PROJECT CONDITIONS

The number of trips estimated to be generated by the proposed project were determined using the ITE *Trip Generation Manual* and were then assigned to the roadway network based on existing traffic volumes, output from the County's travel demand model, and professional judgment. Using these volumes, levels of service were determined at the study facilities. Cumulative (2035) plus Proposed Project peak-hour turn movement volumes are presented in Figure 13. Analysis worksheets for this scenario are provided in Appendix G.

Intersections

Table 15 presents the intersection operating conditions for this analysis scenario. As indicated in Table 15, the study intersections operate from LOS B to LOS F.

Table 15 – Cumulative (2035) plus Proposed Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Cumulative (2035)		Cumulative (2035) Plus Proposed Project	
				Delay (sec)	LOS	Delay (sec)	LOS
1	El Dorado Hills Blvd @ Saratoga Way/Park Dr	Signal	AM	29.1	C	45.0	D
			PM	**94.7**	**F**	**101.8**	**F**
2	El Dorado Hills Blvd @ US-50 WB Ramps/ Park Dr	Signal	AM	26.8	C	46.1	D
			PM	**101.8**	**F**	**100.5**	**F**
3	Latrobe Rd @ US-50 EB Ramps	Signal	AM	12.3	B	12.7	B
			PM	16.5	B	17.3	B
4	Latrobe Rd @ Town Center Blvd	Signal	AM	22.5	C	24.7	C
			PM	78.9	E	76.1	E
5	Latrobe Rd @ White Rock Rd	Signal	AM	52.7	D	55.5	E
			PM	76.0	E	71.7	E
6	White Rock Rd @ Windfield Wy/ Town Center Blvd	Signal	AM	32.3	C	32.7	C
			PM	37.2	D	37.6	D
7	White Rock Rd @ Post St	Signal	AM	44.2	D	50.9	D
			PM	**133.7**	**F**	**121.2**	**F**
8	Saratoga Wy @ Mammouth Wy/ Walgreens Dwy	SSSC	AM	9.9	A	10.6	B
			PM	12.4	B	13.2	B
9	Saratoga Wy @ Main Project Site Dwy	SSSC	AM	9.3	A	10.9	B
			PM	15.4	C	17.5	C
10	Saratoga Wy @ Arrowhead Dr	SSSC	AM	14.8	B	15.4	C
			PM	16.2	C	16.7	C

Notes:

Bold represents unacceptable operations. Shaded represents significant impact.

Side Street Stop Controlled (SSSC) intersection LOS corresponds to the worst approach.

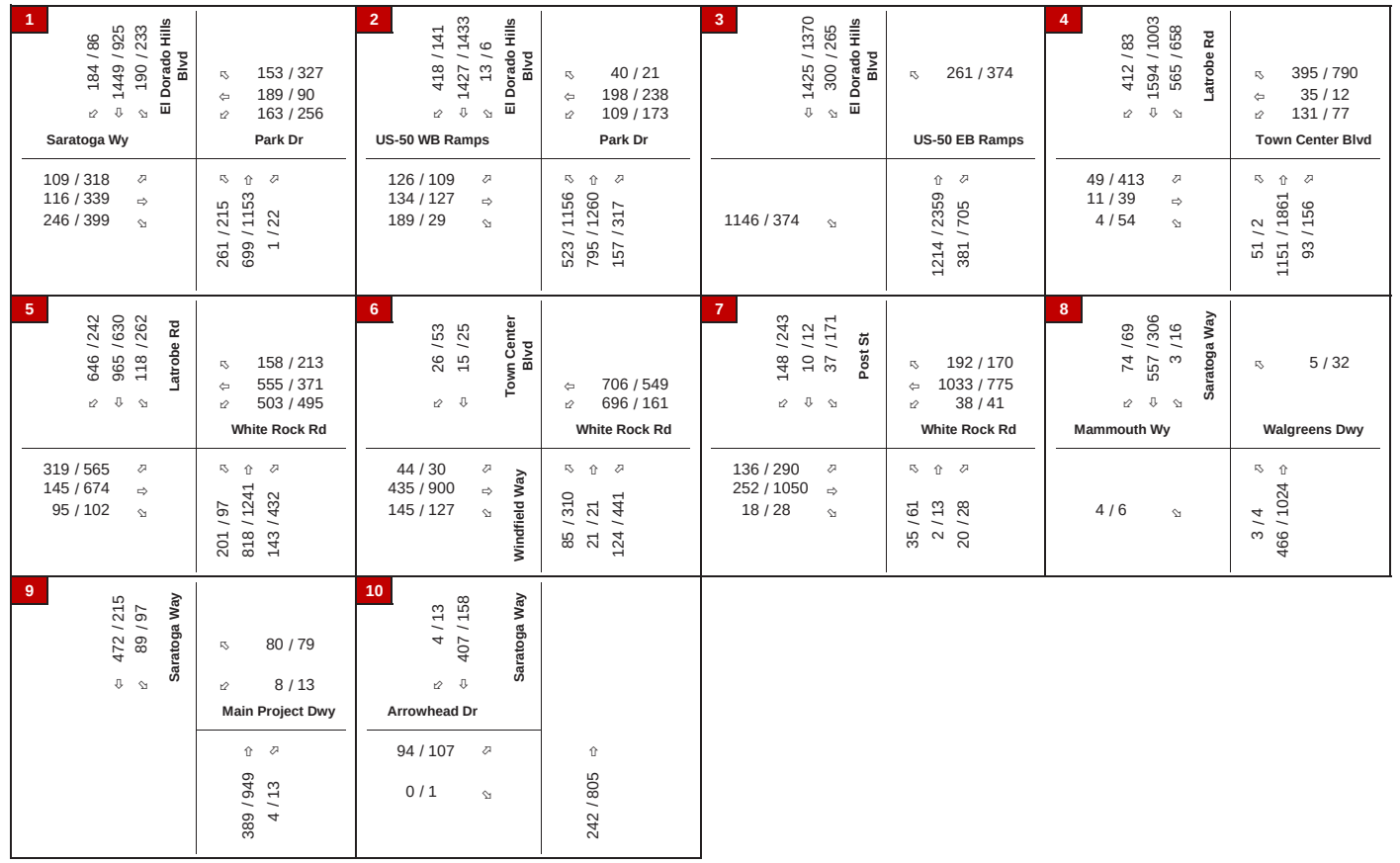


Figure 13
Cumulative (2035) plus Proposed Project Peak-Hour Traffic Volumes

Roadway Segment

Table 16 presents the roadway segment operating conditions for this analysis scenario. As indicated in Table 16, the study roadway segment operate from LOS A to LOS B.

Table 16 – Cumulative (2035) plus Proposed Project Roadway Segment Levels of Service

Scenario	Location	Peak-Hour	Analysis Direction	LOS	D (pc/mi/ln)
Cumulative (2035) plus Project	Saratoga Way, west of El Dorado Hills Blvd	AM	NB	A	5.8
			SB	A	7.9
		PM	NB	B	13.1
			SB	A	4.8

Notes:

D = Density (passenger cars, per mile, per lane)

Freeway Facilities

Table 17 presents the freeway facility operating conditions for this analysis scenario. As indicated in Table 17, the freeway facilities operate from LOS A to LOS D.

Table 17 – Cumulative (2035) plus Proposed Project Freeway Facility Levels of Service

US-50				Cumulative (2035)		Cumulative (2035) plus Project	
Direction	Segment	Type	Peak Hour	Density[a]	LOS	Density[a]	LOS
Eastbound	West of Latrobe Rd Southbound Off- Ramp	Basic	AM	15.2	B	15.4	B
			PM	19.3	C	19.5	C
	Latrobe Rd Southbound Off-Ramp	Diverge	AM	22.0	C	22.1	C
			PM	32.4	D	28.4	D
	El Dorado Hills Blvd Northbound Off-Ramp	Diverge	AM	16.3	B	16.6	B
			PM	30.2	D	34.2	D
	El Dorado Hills Blvd Northbound Off-Ramp to Latrobe Rd On-Ramp	Basic	AM	8.5	A	8.5	A
			PM	12.1	B	15.3	B
	Latrobe Rd On-Ramp to Silva Valley Pkwy Off-Ramp	Weave[c]	AM	-	A	-	A
			PM	-	B	-	C
Westbound	Silva Valley On-Ramp to El Dorado Hills Blvd Off-Ramp	Weave[c]	AM	-	B	-	B
			PM	-	B	-	B
	El Dorado Hills Blvd Off-Ramp to El Dorado Hills Blvd On-Ramp	Basic	AM	18.9	C	18.9	C
			PM	20.9	C	20.8	C
	El Dorado Hills Blvd On-Ramp to Scott Rd Off Ramp	Weave[c]	AM	-	D	-	D
			PM	-	D	-	D

Notes:

a- Density measured in passenger cars/lane/mile (pc/ln/mi)

b- **Bold** represents unacceptable operations

c- Weave segment LOS calculated using Leisch Method

IMPACTS AND MITIGATION

Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections are created when traffic from the proposed project forces the LOS to fall below a specific threshold. The County's standards[12] specify the following:

> "*Level of Service (LOS) for County-maintained roads and state highways within the unincorporated areas of the county shall not be worse than LOS E in the Community Regions or LOS D in the Rural Centers and Rural Regions…"* (El Dorado County General Plan Policy TC-Xd[13]) The study facilities are located within the El Dorado Hills Community Region.
>
> If a project causes the peak hour LOS or volume/capacity ratio on a county road or state highway that would otherwise meet the County standards (without the project) to exceed the values listed in the above text (El Dorado County General Plan Policy TC-Xd[13]), then the impact shall be considered significant.
>
> If any county road or state highway fails to meet the above listed county standards (El Dorado County General Plan Policy TC-Xd[13]) for peak hour LOS or volume/capacity ratios without the proposed project, and the project will worsen conditions on the road or highway, then the impact shall be considered significant. The term, worsen is defined for the purpose of this paragraph according to General Plan Policy TC-Xe[13] as follows:
>
> "*A. A 2 percent increase in traffic during the a.m. peak hour, p.m. peak hour, or daily, or*
> *B. The addition of 100 or more daily trips, or*
> *C. The addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour*"

The Caltrans District 3 standard of significance was applied to intersections at the US-50 interchange with El Dorado Hills Boulevard/Latrobe Road. Caltrans has established a LOS E threshold for the peak 15 minutes for signalized intersections outside "high speed areas." The US-50 interchange ramp intersections with El Dorado Hills Boulevard/Latrobe Road are not considered to be located in high speed areas, therefore, the LOS E threshold for the peak 15 minutes applies to these facilities.

Measure E was passed by El Dorado County voters on June 7, 2016, and became effective on July 29, 2016. Measure E amended General Plan Policies TX-Xa, TC-Xf, and TC-Xg and included several "implementation" statements. At the time of this report, the Board of Supervisors (Board) had moved forward with the implementation of the voter approved Measure E Initiative "as written and as it was before the voters." Measure E specifically states (amended General Plan Policy TX-Xf) that "For all other discretionary projects that worsen…traffic on the County road system, the County shall condition the project to construct all road improvements necessary to maintain or attain Level of Service standards…", and that "All necessary road capacity improvements shall be fully completed to prevent cumulative traffic impacts from new development from reaching Level of Service F during peak hours…" (General Plan Policy TC-Xa 3). As such, the Saratoga Retail Phase 2 project is directly affected by Measure E. Accordingly, although the Board continues to work through the implementation of the measure, this project will be required to, at a minimum, demonstrate consistency with the Measure's requirements. Moreover, consistent with Measure E, the Proposed Project will likely be conditioned to construct all mitigations identified under Existing (2017) Conditions, and to pay its fair share of Cumulative (2035) Conditions mitigations.

[12] *Transportation Impact Study Guidelines,* El Dorado County Community Development Agency, November 2014.
[13] *El Dorado County General Plan, Transportation and Circulation Element*, July 2004.

Impacts and Mitigation

Existing (2017) plus Proposed Project Conditions

As reflected in Table 9, Table 10, and Table 11, the addition of the proposed project does not result in any significant impacts. As a result, no mitigations are required.

Cumulative (2035) plus Proposed Project Conditions

As reflected in Table 15, Table 16, and Table 17, the addition of the proposed project results in three (3) significant impact. The following is a discussion of the impact and its associated mitigation. Analysis worksheets are provided in Appendix H.

Impacts:

Intersections

I1. Intersection #1, El Dorado Hills Boulevard @ Saratoga Way/Park Drive
As shown in Table 15, this intersection operates at LOS F during the PM peak-hour without the project, and the project contributes more than 10 trips during the peak-hour. ***This is a significant impact***.

I2. Intersection #2, El Dorado Hills Boulevard @ US-50 WB Ramps/Park Drive
As shown in Table 15, this intersection operates at LOS F during the PM peak-hour without the project, and the project contributes more than 10 trips during the peak-hour. ***This is a significant impact***.

I3. Intersection #7, White Rock Road @ Post Street
As shown in Table 15, this intersection operates at LOS F during the PM peak-hour without the project, and the project contributes more than 10 trips during the peak-hour. ***This is a significant impact***.

Roadway Segment
None.

Freeway Facilities
None.

Mitigations:

Intersections

M1. Intersection #1, El Dorado Hills Blvd @ Saratoga Way/Park Drive
The significant impact at this intersection during the PM peak-hour can be mitigated with the following improvements: the optimization of El Dorado Hills Boulevard/Latrobe Road signalized corridor; the restriping of the westbound approach at the intersection of Latrobe Road/Town Center Boulevard (Intersection #4) to include one shared through/left-turn lane and two right-turn lanes, and the addition of a right-turn overlap signal phase for the westbound and eastbound right-turns at the intersection of El Dorado Hills Boulevard/Saratoga Way/Park Drive (Intersection #1).

The Cumulative analysis includes planned roadway improvements, growth consistent with the *2004 General Plan*, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, which includes other foreseeable but unapproved projects. Therefore, the project is responsible for its proportional share of the proposed mitigation under cumulative conditions. Since the impact is identified under the cumulative scenario, the timing of the improvement is a function of the rate of population and employment growth. The County's traffic impact mitigation fee program provides a mechanism for collecting fair share contributions for improvements in the 2016 CIP.

The CIP includes a line item for unprogrammed traffic signal installation and operational and safety improvements at intersections, including improvements like construction of new traffic signals, construction of turn pockets, and the upgrade of existing traffic signal systems. The County annually monitors intersections with potential need for improvement through the Intersection Needs Prioritization Process. The Intersection Needs Prioritization Process is then used to inform the annual update to the CIP, and potential intersection improvements can be added, by the Board of Supervisors, to the CIP as funding becomes available.

Therefore, appropriate mitigation, as determined by the CDA, would include payment of traffic impact mitigation fees to satisfy the project's fair share obligation towards this improvement or construction of the improvement with reimbursement or fee credit for costs that exceed the project's proportional share if the improvement is needed but not included in future updates to the CIP or constructed by others.

As shown in Table 18, this mitigation measure results in the intersection operating at LOS E during the PM peak-hour. Therefore, ***this impact is less than significant***. Fair share calculations are 17-percent for the PM peak-hour.

M2. Intersection #2, El Dorado Hills Blvd @ US-50 WB Ramps/Park Drive

The significant impact at this intersection during the PM peak-hour can be mitigated with the following improvements: the optimization of El Dorado Hills Boulevard/Latrobe Road signalized corridor, and the restriping of the westbound approach at the intersection of Latrobe Road/Town Center Boulevard (Intersection #4) to include one shared through/left-turn lane, and two right-turn lanes.

The Cumulative analysis includes planned roadway improvements, growth consistent with the *2004 General Plan*, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, which includes other foreseeable but unapproved projects. Therefore, the project is responsible for its proportional share of the proposed mitigation under cumulative conditions. Since the impact is identified under the cumulative scenario, the timing of the improvement is a function of the rate of population and employment growth. The County's traffic impact mitigation fee program provides a mechanism for collecting fair share contributions for improvements in the 2016 CIP.

The CIP includes a line item for unprogrammed traffic signal installation and operational and safety improvements at intersections, including improvements like construction of new traffic signals, construction of turn pockets, and the upgrade of existing traffic signal systems. The County annually monitors intersections with potential need for improvement through the Intersection Needs Prioritization Process. The Intersection Needs Prioritization Process is then used to inform the annual update to the CIP, and potential intersection improvements can be added, by the Board of Supervisors, to the CIP as funding becomes available.

Therefore, appropriate mitigation, as determined by the CDA, would include payment of traffic impact mitigation fees to satisfy the project's fair share obligation towards this improvement or construction of the improvement with reimbursement or fee credit for costs that exceed the project's proportional share if the improvement is needed but not included in future updates to the CIP or constructed by others.

As shown in Table 18, this mitigation measure results in the intersection operating at LOS E during the PM peak-hour. Therefore, ***this impact is less than significant***. Fair share calculations are 18-percent for the PM peak-hour.

M3. Intersection #7, White Rock Road @ Post Street

The significant impact at this intersection during the PM peak-hour can be mitigated with the following improvements: the optimization of El Dorado Hills Boulevard/Latrobe Road signalized corridor, and the restriping of the westbound approach at the intersection of Latrobe Road/Town Center Boulevard (Intersection #4) to include one shared through/left-turn lane, and two right-turn lanes.

The Cumulative analysis includes planned roadway improvements, growth consistent with the *2004 General Plan*, and with approved and reasonably foreseeable projects within the study area. This is found to be an impact in the cumulative scenario without the project, which includes other foreseeable but unapproved projects. Therefore, the project is responsible for its proportional share of the proposed mitigation under cumulative conditions. Since the impact is identified under the cumulative scenario, the timing of the improvement is a function of the rate of population and employment growth. The County's traffic impact mitigation fee program provides a mechanism for collecting fair share contributions for improvements in the 2016 CIP.

The CIP includes a line item for unprogrammed traffic signal installation and operational and safety improvements at intersections, including improvements like construction of new traffic signals, construction of turn pockets, and the upgrade of existing traffic signal systems. The County annually monitors intersections with potential need for improvement through the Intersection Needs Prioritization Process. The Intersection Needs Prioritization Process is then used to inform the annual update to the CIP, and potential intersection improvements can be added, by the Board of Supervisors, to the CIP as funding becomes available.

Therefore, appropriate mitigation, as determined by the CDA, would include payment of traffic impact mitigation fees to satisfy the project's fair share obligation towards this improvement or construction of the improvement with reimbursement or fee credit for costs that exceed the project's proportional share if the improvement is needed but not included in future updates to the CIP or constructed by others.

As shown in Table 18, this mitigation measure results in the intersection operating at LOS D during the PM peak-hour. Therefore, ***this impact is less than significant***. The fair share calculation is 1-percent for the PM peak-hour.

Table 18 – Intersection Levels of Service –
Cumulative (2035) plus Proposed Project Mitigated Conditions

ID	Intersection	Control	Peak Hour	Cumulative (2035) plus Proposed Project		Control	Cumulative (2035) plus Proposed Project (Mitigated)	
				Delay (sec)	LOS		Delay (sec)	LOS
1	El Dorado Hills Blvd @ Saratoga Way/Park Dr	Signal	AM	45.0	D	Signal	39.4	D
			PM	**101.8**	**F**		79.6	E
2	El Dorado Hills Blvd @ US-50 WB Ramps/ Park Dr	Signal	AM	46.1	D	Signal	35.2	D
			PM	**100.5**	**F**		73.2	E
7	White Rock Rd @ Post St	Signal	AM	50.9	D	Signal	54.4	D
			PM	**121.2**	**F**		52.9	D

Notes:

Bold represents unacceptable operations. Shaded represents significant impact.

Roadway Segment

None.

Freeway Facilities

None.

OTHER CONSIDERATIONS

Intersection Queuing Evaluation

Vehicle queuing for critical movements at four (4) of the study intersections was evaluated. The calculated vehicle queues were compared to actual or anticipated vehicle storage lengths. Results of the queuing evaluation are presented in Table 19. Analysis sheets that include the anticipated vehicle queues are presented in Appendices B-F. As presented in Table 19, the addition of the proposed project adds a minimal amount of additional queuing to these movements.

Table 19 – Intersection Queuing Evaluation Results for Select Locations

Intersection / Analysis Scenario	Movement	AM Peak-Hour		PM Peak-Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#1, El Dorado Hills Blvd @ Saratoga Way	NBL				
Existing (2017)		235	82	235	161
Existing (2017) plus Project			220		285
Cumulative (2035)			210		177
Cumulative (2035) plus Project			308		313
Cumulative (2035) plus Project (Mitigated)			263		281
#2, El Dorado Hills Blvd @ US-50 WB Ramps	NBL				
Existing (2017)		1500	711	1500	848
Existing (2017) plus Project			617		838
Cumulative (2035)			309		646
Cumulative (2035) plus Project			480		681
Cumulative (2035) plus Project (Mitigated)			293		782
	SBL				
Existing (2017)		195	125	195	252
Existing (2017) plus Project			121		251
Cumulative (2035)		390[a]	66	390[a]	120
Cumulative (2035) plus Project			107		112
Cumulative (2035) plus Project (Mitigated)			167		99
	EBL				
Existing (2017)		1850	274	1850	222
Existing (2017) plus Project			314		244
Cumulative (2035)			91		574
Cumulative (2035) plus Project			392		560
Cumulative (2035) plus Project (Mitigated)			104		229
#3, El Dorado Hills Blvd @ US-50 EB Ramps	EBR				
Existing (2017)		415	610	415	475
Existing (2017) plus Project			627		432
Cumulative (2035)			281		103
Cumulative (2035) plus Project			283		100

Source: *Highway Capacity Manual (HCM) 2010* methodology per Synchro© v9.
Notes: For approaches with dual left-turn lanes, the longest queue length is reported.
a - includes on right and one right-thru lane

On-Site Transportation Review

In accordance with the County's *Guidelines*[2], the following aspects of the proposed project were evaluated:

1. ***Existence of any current traffic problems in the local area such as a high-accident location, non-standard intersection or roadway, or an intersection in need of a traffic signal***

   According to the County's 2015 *Annual Accident Location Study*[14], several study area sites (i.e., intersections and roadway segments) experienced three (3) or more accidents during a three-year period between January 1, 2023, and December 31, 2015. According to the *Study*, these sites were selected for investigation and determination of corrective action(s). Table 20 provides a summary of the study area sites and their selected actions.

Table 20 – Project Area Sites Selected for Accident Investigation

Site #	Location Description	Accident Rate+	Identified Action
16	El Dorado Hills Blvd, vicinity of US-50	0.76	None required
17	El Dorado Hills Blvd, vicinity of Saratoga Way (North)	0.52	None required
18	El Dorado Hills Blvd, vicinity of Serrano Pkwy	0.23	None required
37	Latrobe Rd, vicinity of Town Center Blvd	0.51	None required
38	Latrobe Rd, vicinity of US-50	0.48	None required

Source: *Annual Accident Location Study 2015*, County of El Dorado Transportation Division, March 24, 2016.
+ # Accidents per Million Vehicles (MV) for single sites (intersections/curves), # Accidents per Million Vehicle Miles (MVM) for roadway sections.

According to the Study, "no further action is required due to low accident rate or other conditions." However, these sites will continue to be monitored and any subsequent increase in the frequency of accidents may necessitate further review and analysis."

Considering the suburban nature of the study area, here are no "non-standard intersection or roadway" facilities in the general project area.

A planning level assessment of the need for traffic signalization was performed for the un-signalized study intersections. This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD), 2014 Edition (with December 2015 revisions)*. A summary of the peak-hour warrant results is presented in Table 21.

Table 21 – Traffic Signal Warrant Analysis Results

#	Intersection	Analysis Scenario			
		Existing (2017)	Existing (2017) plus PP	Cum (2035)	Cum (2035) plus PP
8	Saratoga Way @ Mammouth Way	No / No	No / No	No / No	No / No
9	Saratoga Way @ Main Project Dwy	No / No	No / No	No / No	No / No
10	Saratoga Way @ Arrowhead Dr	No / No	No / No	No / No	No / No

Results are presented in AM / PM format.
Note: Peak-hour warrant is satisfied if Condition A or B is satisfied.

As shown in Table 21,no intersections warrant a traffic signal under Existing (2017) and Cumulative (2035) Conditions with and without the addition of the proposed project. Detailed results of this analysis are presented in Appendix G.

[14] *Annual Accident Location Study 2015*, County of El Dorado Transportation Division, March 24, 2016.

2. *Proximity of proposed site driveway(s) to other driveways or intersections*
   As previously noted, access to the site is provided at the existing main site driveway intersection with Saratoga Way (Intersection #9). With the addition of the project, two additional driveways will serve the site; one full access driveway south of the main site driveway, and one egress-only driveway at the south end of the project site. According to the project site plan (Figure 2), these two additional driveways are located approximately equidistance from each other and Intersection #9 (approximately 250-feet).

   The spacing between consecutive site driveways appears to be adequate and, when combined with the presence of left-turn access from Saratoga Way, these access points will assist in dispersing trips entering and exiting the site. The proposed configuration is advantageous as it reduces the potential for a concentration of trips which should serve to minimize queuing and other operational inefficiencies.

   The southern egress-only driveway is positioned just north of the existing Arrowhead Drive intersection (Intersection #10). Due to the anticipated on-site circulation and predominant traffic movements (to/from El Dorado Hills Boulevard), the potential conflicts between Arrowhead Drive and site traffic at this intersection are anticipated to be minimal. It should be noted that the site plan depicts this driveway's movements as right-turns only, thereby further reducing the potential conflicts with Arrowhead Drive.

3. *Adequacy of vehicle parking relative to both the anticipated demand and zoning code requirements*
   According to the County's requirements[15], the proposed project is required to provide 36 total parking spaces. As noted in Figure 2, 68 parking spaces are proposed to be provided.

4. *Adequacy of the project site design to fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls may exceed 10 per day*
   Based on information provided by the project applicant, the worst-case scenario (overlapping between uses) includes up to 10 deliveries, up to three times per week. These deliveries are also understood to occur off-peak, when site traffic is at a minimum. As a result, the project site as depicted in Figure 2 appears to be designed to satisfy the anticipated truck loading demand on-site.

5. *Adequacy of the project site design to provide at least a 25' minimum required throat depth (MRTD) at project driveways. Include calculation of the MRTD.*
   According to the project site plan (Figure 2), the two new site driveways provide at least 25-feet of MRTD. This is the throat depth required based on the methodology presented in *Estimation of Maximum Queue Lengths at Unsignalized Intersections* (ITE Journal, November 2001). The southern-most driveway is one-way only, and therefore a MRTD of 25-feet is acceptable. The secondary all-access driveway requires a 25-foot throat depth based on the approach volume, conflicting volume, and percent of right-turns (see data provided in Appendix H).

6. *Adequacy of the project site design to convey all vehicle types*
   As shown in project site plan (Figure 2), the turn radius for a firetruck is depicted circulating through the proposed project. As such, the proposed project is considered to allow for adequate on-site circulation for all vehicle types.

7. *Adequacy of sight distance on-site*
   An evaluation of sight distance was completed for the two proposed site access driveway intersections along Saratoga Way based on observed horizontal and vertical geometric conditions. These evaluations were performed in accordance with the guidelines presented in the *Geometric Design of Highways and Streets*, published by the American Association of State Highway and

[15] *El Dorado County Ordinance Code*, Section 130.35.030, November 17, 2004.

Transportation Officials (AASHTO), and the *Highway Design Manual*, published by Caltrans. Adequate sight distance was observed at both driveway intersections. Nevertheless, in all cases, roadside vegetation should be maintained to preserve sight distance. In addition, according to the project site plan (Figure 2) there appears to be adequate sight distance on-site to facilitate safe and orderly circulation.

8. *Queuing analysis of "drive-through" facilities*

Chick-fil-A Restaurant
The project site plan (Figure 2) depicts drive-through queuing space for 15 vehicles with the proposed Chick-fil-A fast-food restaurant. Recently collected drive-through queuing data for three similarly sized fast food restaurants in South Placer County reveal a maximum queue of 13 vehicles or 325-feet (see data provided in Appendix I). Considering the relatively consistent suburban locations and anticipated uses, the proposed project is expected to be able to accommodate the maximum drive-through queue without spillback into the adjacent drive aisle and avoid impeding on-site pedestrian movements.

Habit Burger (Building 2A)
The project site plan (Figure 2) depicts drive-through queuing space for approximately 9 vehicles with the proposed Habit Burger fast-food restaurant. As noted above, recently collected drive-through queuing data for three similarly sized fast food restaurants in South Placer County reveal a maximum queue of 13 vehicles or 325-feet (see data provided in Appendix I). Considering the relatively consistent suburban locations and anticipated uses, the proposed project is expected to experience maximum drive-through queuing that exceeds the available storage. The result of this condition will result in spillback into the adjacent drive aisle and will have the potential to impeding on-site vehicle and pedestrian movements. While temporary on-site queuing associated with this drive-through facility is not anticipated to result in off-site operational or safety concerns, the project should consider adding "KEEP CLEAR" striping along the main site access driveway to reduce the likelihood of a standing vehicle queue along this driveway during peak periods of operation.

Other Transportation-Related Impacts and Mitigation Considerations
In accordance with the County's *Guidelines*[2], the proposed project was evaluated against the following *General Plan* goals:

- *Emergency Vehicle Access*
  Fire Safe Regulations[16] state that on-site roadways shall "provide for safe access for emergency wildland fire equipment and civilian evacuation concurrently, and shall provide unobstructed traffic circulation during a wildfire emergency…" All project roadways shall be designed and constructed in accordance with these requirements. As shown in project site plan (Figure 2), the turn radius for a firetruck is depicted circulating through the proposed project. As such, the proposed project is considered to allow for adequate access and on-site circulation for emergency vehicles.
- *Deliveries of Goods and Services*
  As shown in project site plan (Figure 2), the turn radius for a firetruck is depicted circulating through the proposed project. As such, the proposed project is considered to allow for adequate on-site circulation for all vehicle types, including delivery vehicles for goods and services.
- *Access to Public Transit Services consistent with General Plan Circulation Element Goal TC-2: "To promote a safe and efficient transit system that provides service to all residents, including senior citizens, youths, the disabled, and those without access to automobiles that also helps to reduce congestion, and improves the environment."*

[16] *Fire Safe Regulations*, Title 14 Natural Resources, Division 1.5 Department of Forestry, Chapter 7 – Fire Protection, Subchapter 2 SRA Safe Regulations, Article 2 Emergency Access, El Dorado County Building Department.

El Dorado Transit currently operates a "Sacramento Commuter" bus route that operates Monday through Friday only. This route has multiple stops within the Town Center development located south of US-50 along Latrobe Road. No other public transit services are known to operate in the project area. Nevertheless, the proposed project promotes safe and efficient access to the existing transit system by providing pedestrian connectivity to and through the project site (see Figure 2).

- *Transportation System Management consistent with General Plan Circulation Element Goal TC-3: "To reduce travel demand on the County's road system and maximize the operating efficiency of transportation facilities, thereby reducing the quantity of motor vehicle emissions and the amount of investment required in new or expanded facilities."*
  The proximity of the proposed project to two of the County's most heavily traveled corridors is anticipated to result the capture of a significant number of "pass by" trips that are already on the network. Although somewhat tempered for the purposes of the trip generation estimates depicted in Table 1, the proposed project's "new trip" generation is greatly reduced because of its exposure to these corridors. As a result, the proposed project has the net effect of reducing travel demand on the County's road system my minimizing the number of new trips.

- *Non-Motorized Transportation consistent with General Plan Circulation Element Goal TC-4: "To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes."*
  According to Chapter 5, Page 22 of the *El Dorado County Bicycle Transportation Plan*, Class II Bike Lanes are proposed for Saratoga Way in the vicinity of the project site. While the project will not result in removal of a bikeway/bike lane or prohibition of implementation of the facilities identified in the *Plan*, it is required to include pedestrian/bicycle paths connecting to adjacent commercial, research and development, or industrial projects and any schools, parks, or other public facilities. The proposed project will be required to construct on-site roadway and pedestrian facilities in accordance with County design guidelines. These on-site pedestrian and bicycle facilities will connect the project with the future adjacent Class II Bike Lanes along Saratoga Way. Through this connection to the proposed bike lane network, the project will provide continuity with adjacent projects, schools, parks, and other public facilities.

- *On-Site Transportation Review*
  See above "On-Site Transportation Review" section. Furthermore, the site plan for the proposed project (Figure 2) was qualitatively reviewed for general access and on-site circulation. According to the site plan, access to the site will be provided from Saratoga Way at the existing main site driveway intersection. Two additional driveways will serve the site; one full access driveway south of the main site driveway, and one egress-only driveway at the south end of the project site. Detailed LOS and delay data were previously reported for the Saratoga Way intersection with the main site driveway (Intersection #9). The combination of these access points, as well as the on-site circulation system appears to provide adequate access to/from Saratoga Way and the surrounding transportation network.

- *Complete street implementation shall be considered wherever possible*
  Because Saratoga Way is already constructed and the proposed project is the completion of a previously approved commercial development, there are minimal opportunities for the project to implement complete street components. Nevertheless, at some point in the future when the County implements the four-lane Saratoga Way adjacent to the project site, consideration should be given to allocating portions of the public right-of-way to non-vehicular traffic thereby enhancing the complete street characteristics of Saratoga Way.

CONCLUSIONS

Significant findings of this study include:

- The proposed project is estimated to generate approximately 3,529 new daily trips, with 286 new trips occurring during the AM peak-hour, and 241 new trips occurring during the PM peak-hour.
- The proposed project is understood to be consistent with the County's growth assumptions for Traffic Analysis Zone (TAZ) (#616) in which the project is located. However, in light of Measure E's requirements, although the County's Travel Demand Model (TDM) is considered to account for the project's proposed land use and the *General Plan's* cumulative traffic analysis should serve as the basis for the Cumulative (2035) traffic analysis of the project, a new evaluation of Cumulative (2035) conditions (with and without the proposed project) is included in this evaluation.
- As defined by the County, the addition of the proposed project to the Existing (2017) and Cumulative (2035) scenarios significantly worsens conditions at three study intersections. The impact can be mitigated to be ***less than significant***.
- Measure E was passed by El Dorado County voters on June 7, 2016, and became effective on July 29, 2016. Measure E amended General Plan Policies TX-Xa, TC-Xf, and TC-Xg and included several "implementation" statements. At the time of this report, the Board of Supervisors (Board) had moved forward with the implementation of the voter approved Measure E Initiative "as written and as it was before the voters." Measure E specifically states (amended General Plan Policy TX-Xf) that "For all other discretionary projects that worsen…traffic on the County road system, the County shall condition the project to construct all road improvements necessary to maintain or attain Level of Service standards…", and that "All necessary road capacity improvements shall be fully completed to prevent cumulative traffic impacts from new development from reaching Level of Service F during peak hours…" (General Plan Policy TC-Xa 3). As such, the Saratoga Retail Phase 2 project is directly affected by Measure E. Accordingly, although the Board continues to work through the implementation of the measure, this project will be required to, at a minimum, demonstrate consistency with the Measure's requirements. Moreover, consistent with Measure E, the Proposed Project will likely be conditioned to construct all mitigations identified under Existing (2017) Conditions, and to pay its fair share of Cumulative (2035) Conditions mitigations.

Appendix A

Traffic Count Data Sheets

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-001 El Dorado Hills Blvd & Saratoga Way North
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	12	125	1	0	138	0	0	4	0	4	1	43	0	0	44	2	0	9	0	11	197	0
6:15	6	153	0	0	159	2	1	2	0	5	3	45	1	1	50	1	0	8	0	9	223	1
6:30	18	237	0	0	255	0	1	4	0	5	1	65	3	0	69	3	0	9	0	12	341	0
6:45	18	238	1	0	257	2	2	6	0	10	7	86	1	0	94	2	0	16	0	18	379	0
Total	54	753	2	0	809	4	4	16	0	24	12	239	5	1	257	8	0	42	0	50	1140	1
7:00	27	280	2	1	310	1	1	13	0	15	9	144	2	1	156	10	4	23	0	37	518	2
7:15	28	336	4	0	368	2	2	22	0	26	8	122	2	0	132	5	1	16	0	22	548	0
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598	0
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682	0
Total	135	1354	20	1	1510	8	6	69	0	83	54	564	11	1	630	24	9	90	0	123	2346	2
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662	1
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587	1
8:30	22	284	6	0	312	4	0	16	0	20	26	168	9	1	204	7	4	27	0	38	574	1
8:45	33	328	6	2	369	3	3	13	0	19	44	163	14	0	221	9	8	47	0	64	673	2
Total	121	1295	19	3	1438	13	10	65	0	88	104	634	45	2	785	25	15	145	0	185	2496	5
16:00	30	184	11	0	225	9	3	58	0	70	17	283	13	1	314	14	8	23	0	45	654	1
16:15	38	178	9	1	226	15	4	45	0	64	24	242	19	3	288	9	8	26	0	43	621	4
16:30	28	165	6	1	200	17	7	53	0	77	30	273	14	1	318	8	1	27	0	36	631	2
16:45	34	180	5	2	221	10	7	70	0	87	24	290	18	0	332	15	4	15	0	34	674	2
Total	130	707	31	4	872	51	21	226	0	298	95	1088	64	5	1252	46	21	91	0	158	2580	9
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683	2
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795	2
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758	3
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711	2
Total	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947	9
18:00	41	148	10	0	199	10	8	79	0	97	24	307	14	0	345	14	2	14	0	30	671	0
18:15	28	156	3	1	188	10	2	59	0	71	19	316	13	0	348	14	4	19	0	37	644	1
18:30	36	151	1	0	188	8	2	62	0	72	18	287	19	0	324	10	3	13	0	26	610	0
18:45	25	158	14	2	199	12	2	43	0	57	20	230	7	0	257	10	3	9	0	22	535	2
Total	130	613	28	3	774	40	14	243	0	297	81	1140	53	0	1274	48	12	55	0	115	2460	3
Grand Total	734	5483	129	15	6361	173	73	892	0	1138	468	4944	253	14	5679	188	82	521	0	791	13969	29
Apprch %	11.5%	86.2%	2.0%	0.2%		15.2%	6.4%	78.4%	0.0%		8.2%	87.1%	4.5%	0.2%		23.8%	10.4%	65.9%	0.0%			
Total %	5.3%	39.3%	0.9%	0.1%	45.5%	1.2%	0.5%	6.4%	0.0%	8.1%	3.4%	35.4%	1.8%	0.1%	40.7%	1.3%	0.6%	3.7%	0.0%	5.7%	100.0%	

AM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:30 to 08:30																					
Peak Hour For Entire Intersection Begins at 07:30																					
7:30	27	362	4	0	393	1	2	12	0	15	12	134	4	0	150	8	4	28	0	40	598
7:45	53	376	10	0	439	4	1	22	0	27	25	164	3	0	192	1	0	23	0	24	682
8:00	37	397	1	0	435	1	5	23	0	29	18	128	8	1	155	3	2	38	0	43	662
8:15	29	286	6	1	322	5	2	13	0	20	16	175	14	0	205	6	1	33	0	40	587
Total Volume	146	1421	21	1	1589	11	10	70	0	91	71	601	29	1	702	18	7	122	0	147	2529
% App Total	9.2%	89.4%	1.3%	0.1%		12.1%	11.0%	76.9%	0.0%		10.1%	85.6%	4.1%	0.1%		12.2%	4.8%	83.0%	0.0%		
PHF	.689	.895	.525	.250	.905	.550	.500	.761	.000	.784	.710	.859	.518	.250	.856	.563	.438	.803	.000	.855	.927

PM PEAK HOUR	El Dorado Hills Blvd Southbound					Saratoga Way North Westbound					El Dorado Hills Blvd Northbound					Saratoga Way North Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	32	180	8	1	221	16	1	59	0	76	30	284	15	1	330	15	7	34	0	56	683
17:15	41	199	5	0	245	13	2	74	0	89	31	377	16	2	426	8	6	21	0	35	795
17:30	51	190	8	2	251	14	9	75	0	98	35	310	22	1	368	8	8	25	0	41	758
17:45	40	192	8	1	241	14	6	65	0	85	26	308	22	1	357	6	4	18	0	28	711
Total Volume	164	761	29	4	958	57	18	273	0	348	122	1279	75	5	1481	37	25	98	0	160	2947
% App Total	17.1%	79.4%	3.0%	0.4%		16.4%	5.2%	78.4%	0.0%		8.2%	86.4%	5.1%	0.3%		23.1%	15.6%	61.3%	0.0%		
PHF	.804	.956	.906	.500	.954	.891	.500	.910	.000	.888	.871	.848	.852	.625	.869	.617	.781	.721	.000	.714	.927

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-002 El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Wa
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	El Dorado Hills Blvd Southbound					US-50 WB Ramps/Saratoga Way South Westbound					El Dorado Hills Blvd Northbound					US-50 WB Ramps/Saratoga Way South Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	5	37	102	0	144	6	13	2	0	21	75	37	5	0	117	6	4	31	0	41	323	0
6:15	5	44	109	0	158	9	16	3	0	28	86	33	11	0	130	14	5	35	0	54	370	0
6:30	10	90	156	0	256	11	21	5	0	37	81	59	24	0	164	14	22	37	0	73	530	0
6:45	9	83	155	0	247	14	20	8	0	42	96	61	22	0	179	17	10	58	1	86	554	1
Total	29	254	522	0	805	40	70	18	0	128	338	190	62	0	590	51	41	161	1	254	1777	1
7:00	5	120	171	0	296	15	18	6	0	39	79	136	26	0	241	18	19	39	0	76	652	0
7:15	7	152	189	0	348	20	29	8	0	57	85	100	27	0	212	24	13	67	0	104	721	0
7:30	8	165	206	0	379	19	14	7	0	40	104	107	25	0	236	38	17	65	0	120	775	0
7:45	16	236	177	0	429	27	14	16	0	57	104	135	47	1	287	51	18	118	0	187	960	1
Total	36	673	743	0	1452	81	75	37	0	193	372	478	125	1	976	131	67	289	0	487	3108	1
8:00	13	230	185	0	428	29	28	15	0	72	128	96	29	1	254	36	23	93	0	152	906	1
8:15	4	163	146	1	314	22	21	10	0	53	136	162	38	0	336	33	15	92	0	140	843	1
8:30	17	156	157	0	330	27	19	12	0	58	127	164	34	1	326	39	13	73	0	125	839	1
8:45	14	186	162	0	362	24	26	6	0	56	114	179	25	0	318	30	13	73	1	117	853	1
Total	48	735	650	1	1434	102	94	43	0	239	505	601	126	2	1234	138	64	331	1	534	3441	4
16:00	6	124	81	0	211	37	18	16	0	71	246	284	60	0	590	26	10	33	0	69	941	0
16:15	15	146	70	0	231	42	16	18	0	76	212	247	74	2	535	25	14	25	0	64	906	2
16:30	7	131	67	0	205	34	24	18	0	76	307	280	64	0	651	24	16	29	0	69	1001	0
16:45	6	126	74	1	207	41	19	20	0	80	263	295	57	0	615	23	17	43	0	83	985	1
Total	34	527	292	1	854	154	77	72	0	303	1028	1106	255	2	2391	98	57	130	0	285	3833	3
17:00	8	132	84	0	224	55	19	14	0	88	241	295	83	0	619	28	14	21	0	63	994	0
17:15	8	160	74	0	242	38	24	17	0	79	245	343	81	0	669	44	20	35	0	99	1089	0
17:30	8	132	87	0	227	35	20	17	0	72	236	343	79	0	658	27	19	37	0	83	1040	0
17:45	13	148	68	0	229	46	23	30	0	99	208	281	76	0	565	25	18	36	0	79	972	0
Total	37	572	313	0	922	174	86	78	0	338	930	1262	319	0	2511	124	71	129	0	324	4095	0
18:00	7	105	57	0	169	37	17	23	0	77	262	308	73	0	643	19	11	16	0	46	935	0
18:15	12	114	61	1	188	30	14	23	0	67	156	302	69	2	529	19	12	20	0	51	835	3
18:30	3	105	62	0	170	31	21	25	0	77	129	277	52	0	458	24	14	18	0	56	761	0
18:45	6	94	74	0	174	23	16	14	0	53	103	227	39	1	370	11	7	26	0	44	641	1
Total	28	418	254	1	701	121	68	85	0	274	650	1114	233	3	2000	73	44	80	0	197	3172	4
Grand Total	212	3179	2774	3	6168	672	470	333	0	1475	3823	4751	1120	8	9702	615	344	1120	2	2081	19426	13
Apprch %	3.4%	51.5%	45.0%	0.0%		45.6%	31.9%	22.6%	0.0%		39.4%	49.0%	11.5%	0.1%		29.6%	16.5%	53.8%	0.1%			
Total %	1.1%	16.4%	14.3%	0.0%	31.8%	3.5%	2.4%	1.7%	0.0%	7.6%	19.7%	24.5%	5.8%	0.0%	49.9%	3.2%	1.8%	5.8%	0.0%	10.7%	100.0%	

AM PEAK HOUR	El Dorado Hills Blvd Southbound					US-50 WB Ramps/Saratoga Way South Westbound					El Dorado Hills Blvd Northbound					US-50 WB Ramps/Saratoga Way South Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	16	236	177	0	429	27	14	16	0	57	104	135	47	1	287	51	18	118	0	187	960
8:00	13	230	185	0	428	29	28	15	0	72	128	96	29	1	254	36	23	93	0	152	906
8:15	4	163	146	1	314	22	21	10	0	53	136	162	38	0	336	33	15	92	0	140	843
8:30	17	156	157	0	330	27	19	12	0	58	127	164	34	1	326	39	13	73	0	125	839
Total Volume	50	785	665	1	1501	105	82	53	0	240	495	557	148	3	1203	159	69	376	0	604	3548
% App Total	3.3%	52.3%	44.3%	0.1%		43.8%	34.2%	22.1%	0.0%		41.1%	46.3%	12.3%	0.2%		26.3%	11.4%	62.3%	0.0%		
PHF	.735	.832	.899	.250	.875	.905	.732	.828	.000	.833	.910	.849	.787	.750	.895	.779	.750	.797	.000	.807	.924

PM PEAK HOUR	El Dorado Hills Blvd Southbound					US-50 WB Ramps/Saratoga Way South Westbound					El Dorado Hills Blvd Northbound					US-50 WB Ramps/Saratoga Way South Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	6	126	74	1	207	41	19	20	0	80	263	295	57	0	615	23	17	43	0	83	985
17:00	8	132	84	0	224	55	19	14	0	88	241	295	83	0	619	28	14	21	0	63	994
17:15	8	160	74	0	242	38	24	17	0	79	245	343	81	0	669	44	20	35	0	99	1089
17:30	8	132	87	0	227	35	20	17	0	72	236	343	79	0	658	27	19	37	0	83	1040
Total Volume	30	550	319	1	900	169	82	68	0	319	985	1276	300	0	2561	122	70	136	0	328	4108
% App Total	3.3%	61.1%	35.4%	0.1%		53.0%	25.7%	21.3%	0.0%		38.5%	49.8%	11.7%	0.0%		37.2%	21.3%	41.5%	0.0%		
PHF	.938	.859	.917	.250	.930	.768	.854	.850	.000	.906	.936	.930	.904	.000	.957	.693	.875	.791	.000	.828	.943

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-003 Latrobe Rd & US-50 EB Ramps
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					US-50 EB Ramps Westbound					Latrobe Rd Northbound					US-50 EB Ramps Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	1	69	0	0	70	0	0	17	0	17	0	107	10	0	117	0	0	77	0	77	281	0
6:15	12	80	0	0	92	0	0	20	0	20	0	111	17	0	128	0	0	113	0	113	353	0
6:30	19	106	0	0	125	0	0	31	0	31	0	143	17	0	160	0	0	184	0	184	500	0
6:45	22	146	0	0	168	0	0	44	0	44	0	123	21	0	144	0	0	274	0	274	630	0
Total	54	401	0	0	455	0	0	112	0	112	0	484	65	0	549	0	0	648	0	648	1764	0
7:00	25	149	0	0	174	0	0	61	0	61	0	172	22	0	194	0	0	230	0	230	659	0
7:15	44	163	0	0	207	0	0	60	0	60	0	160	32	0	192	0	0	207	0	207	666	0
7:30	74	204	0	0	278	0	0	63	0	63	0	164	42	0	206	0	0	242	0	242	789	0
7:45	67	300	0	0	367	0	0	87	0	87	0	205	40	0	245	0	0	299	0	299	998	0
Total	210	816	0	0	1026	0	0	271	0	271	0	701	136	0	837	0	0	978	0	978	3112	0
8:00	53	290	0	0	343	0	0	57	0	57	0	203	35	0	238	0	0	267	0	267	905	0
8:15	44	249	0	0	293	0	0	98	0	98	0	230	52	0	282	0	0	278	0	278	951	0
8:30	48	201	0	0	249	0	0	66	0	66	0	265	39	0	304	0	0	239	0	239	858	0
8:45	36	260	0	0	296	0	0	72	0	72	0	250	36	0	286	0	0	265	0	265	919	0
Total	181	1000	0	0	1181	0	0	293	0	293	0	948	162	0	1110	0	0	1049	0	1049	3633	0
16:00	37	167	0	0	204	0	0	163	0	163	0	405	120	0	525	0	0	177	0	177	1069	0
16:15	49	176	0	1	226	0	0	151	0	151	0	404	99	0	503	0	0	203	0	203	1083	1
16:30	36	146	0	0	182	0	0	160	0	160	0	511	126	0	637	0	0	189	0	189	1168	0
16:45	45	177	0	0	222	0	0	166	0	166	0	392	120	0	512	0	0	213	0	213	1113	0
Total	167	666	0	1	834	0	0	640	0	640	0	1712	465	0	2177	0	0	782	0	782	4433	1
17:00	54	137	0	0	191	0	0	161	0	161	0	497	121	0	618	0	0	209	0	209	1179	0
17:15	46	199	0	0	245	0	0	217	0	217	0	457	124	0	581	0	0	187	0	187	1230	0
17:30	39	154	0	1	194	0	0	216	0	216	0	419	103	0	522	0	0	207	0	207	1139	1
17:45	57	163	0	0	220	0	0	200	0	200	0	389	85	0	474	0	0	211	0	211	1105	0
Total	196	653	0	1	850	0	0	794	0	794	0	1762	433	0	2195	0	0	814	0	814	4653	1
18:00	53	124	0	0	177	0	0	193	0	193	0	431	101	0	532	0	0	161	0	161	1063	0
18:15	26	132	0	0	158	0	0	207	0	207	0	325	67	0	392	0	0	153	0	153	910	0
18:30	30	119	0	0	149	0	0	197	0	197	0	274	62	0	336	0	0	160	0	160	842	0
18:45	27	124	0	0	151	0	0	135	0	135	0	222	54	0	276	0	0	125	0	125	687	0
Total	136	499	0	0	635	0	0	732	0	732	0	1252	284	0	1536	0	0	599	0	599	3502	0
Grand Total	944	4035	0	2	4981	0	0	2842	0	2842	0	6859	1545	0	8404	0	0	4870	0	4870	21097	2
Apprch %	19.0%	81.0%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	81.6%	18.4%	0.0%		0.0%	0.0%	100.0%	0.0%			
Total %	4.5%	19.1%	0.0%	0.0%	23.6%	0.0%	0.0%	13.5%	0.0%	13.5%	0.0%	32.5%	7.3%	0.0%	39.8%	0.0%	0.0%	23.1%	0.0%	23.1%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					US-50 EB Ramps Westbound					Latrobe Rd Northbound					US-50 EB Ramps Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	67	300	0	0	367	0	0	87	0	87	0	205	40	0	245	0	0	299	0	299	998
8:00	53	290	0	0	343	0	0	57	0	57	0	203	35	0	238	0	0	267	0	267	905
8:15	44	249	0	0	293	0	0	98	0	98	0	230	52	0	282	0	0	278	0	278	951
8:30	48	201	0	0	249	0	0	66	0	66	0	265	39	0	304	0	0	239	0	239	858
Total Volume	212	1040	0	0	1252	0	0	308	0	308	0	903	166	0	1069	0	0	1083	0	1083	3712
% App Total	16.9%	83.1%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	84.5%	15.5%	0.0%		0.0%	0.0%	100.0%	0.0%		
PHF	.791	.867	.000	.000	.853	.000	.000	.786	.000	.786	.000	.852	.798	.000	.879	.000	.000	.906	.000	.906	.930

PM PEAK HOUR	Latrobe Rd Southbound					US-50 EB Ramps Westbound					Latrobe Rd Northbound					US-50 EB Ramps Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	36	146	0	0	182	0	0	160	0	160	0	511	126	0	637	0	0	189	0	189	1168
16:45	45	177	0	0	222	0	0	166	0	166	0	392	120	0	512	0	0	213	0	213	1113
17:00	54	137	0	0	191	0	0	161	0	161	0	497	121	0	618	0	0	209	0	209	1179
17:15	46	199	0	0	245	0	0	217	0	217	0	457	124	0	581	0	0	187	0	187	1230
Total Volume	181	659	0	0	840	0	0	704	0	704	0	1857	491	0	2348	0	0	798	0	798	4690
% App Total	21.5%	78.5%	0.0%	0.0%		0.0%	0.0%	100.0%	0.0%		0.0%	79.1%	20.9%	0.0%		0.0%	0.0%	100.0%	0.0%		
PHF	.838	.828	.000	.000	.857	.000	.000	.811	.000	.811	.000	.909	.974	.000	.922	.000	.000	.937	.000	.937	.953

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-004 Latrobe Rd & Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	44	89	21	0	154	6	1	16	0	23	1	101	4	0	106	0	0	0	0	0	283	0
6:15	42	129	20	1	192	4	1	37	0	42	3	86	4	0	93	2	0	0	0	2	329	1
6:30	64	198	24	0	286	8	2	40	0	50	0	115	12	0	127	2	0	0	0	2	465	0
6:45	66	306	41	0	413	10	2	48	0	60	3	92	12	0	107	3	0	0	0	3	583	0
Total	216	722	106	1	1045	28	6	141	0	175	7	394	32	0	433	7	0	0	0	7	1660	1
7:00	65	284	40	0	389	9	2	41	0	52	4	147	10	0	161	1	1	1	0	3	605	0
7:15	86	252	42	0	380	15	4	45	0	64	13	156	12	0	181	0	2	0	0	2	627	0
7:30	80	302	58	2	442	17	1	49	0	67	8	144	15	0	167	4	0	0	0	4	680	2
7:45	112	388	71	1	572	10	9	45	0	64	12	193	11	0	216	3	1	2	0	6	858	1
Total	343	1226	211	3	1783	51	16	180	0	247	37	640	48	0	725	8	4	3	0	15	2770	3
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877	0
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859	3
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822	1
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879	2
Total	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437	6
16:00	121	239	6	1	367	14	2	143	0	159	0	354	39	1	394	44	6	19	0	69	989	2
16:15	115	236	5	0	356	16	0	145	1	162	1	322	33	0	356	48	5	11	0	64	938	1
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030	3
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989	0
Total	519	924	21	3	1467	52	4	584	1	641	2	1362	133	2	1499	249	30	60	0	339	3946	6
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076	1
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033	1
17:30	111	231	1	3	346	21	0	149	1	171	0	306	27	0	333	60	5	12	0	77	927	4
17:45	123	252	0	5	380	16	0	137	0	153	0	310	39	0	349	27	3	5	0	35	917	5
Total	500	943	6	9	1458	73	4	594	2	673	1	1362	154	0	1517	229	22	54	0	305	3953	11
18:00	118	156	3	0	277	10	0	159	0	169	0	348	32	0	380	29	8	4	0	41	867	0
18:15	115	172	1	2	290	19	0	154	1	174	0	200	25	0	225	18	1	8	0	27	716	3
18:30	87	178	1	6	272	20	1	129	0	150	0	187	15	0	202	15	3	0	0	18	642	6
18:45	83	160	0	4	247	9	0	108	0	117	0	153	23	1	177	10	0	3	0	13	554	5
Total	403	666	5	12	1086	58	1	550	1	610	0	888	95	1	984	72	12	15	0	99	2779	14
Grand Total	2421	5794	646	32	8893	332	61	2320	5	2718	108	5478	554	4	6144	576	76	138	0	790	18545	41
Apprch %	27.2%	65.2%	7.3%	0.4%		12.2%	2.2%	85.4%	0.2%		1.8%	89.2%	9.0%	0.1%		72.9%	9.6%	17.5%	0.0%			
Total %	13.1%	31.2%	3.5%	0.2%	48.0%	1.8%	0.3%	12.5%	0.0%	14.7%	0.6%	29.5%	3.0%	0.0%	33.1%	3.1%	0.4%	0.7%	0.0%	4.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	113	408	57	0	578	15	8	50	0	73	15	188	20	0	223	2	0	1	0	3	877
8:15	96	332	76	2	506	22	5	73	1	101	13	203	26	0	242	4	4	2	0	10	859
8:30	106	265	78	1	450	15	5	68	0	88	16	243	21	0	280	1	2	1	0	4	822
8:45	125	308	86	1	520	18	12	80	0	110	17	198	25	1	241	4	2	2	0	8	879
Total Volume	440	1313	297	4	2054	70	30	271	1	372	61	832	92	1	986	11	8	6	0	25	3437
% App Total	21.4%	63.9%	14.5%	0.2%		18.8%	8.1%	72.8%	0.3%		6.2%	84.4%	9.3%	0.1%		44.0%	32.0%	24.0%	0.0%		
PHF	.880	.805	.863	.500	.888	.795	.625	.847	.250	.845	.897	.856	.885	.250	.880	.688	.500	.750	.000	.625	.978

PM PEAK HOUR	Latrobe Rd Southbound					Town Center Blvd Westbound					Latrobe Rd Northbound					Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	120	212	4	2	338	8	1	160	0	169	0	384	33	1	418	77	8	20	0	105	1030
16:45	163	237	6	0	406	14	1	136	0	151	1	302	28	0	331	80	11	10	0	101	989
17:00	129	213	4	0	346	21	3	159	1	184	0	399	44	0	443	79	9	15	0	103	1076
17:15	137	247	1	1	386	15	1	149	0	165	1	347	44	0	392	63	5	22	0	90	1033
Total Volume	549	909	15	3	1476	58	6	604	1	669	2	1432	149	1	1584	299	33	67	0	399	4128
% App Total	37.2%	61.6%	1.0%	0.2%		8.7%	0.9%	90.3%	0.1%		0.1%	90.4%	9.4%	0.1%		74.9%	8.3%	16.8%	0.0%		
PHF	.842	.920	.625	.375	.909	.690	.500	.944	.250	.909	.500	.897	.847	.250	.894	.934	.750	.761	.000	.950	.959

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-005 Latrobe Rd & White Rock Rd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	9	76	18	0	103	13	11	12	0	36	5	83	11	0	99	11	5	0	0	16	254	0
6:15	4	109	22	0	135	34	12	16	0	62	9	72	9	0	90	10	4	5	0	19	306	0
6:30	13	158	33	0	204	27	26	19	0	72	12	88	6	0	106	14	10	13	0	37	419	0
6:45	16	271	32	2	321	67	32	18	0	117	11	73	14	0	98	18	10	21	0	49	585	2
Total	42	614	105	2	763	141	81	65	0	287	37	316	40	0	393	53	29	39	0	121	1564	2
7:00	16	209	53	0	278	49	40	22	0	111	26	104	18	1	149	38	12	7	0	57	595	1
7:15	15	199	63	1	278	58	39	34	0	131	16	108	19	0	143	30	20	17	0	67	619	1
7:30	14	235	71	0	320	57	53	23	0	133	25	109	11	1	146	39	28	13	0	80	679	1
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877	0
Total	68	934	274	1	1277	266	191	101	0	558	86	462	73	2	623	160	92	60	0	312	2770	3
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863	1
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811	3
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759	1
8:45	28	224	73	0	325	62	49	33	0	144	6	140	17	0	163	62	19	16	0	97	729	0
Total	97	964	312	1	1374	258	217	131	0	606	71	600	123	2	796	244	87	53	2	386	3162	5
16:00	66	138	64	3	271	49	29	39	0	117	21	293	87	1	402	67	56	25	1	149	939	5
16:15	54	142	59	0	255	45	51	49	0	145	17	228	58	2	305	69	71	34	0	174	879	2
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958	2
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885	2
Total	239	548	227	4	1018	183	147	179	1	510	76	1037	311	5	1429	300	296	107	1	704	3661	11
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034	6
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965	1
17:30	58	142	45	2	247	42	45	41	0	128	21	238	86	1	346	83	77	20	1	181	902	4
17:45	50	171	65	1	287	48	26	49	0	123	24	186	57	0	267	78	52	21	0	151	828	1
Total	232	619	229	4	1084	195	168	193	0	556	80	957	323	5	1365	346	296	79	3	724	3729	12
18:00	59	88	34	0	181	43	25	44	0	112	20	264	53	2	339	76	49	14	1	140	772	3
18:15	49	111	41	0	201	31	40	35	0	106	16	142	34	0	192	37	44	11	0	92	591	0
18:30	50	121	31	0	202	24	25	49	0	98	7	115	39	1	162	41	39	11	1	92	554	2
18:45	32	101	38	0	171	38	11	35	0	84	2	101	31	1	135	32	19	16	0	67	457	1
Total	190	421	144	0	755	136	101	163	0	400	45	622	157	4	828	186	151	52	2	391	2374	6
Grand Total	868	4100	1291	12	6271	1179	905	832	1	2917	395	3994	1027	18	5434	1289	951	390	8	2638	17260	39
Apprch %	13.8%	65.4%	20.6%	0.2%		40.4%	31.0%	28.5%	0.0%		7.3%	73.5%	18.9%	0.3%		48.9%	36.1%	14.8%	0.3%			
Total %	5.0%	23.8%	7.5%	0.1%	36.3%	6.8%	5.2%	4.8%	0.0%	16.9%	2.3%	23.1%	6.0%	0.1%	31.5%	7.5%	5.5%	2.3%	0.0%	15.3%	100.0%	

AM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	23	291	87	0	401	102	59	22	0	183	19	141	25	0	185	53	32	23	0	108	877
8:00	31	298	83	0	412	82	58	29	0	169	25	135	29	1	190	58	21	13	0	92	863
8:15	19	266	83	1	369	58	50	28	0	136	14	160	42	1	217	53	25	10	1	89	811
8:30	19	176	73	0	268	56	60	41	0	157	26	165	35	0	226	71	22	14	1	108	759
Total Volume	92	1031	326	1	1450	298	227	120	0	645	84	601	131	2	818	235	100	60	2	397	3310
% App Total	6.3%	71.1%	22.5%	0.1%		46.2%	35.2%	18.6%	0.0%		10.3%	73.5%	16.0%	0.2%		59.2%	25.2%	15.1%	0.5%		
PHF	.742	.865	.937	.250	.880	.730	.946	.732	.000	.881	.808	.911	.780	.500	.905	.827	.781	.652	.500	.919	.944

PM PEAK HOUR	Latrobe Rd Southbound					White Rock Rd Westbound					Latrobe Rd Northbound					White Rock Rd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	68	121	61	0	250	36	27	45	0	108	18	303	84	2	407	85	90	18	0	193	958
16:45	51	147	43	1	242	53	40	46	1	140	20	213	82	0	315	79	79	30	0	188	885
17:00	65	133	58	1	257	47	41	54	0	142	17	307	104	4	432	92	94	16	1	203	1034
17:15	59	173	61	0	293	58	56	49	0	163	18	226	76	0	320	93	73	22	1	189	965
Total Volume	243	574	223	2	1042	194	164	194	1	553	73	1049	346	6	1474	349	336	86	2	773	3842
% App Total	23.3%	55.1%	21.4%	0.2%		35.1%	29.7%	35.1%	0.2%		5.0%	71.2%	23.5%	0.4%		45.1%	43.5%	11.1%	0.3%		
PHF	.893	.829	.914	.500	.889	.836	.732	.898	.250	.848	.913	.854	.832	.375	.853	.938	.894	.717	.500	.952	.929

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-006 White Rock Rd & Windfield Way/Town Center Blvd
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	0	0	0	0	16	19	0	0	35	4	0	5	0	9	0	13	3	0	16	60	0
6:15	0	0	0	0	0	7	35	0	0	42	1	0	2	0	3	0	21	8	0	29	74	0
6:30	0	0	0	0	0	15	54	0	0	69	1	0	6	0	7	0	31	11	0	42	118	0
6:45	0	0	0	0	0	21	54	0	0	75	2	0	7	0	9	0	43	26	0	69	153	0
Total	0	0	0	0	0	59	162	0	0	221	8	0	20	0	28	0	108	48	0	156	405	0
7:00	0	0	0	0	0	35	78	0	0	113	6	0	10	0	16	0	57	16	0	73	202	0
7:15	0	0	0	0	0	42	80	0	1	123	11	0	11	0	22	0	62	20	0	82	227	1
7:30	0	0	0	0	0	32	105	0	4	141	11	0	10	0	21	0	76	24	0	100	262	4
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311	3
Total	0	0	0	0	0	182	359	0	8	549	38	0	40	0	78	0	282	93	0	375	1002	8
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305	0
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284	2
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308	3
8:45	0	0	0	0	0	55	69	0	1	125	9	0	11	0	20	0	84	30	0	114	259	1
Total	0	0	0	0	0	282	323	0	6	611	52	0	81	0	133	0	300	112	0	412	1156	6
16:00	0	0	0	0	0	27	84	0	5	116	49	0	45	0	94	0	95	8	0	103	313	5
16:15	0	0	0	0	0	24	96	0	4	124	38	0	41	0	79	0	128	18	0	146	349	4
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378	3
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350	7
Total	0	0	0	0	0	100	331	0	19	450	207	0	185	0	392	0	486	62	0	548	1390	19
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407	1
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395	3
17:30	0	0	0	0	0	24	81	0	3	108	38	0	38	0	76	0	134	21	0	155	339	3
17:45	0	0	0	0	0	38	77	0	0	115	31	0	44	0	75	0	117	21	0	138	328	0
Total	0	0	0	0	0	112	356	0	7	475	187	0	222	0	409	0	508	77	0	585	1469	7
18:00	0	0	0	0	0	10	69	0	2	81	43	0	56	0	99	0	86	11	0	97	277	2
18:15	0	0	0	0	0	12	84	0	3	99	16	0	27	0	43	0	60	3	0	63	205	3
18:30	0	0	0	0	0	9	55	0	0	64	15	0	17	0	32	0	76	8	0	84	180	0
18:45	0	0	0	0	0	14	37	0	0	51	19	0	16	0	35	0	47	5	0	52	138	0
Total	0	0	0	0	0	45	245	0	5	295	93	0	116	0	209	0	269	27	0	296	800	5
Grand Total	0	0	0	0	0	780	1776	0	45	2601	585	0	664	0	1249	0	1953	419	0	2372	6222	45
Apprch %	0.0%	0.0%	0.0%	0.0%		30.0%	68.3%	0.0%	1.7%		46.8%	0.0%	53.2%	0.0%		0.0%	82.3%	17.7%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	28.5%	0.0%	0.7%	41.8%	9.4%	0.0%	10.7%	0.0%	20.1%	0.0%	31.4%	6.7%	0.0%	38.1%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	73	96	0	3	172	10	0	9	0	19	0	87	33	0	120	311
8:00	0	0	0	0	0	76	91	0	0	167	20	0	22	0	42	0	68	28	0	96	305
8:15	0	0	0	0	0	77	73	0	2	152	12	0	25	0	37	0	68	27	0	95	284
8:30	0	0	0	0	0	74	90	0	3	167	11	0	23	0	34	0	80	27	0	107	308
Total Volume	0	0	0	0	0	300	350	0	8	658	53	0	79	0	132	0	303	115	0	418	1208
% App Total	0.0%	0.0%	0.0%	0.0%		45.6%	53.2%	0.0%	1.2%		40.2%	0.0%	59.8%	0.0%		0.0%	72.5%	27.5%	0.0%		
PHF	.000	.000	.000	.000	.000	.974	.911	.000	.667	.956	.663	.000	.790	.000	.786	.000	.871	.871	.000	.871	.971

PM PEAK HOUR	White Rock Rd Southbound					Windfield Way/Town Center Blvd Westbound					White Rock Rd Northbound					Windfield Way/Town Center Blvd Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	22	78	0	3	103	80	0	54	0	134	0	127	14	0	141	378
16:45	0	0	0	0	0	27	73	0	7	107	40	0	45	0	85	0	136	22	0	158	350
17:00	0	0	0	0	0	21	89	0	1	111	70	0	86	0	156	0	123	17	0	140	407
17:15	0	0	0	0	0	29	109	0	3	141	48	0	54	0	102	0	134	18	0	152	395
Total Volume	0	0	0	0	0	99	349	0	14	462	238	0	239	0	477	0	520	71	0	591	1530
% App Total	0.0%	0.0%	0.0%	0.0%		21.4%	75.5%	0.0%	3.0%		49.9%	0.0%	50.1%	0.0%		0.0%	88.0%	12.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.853	.800	.000	.500	.819	.744	.000	.695	.000	.764	.000	.956	.807	.000	.935	.940

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-007 White Rock Rd & Post St
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	2	1	7	0	10	2	22	29	0	53	6	1	0	0	7	6	14	0	0	20	90	0
6:15	10	0	11	0	21	1	47	23	0	71	2	1	1	0	4	5	7	0	0	12	108	0
6:30	14	0	16	0	30	5	58	41	0	104	1	2	2	0	5	7	17	1	0	25	164	0
6:45	7	1	30	0	38	4	82	34	0	120	4	1	1	0	6	7	27	1	0	35	199	0
Total	33	2	64	0	99	12	209	127	0	348	13	5	4	0	22	25	65	2	0	92	561	0
7:00	9	0	17	0	26	5	95	35	0	135	6	1	1	0	8	11	26	2	1	40	209	1
7:15	21	1	24	0	46	4	97	47	0	148	12	3	0	0	15	14	31	1	0	46	255	0
7:30	10	1	26	0	37	6	92	32	0	130	7	1	2	0	10	12	38	1	1	52	229	1
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346	0
Total	51	6	93	0	150	26	434	174	0	634	30	7	9	0	46	53	146	8	2	209	1039	2
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329	0
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285	0
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301	0
8:45	20	8	34	0	62	4	101	54	0	159	14	3	3	0	20	12	44	2	1	59	300	1
Total	49	15	112	0	176	35	459	198	0	692	41	5	17	0	63	71	205	7	1	284	1215	1
16:00	43	2	38	0	83	10	75	58	0	143	9	7	5	0	21	50	148	5	1	204	451	1
16:15	31	4	33	0	68	15	91	35	0	141	15	3	5	0	23	37	137	4	1	179	411	1
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445	0
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450	0
Total	143	13	134	0	290	44	328	178	0	550	47	21	23	0	91	190	613	21	2	826	1757	2
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565	2
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478	1
17:30	47	6	40	0	93	12	68	40	0	120	11	0	2	0	13	43	167	1	1	212	438	1
17:45	39	4	30	0	73	5	80	43	0	128	14	5	5	0	24	34	128	0	0	162	387	0
Total	203	18	182	0	403	41	319	176	0	536	52	10	23	0	85	179	651	10	4	844	1868	4
18:00	48	2	31	0	81	6	64	30	0	100	15	1	13	0	29	26	127	1	2	156	366	2
18:15	29	3	29	0	61	8	75	22	0	105	7	0	4	0	11	16	105	1	0	122	299	0
18:30	37	0	19	0	56	5	63	40	0	108	16	3	5	0	24	17	101	4	2	124	312	2
18:45	35	4	20	0	59	6	49	28	0	83	9	5	4	0	18	16	58	2	0	76	236	0
Total	149	9	99	0	257	25	251	120	0	396	47	9	26	0	82	75	391	8	4	478	1213	4
Grand Total	628	63	684	0	1375	183	2000	973	0	3156	230	57	102	0	389	593	2071	56	13	2733	7653	13
Apprch %	45.7%	4.6%	49.7%	0.0%		5.8%	63.4%	30.8%	0.0%		59.1%	14.7%	26.2%	0.0%		21.7%	75.8%	2.0%	0.5%			
Total %	8.2%	0.8%	8.9%	0.0%	18.0%	2.4%	26.1%	12.7%	0.0%	41.2%	3.0%	0.7%	1.3%	0.0%	5.1%	7.7%	27.1%	0.7%	0.2%	35.7%	100.0%	

AM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	11	4	26	0	41	11	150	60	0	221	5	2	6	0	13	16	51	4	0	71	346
8:00	11	4	21	0	36	9	134	60	0	203	10	0	7	0	17	24	49	0	0	73	329
8:15	10	3	28	0	41	8	107	36	0	151	10	1	2	0	13	18	61	1	0	80	285
8:30	8	0	29	0	37	14	117	48	0	179	7	1	5	0	13	17	51	4	0	72	301
Total Volume	40	11	104	0	155	42	508	204	0	754	32	4	20	0	56	75	212	9	0	296	1261
% App Total	25.8%	7.1%	67.1%	0.0%		5.6%	67.4%	27.1%	0.0%		57.1%	7.1%	35.7%	0.0%		25.3%	71.6%	3.0%	0.0%		
PHF	.909	.688	.897	.000	.945	.750	.847	.850	.000	.853	.800	.500	.714	.000	.824	.781	.869	.563	.000	.925	.911

PM PEAK HOUR	White Rock Rd Southbound					Post St Westbound					White Rock Rd Northbound					Post St Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	38	4	30	0	72	9	71	34	0	114	13	6	5	0	24	53	177	5	0	235	445
16:45	31	3	33	0	67	10	91	51	0	152	10	5	8	0	23	50	151	7	0	208	450
17:00	75	6	62	0	143	13	66	56	0	135	15	3	10	0	28	61	191	5	2	259	565
17:15	42	2	50	0	94	11	105	37	0	153	12	2	6	0	20	41	165	4	1	211	478
Total Volume	186	15	175	0	376	43	333	178	0	554	50	16	29	0	95	205	684	21	3	913	1938
% App Total	49.5%	4.0%	46.5%	0.0%		7.8%	60.1%	32.1%	0.0%		52.6%	16.8%	30.5%	0.0%		22.5%	74.9%	2.3%	0.3%		
PHF	.620	.625	.706	.000	.657	.827	.793	.795	.000	.905	.833	.667	.725	.000	.848	.840	.895	.750	.375	.881	.858

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-008 Saratoga Way & Mammouth Way
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Saratoga Way Southbound					Mammouth Way Westbound					Saratoga Way Northbound					Mammouth Way Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	1	1	0	2	0	0	0	0	0	0	8	0	0	8	3	0	0	0	3	13	0
6:15	0	2	2	0	4	0	0	0	0	0	0	6	0	0	6	3	0	0	0	3	13	0
6:30	0	0	2	0	2	0	0	0	0	0	0	5	0	0	5	7	0	0	0	7	14	0
6:45	0	5	5	0	10	0	0	0	0	0	0	9	0	0	9	9	0	0	0	9	28	0
Total	0	8	10	0	18	0	0	0	0	0	0	28	0	0	28	22	0	0	0	22	68	0
7:00	0	3	8	0	11	0	0	0	0	0	0	26	0	0	26	12	0	0	0	12	49	0
7:15	1	5	8	0	14	0	1	0	0	1	0	8	0	0	8	13	0	0	0	13	36	0
7:30	2	4	11	0	17	0	0	0	0	0	0	22	0	0	22	17	0	0	0	17	56	0
7:45	0	7	28	0	35	0	0	0	0	0	0	10	0	0	10	14	0	1	0	15	60	0
Total	3	19	55	0	77	0	1	0	0	1	0	66	0	0	66	56	0	1	0	57	201	0
8:00	0	5	18	0	23	0	0	0	0	0	0	19	0	0	19	24	0	0	0	24	66	0
8:15	1	7	17	0	25	0	0	5	0	5	0	17	0	0	17	21	0	0	0	21	68	0
8:30	0	10	19	0	29	0	1	2	0	3	0	12	0	0	12	20	0	0	0	20	64	0
8:45	1	5	49	0	55	0	0	1	0	1	0	16	0	0	16	48	0	1	0	49	121	0
Total	2	27	103	0	132	0	1	8	0	9	0	64	0	0	64	113	0	1	0	114	319	0
16:00	2	11	19	0	32	0	1	8	0	9	0	12	0	0	12	27	0	1	0	28	81	0
16:15	5	11	22	0	38	0	0	9	0	9	2	11	0	0	13	19	0	1	0	20	80	0
16:30	4	18	17	2	41	0	0	9	0	9	0	9	0	0	9	16	0	0	0	16	75	2
16:45	4	24	13	0	41	0	1	8	0	9	1	7	0	0	8	18	1	1	0	20	78	0
Total	15	64	71	2	152	0	2	34	0	36	3	39	0	0	42	80	1	3	0	84	314	2
17:00	3	18	16	0	37	0	1	10	0	11	0	16	0	0	16	32	0	0	0	32	96	0
17:15	3	14	23	0	40	0	2	7	0	9	1	11	0	0	12	16	1	2	0	19	80	0
17:30	6	29	17	0	52	0	0	7	0	7	0	12	0	0	12	21	1	1	0	23	94	0
17:45	3	21	15	0	39	0	0	7	0	7	1	10	0	0	11	10	0	1	0	11	68	0
Total	15	82	71	0	168	0	3	31	0	34	2	49	0	0	51	79	2	4	0	85	338	0
18:00	3	21	16	0	40	0	0	10	0	10	0	9	0	0	9	14	1	0	0	15	74	0
18:15	0	11	12	0	23	0	0	9	0	9	0	9	0	0	9	15	1	0	0	16	57	0
18:30	3	15	6	0	24	0	0	4	0	4	0	14	0	0	14	9	1	0	0	10	52	0
18:45	5	17	11	0	33	0	1	4	0	5	0	9	0	0	9	8	0	1	0	9	56	0
Total	11	64	45	0	120	0	1	27	0	28	0	41	0	0	41	46	3	1	0	50	239	0
Grand Total	46	264	355	2	667	0	8	100	0	108	5	287	0	0	292	396	6	10	0	412	1479	2
Apprch %	6.9%	39.6%	53.2%	0.3%		0.0%	7.4%	92.6%	0.0%		1.7%	98.3%	0.0%	0.0%		96.1%	1.5%	2.4%	0.0%			
Total %	3.1%	17.8%	24.0%	0.1%	45.1%	0.0%	0.5%	6.8%	0.0%	7.3%	0.3%	19.4%	0.0%	0.0%	19.7%	26.8%	0.4%	0.7%	0.0%	27.9%	100.0%	

AM PEAK HOUR	Saratoga Way Southbound					Mammouth Way Westbound					Saratoga Way Northbound					Mammouth Way Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	0	5	18	0	23	0	0	0	0	0	0	19	0	0	19	24	0	0	0	24	66
8:15	1	7	17	0	25	0	0	5	0	5	0	17	0	0	17	21	0	0	0	21	68
8:30	0	10	19	0	29	0	1	2	0	3	0	12	0	0	12	20	0	0	0	20	64
8:45	1	5	49	0	55	0	0	1	0	1	0	16	0	0	16	48	0	1	0	49	121
Total Volume	2	27	103	0	132	0	1	8	0	9	0	64	0	0	64	113	0	1	0	114	319
% App Total	1.5%	20.5%	78.0%	0.0%		0.0%	11.1%	88.9%	0.0%		0.0%	100.0%	0.0%	0.0%		99.1%	0.0%	0.9%	0.0%		
PHF	.500	.675	.526	.000	.600	.000	.250	.400	.000	.450	.000	.842	.000	.000	.842	.589	.000	.250	.000	.582	.659

PM PEAK HOUR	Saratoga Way Southbound					Mammouth Way Westbound					Saratoga Way Northbound					Mammouth Way Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	4	24	13	0	41	0	1	8	0	9	1	7	0	0	8	18	1	1	0	20	78
17:00	3	18	16	0	37	0	1	10	0	11	0	16	0	0	16	32	0	0	0	32	96
17:15	3	14	23	0	40	0	2	7	0	9	1	11	0	0	12	16	1	2	0	19	80
17:30	6	29	17	0	52	0	0	7	0	7	0	12	0	0	12	21	1	1	0	23	94
Total Volume	16	85	69	0	170	0	4	32	0	36	2	46	0	0	48	87	3	4	0	94	348
% App Total	9.4%	50.0%	40.6%	0.0%		0.0%	11.1%	88.9%	0.0%		4.2%	95.8%	0.0%	0.0%		92.6%	3.2%	4.3%	0.0%		
PHF	.667	.733	.750	.000	.817	.000	.500	.800	.000	.818	.500	.719	.000	.000	.750	.680	.750	.500	.000	.734	.906

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-009 Saratoga Way & Main Project Site Dwy
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Saratoga Way Southbound					Main Project Site Dwy Westbound					Saratoga Way Northbound					Main Project Site Dwy Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	1	0	0	1	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	10	0
6:15	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	7	0
6:30	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5	0
6:45	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	12	0
Total	0	6	0	0	6	0	0	0	0	0	0	28	0	0	28	0	0	0	0	0	34	0
7:00	0	1	0	0	1	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	23	0
7:15	1	4	0	0	5	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	14	0
7:30	1	3	0	0	4	0	0	1	0	1	0	20	0	0	20	0	0	0	0	0	25	0
7:45	3	5	0	0	8	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	18	0
Total	5	13	0	0	18	0	0	1	0	1	0	61	0	0	61	0	0	0	0	0	80	0
8:00	4	1	0	0	5	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	24	0
8:15	4	3	0	0	7	0	0	5	0	5	0	12	0	0	12	0	0	0	0	0	24	0
8:30	3	7	0	0	10	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	22	0
8:45	5	1	0	0	6	1	0	1	0	2	0	15	1	0	16	0	0	0	0	0	24	0
Total	16	12	0	0	28	1	0	7	0	8	0	57	1	0	58	0	0	0	0	0	94	0
16:00	3	8	0	0	11	0	0	4	0	4	0	9	0	0	9	0	0	0	0	0	24	0
16:15	7	2	0	1	10	0	0	2	0	2	0	7	0	0	7	0	0	0	0	0	19	1
16:30	7	9	0	0	16	1	0	0	0	1	0	9	0	0	9	0	0	0	0	0	26	0
16:45	9	15	0	0	24	0	0	3	0	3	0	5	0	0	5	0	0	0	0	0	32	0
Total	26	34	0	1	61	1	0	9	0	10	0	30	0	0	30	0	0	0	0	0	101	1
17:00	8	12	0	0	20	1	0	3	0	4	0	14	2	0	16	0	0	0	0	0	40	0
17:15	7	8	0	0	15	2	0	2	0	4	0	9	0	0	9	0	0	0	0	0	28	0
17:30	7	22	0	0	29	1	0	4	0	5	0	8	3	0	11	0	0	0	0	0	45	0
17:45	11	13	0	0	24	2	0	4	0	6	0	7	1	0	8	0	0	0	0	0	38	0
Total	33	55	0	0	88	6	0	13	0	19	0	38	6	0	44	0	0	0	0	0	151	0
18:00	4	17	0	0	21	1	0	3	0	4	0	6	1	0	7	0	0	0	0	0	32	0
18:15	5	7	0	0	12	1	0	2	0	3	0	7	0	0	7	0	0	0	0	0	22	0
18:30	2	11	0	0	13	0	0	4	0	4	0	10	0	0	10	0	0	0	0	0	27	0
18:45	8	10	0	0	18	0	0	2	0	2	0	7	1	0	8	0	0	0	0	0	28	0
Total	19	45	0	0	64	2	0	11	0	13	0	30	2	0	32	0	0	0	0	0	109	0
Grand Total	99	165	0	1	265	10	0	41	0	51	0	244	9	0	253	0	0	0	0	0	569	1
Apprch %	37.4%	62.3%	0.0%	0.4%		19.6%	0.0%	80.4%	0.0%		0.0%	96.4%	3.6%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	17.4%	29.0%	0.0%	0.2%	46.6%	1.8%	0.0%	7.2%	0.0%	9.0%	0.0%	42.9%	1.6%	0.0%	44.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Saratoga Way Southbound					Main Project Site Dwy Westbound					Saratoga Way Northbound					Main Project Site Dwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
8:00	4	1	0	0	5	0	0	1	0	1	0	18	0	0	18	0	0	0	0	0	24
8:15	4	3	0	0	7	0	0	5	0	5	0	12	0	0	12	0	0	0	0	0	24
8:30	3	7	0	0	10	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	22
8:45	5	1	0	0	6	1	0	1	0	2	0	15	1	0	16	0	0	0	0	0	24
Total Volume	16	12	0	0	28	1	0	7	0	8	0	57	1	0	58	0	0	0	0	0	94
% App Total	57.1%	42.9%	0.0%	0.0%		12.5%	0.0%	87.5%	0.0%		0.0%	98.3%	1.7%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.800	.429	.000	.000	.700	.250	.000	.350	.000	.400	.000	.792	.250	.000	.806	.000	.000	.000	.000	.000	.979

PM PEAK HOUR	Saratoga Way Southbound					Main Project Site Dwy Westbound					Saratoga Way Northbound					Main Project Site Dwy Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	8	12	0	0	20	1	0	3	0	4	0	14	2	0	16	0	0	0	0	0	40
17:15	7	8	0	0	15	2	0	2	0	4	0	9	0	0	9	0	0	0	0	0	28
17:30	7	22	0	0	29	1	0	4	0	5	0	8	3	0	11	0	0	0	0	0	45
17:45	11	13	0	0	24	2	0	4	0	6	0	7	1	0	8	0	0	0	0	0	38
Total Volume	33	55	0	0	88	6	0	13	0	19	0	38	6	0	44	0	0	0	0	0	151
% App Total	37.5%	62.5%	0.0%	0.0%		31.6%	0.0%	68.4%	0.0%		0.0%	86.4%	13.6%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.750	.625	.000	.000	.759	.750	.000	.813	.000	.792	.000	.679	.500	.000	.688	.000	.000	.000	.000	.000	.839

National Data and Surveying Services

City of El Dorado Hills
All Vehicles & Uturns On Unshifted
Nothing On Bank 1
Nothing On Bank 2

(323) 782-0090
info@ndsdata.com

File Name : 17-7192-010 Saratoga Way & Arrowhead Dr
Date : 3/14/2017

Unshifted Count = All Vehicles & Uturns

	Saratoga Way Southbound					Arrowhead Dr Westbound					Saratoga Way Northbound					Arrowhead Dr Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
6:00	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	4	0	0	0	4	10	0
6:15	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	2	0	0	0	2	6	0
6:30	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	6	0
6:45	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	2	0	0	0	2	12	0
Total	0	6	0	0	6	0	0	0	0	0	0	19	0	0	19	9	0	0	0	9	34	0
7:00	0	1	0	0	1	0	0	0	0	0	1	17	0	0	18	5	0	0	0	5	24	0
7:15	0	3	1	0	4	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	13	0
7:30	0	3	0	0	3	0	0	0	0	0	0	14	0	0	14	6	0	0	0	6	23	0
7:45	0	4	1	0	5	0	0	0	0	0	0	8	0	0	8	2	0	0	0	2	15	0
Total	0	11	2	0	13	0	0	0	0	0	1	47	0	0	48	14	0	0	0	14	75	0
8:00	0	1	0	0	1	0	0	0	0	0	0	13	0	0	13	5	0	0	0	5	19	0
8:15	0	3	0	0	3	0	0	0	0	0	0	11	0	0	11	2	0	0	0	2	16	0
8:30	0	6	1	0	7	0	0	0	0	0	0	7	0	0	7	5	0	0	0	5	19	0
8:45	0	1	1	0	2	0	0	0	0	0	0	14	0	0	14	2	0	0	0	2	18	0
Total	0	11	2	0	13	0	0	0	0	0	0	45	0	0	45	14	0	0	0	14	72	0
16:00	0	3	4	0	7	0	0	0	0	0	0	7	0	0	7	2	0	0	0	2	16	0
16:15	0	2	0	0	2	0	0	0	0	0	1	4	0	0	5	3	0	0	0	3	10	0
16:30	0	9	1	0	10	0	0	0	0	0	0	6	0	0	6	3	0	0	0	3	19	0
16:45	0	13	2	0	15	0	0	0	0	0	0	2	0	0	2	3	0	0	0	3	20	0
Total	0	27	7	0	34	0	0	0	0	0	1	19	0	0	20	11	0	0	0	11	65	0
17:00	0	11	1	0	12	0	0	0	0	0	0	9	0	0	9	7	0	1	0	8	29	0
17:15	0	7	2	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	18	0
17:30	0	17	3	0	20	0	0	0	0	0	0	7	0	0	7	4	0	0	0	4	31	0
17:45	0	13	5	0	18	0	0	0	0	0	0	5	0	0	5	3	0	0	0	3	26	0
Total	0	48	11	0	59	0	0	0	0	0	0	29	0	0	29	15	0	1	0	16	104	0
18:00	0	11	6	0	17	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	24	0
18:15	0	7	2	0	9	0	0	0	0	0	0	4	0	0	4	3	0	0	0	3	16	0
18:30	0	9	1	0	10	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	20	0
18:45	0	8	2	0	10	0	0	0	0	0	0	4	0	0	4	4	0	0	0	4	18	0
Total	0	35	11	0	46	0	0	0	0	0	0	24	0	0	24	8	0	0	0	8	78	0
Grand Total	0	138	33	0	171	0	0	0	0	0	2	183	0	0	185	71	0	1	0	72	428	0
Apprch %	0.0%	80.7%	19.3%	0.0%		0.0%	0.0%	0.0%	0.0%		1.1%	98.9%	0.0%	0.0%		98.6%	0.0%	1.4%	0.0%			
Total %	0.0%	32.2%	7.7%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	42.8%	0.0%	0.0%	43.2%	16.6%	0.0%	0.2%	0.0%	16.8%	100.0%	

AM PEAK HOUR	Saratoga Way Southbound					Arrowhead Dr Westbound					Saratoga Way Northbound					Arrowhead Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:00 to 08:00																					
Peak Hour For Entire Intersection Begins at 07:00																					
7:00	0	1	0	0	1	0	0	0	0	0	1	17	0	0	18	5	0	0	0	5	24
7:15	0	3	1	0	4	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	13
7:30	0	3	0	0	3	0	0	0	0	0	0	14	0	0	14	6	0	0	0	6	23
7:45	0	4	1	0	5	0	0	0	0	0	0	8	0	0	8	2	0	0	0	2	15
Total Volume	0	11	2	0	13	0	0	0	0	0	1	47	0	0	48	14	0	0	0	14	75
% App Total	0.0%	84.6%	15.4%	0.0%		0.0%	0.0%	0.0%	0.0%		2.1%	97.9%	0.0%	0.0%		100.0%	0.0%	0.0%	0.0%		
PHF	.000	.688	.500	.000	.650	.000	.000	.000	.000	.000	.250	.691	.000	.000	.667	.583	.000	.000	.000	.583	.781

PM PEAK HOUR	Saratoga Way Southbound					Arrowhead Dr Westbound					Saratoga Way Northbound					Arrowhead Dr Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	11	1	0	12	0	0	0	0	0	0	9	0	0	9	7	0	1	0	8	29
17:15	0	7	2	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	18
17:30	0	17	3	0	20	0	0	0	0	0	0	7	0	0	7	4	0	0	0	4	31
17:45	0	13	5	0	18	0	0	0	0	0	0	5	0	0	5	3	0	0	0	3	26
Total Volume	0	48	11	0	59	0	0	0	0	0	0	29	0	0	29	15	0	1	0	16	104
% App Total	0.0%	81.4%	18.6%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	100.0%	0.0%	0.0%		93.8%	0.0%	6.3%	0.0%		
PHF	.000	.706	.550	.000	.738	.000	.000	.000	.000	.000	.000	.806	.000	.000	.806	.536	.000	.250	.000	.500	.839

Prepared by NDS/ATD

VOLUME

Saratoga Way Bet. Mammouth Way & Project Site Dwy

Day: Thursday
Date: 3/16/2017

City: El Dorado Hills
Project #: CA17_7193_001

DAILY TOTALS	NB	SB	EB	WB	Total
	675	821	0	0	1,496

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	3		1						4		12:00	12		9						21	
00:15	0		1						1		12:15	6		20						26	
00:30	0		1						1		12:30	9		15						24	
00:45	0	3	1	4					1	7	12:45	9	36	13	57					22	93
01:00	0		0						0		13:00	12		16						28	
01:15	0		0						0		13:15	11		18						29	
01:30	0		0						0		13:30	14		8						22	
01:45	0		0						0		13:45	11	48	14	56					25	104
02:00	1		0						1		14:00	12		14						26	
02:15	0		0						0		14:15	5		17						22	
02:30	0		0						0		14:30	12		17						29	
02:45	0	1	0						0	1	14:45	7	36	13	61					20	97
03:00	0		0						0		15:00	8		24						32	
03:15	0		0						0		15:15	15		15						30	
03:30	1		1						2		15:30	13		15						28	
03:45	1	2	0	1					1	3	15:45	11	47	14	68					25	115
04:00	0		0						0		16:00	13		14						27	
04:15	1		0						1		16:15	12		11						23	
04:30	0		0						0		16:30	8		19						27	
04:45	4	5	0						4	5	16:45	11	44	27	71					38	115
05:00	0		0						0		17:00	15		22						37	
05:15	1		1						2		17:15	11		15						26	
05:30	4		0						4		17:30	10		21						31	
05:45	5	10	1	2					6	12	17:45	13	49	26	84					39	133
06:00	5		1						6		18:00	10		23						33	
06:15	7		2						9		18:15	10		14						24	
06:30	6		2						8		18:30	13		16						29	
06:45	11	29	6	11					17	40	18:45	11	44	16	69					27	113
07:00	24		4						28		19:00	10		19						29	
07:15	13		5						18		19:15	5		18						23	
07:30	21		5						26		19:30	7		23						30	
07:45	10	68	8	22					18	90	19:45	8	30	15	75					23	105
08:00	18		6						24		20:00	5		15						20	
08:15	16		8						24		20:15	5		11						16	
08:30	13		10						23		20:30	4		11						15	
08:45	15	62	7	31					22	93	20:45	6	20	8	45					14	65
09:00	9		7						16		21:00	9		9						18	
09:15	16		8						24		21:15	3		6						9	
09:30	8		5						13		21:30	4		4						8	
09:45	6	39	5	25					11	64	21:45	5	21	4	23					9	44
10:00	13		10						23		22:00	1		1						2	
10:15	7		6						13		22:15	0		3						3	
10:30	9		11						20		22:30	1		2						3	
10:45	8	37	14	41					22	78	22:45	1	3	0	6					1	9
11:00	5		19						24		23:00	0		2						2	
11:15	7		18						25		23:15	1		2						3	
11:30	11		12						23		23:30	1		4						5	
11:45	16	39	10	59					26	98	23:45	0	2	2	10					2	12
TOTALS		295		196						491	TOTALS		380		625						1005
SPLIT %		60.1%		39.9%						32.8%	SPLIT %		37.8%		62.2%						67.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	675	821	0	0	1,496

AM Peak Hour	06:45	10:45			11:00	PM Peak Hour	15:15	16:45			17:00
AM Pk Volume	69	63			98	PM Pk Volume	52	85			133
Pk Hr Factor	0.719	0.829			0.942	Pk Hr Factor	0.867	0.787			0.853
7 - 9 Volume	130	53	0	0	183	4 - 6 Volume	93	155	0	0	248
7 - 9 Peak Hour	07:00	07:45			08:00	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	68	32	0	0	93	4 - 6 Pk Volume	49	85	0	0	133
Pk Hr Factor	0.708	0.800	0.000	0.000	0.969	Pk Hr Factor	0.817	0.787	0.000	0.000	0.853

Appendix B

Analysis Worksheets for
Existing (2017) Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	6964	7037	6904	6855	6959	6920	7113
Vehs Exited	6945	7082	6877	6910	6970	6911	7107
Starting Vehs	253	271	259	243	230	246	251
Ending Vehs	272	226	286	188	219	255	257
Travel Distance (mi)	4106	4190	4091	4067	4123	4093	4210
Travel Time (hr)	256.8	261.6	249.1	250.5	256.1	243.8	261.6
Total Delay (hr)	127.6	130.2	120.4	122.8	126.3	115.2	129.1
Total Stops	10790	10822	10419	10356	10817	10196	11131
Fuel Used (gal)	191.5	195.1	189.4	188.7	191.5	189.1	196.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	6966	6972	6899	6960
Vehs Exited	6936	6981	6891	6963
Starting Vehs	242	239	240	246
Ending Vehs	272	230	248	242
Travel Distance (mi)	4120	4157	4078	4124
Travel Time (hr)	257.8	255.4	253.1	254.6
Total Delay (hr)	128.3	124.9	125.1	125.0
Total Stops	10826	10707	10640	10667
Fuel Used (gal)	193.0	192.8	190.0	191.7

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1665	1730	1703	1689	1644	1668	1710
Vehs Exited	1685	1739	1726	1686	1634	1656	1706
Starting Vehs	253	271	259	243	230	246	251
Ending Vehs	233	262	236	246	240	258	255
Travel Distance (mi)	979	1033	1030	1001	981	983	1020
Travel Time (hr)	58.2	65.3	61.4	60.9	58.8	59.0	60.2
Total Delay (hr)	27.4	32.8	28.8	29.5	27.9	28.0	28.0
Total Stops	2509	2819	2574	2561	2555	2565	2667
Fuel Used (gal)	45.1	48.2	47.1	46.0	45.4	45.9	46.8

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1687	1700	1731	1690
Vehs Exited	1680	1688	1712	1688
Starting Vehs	242	239	240	246
Ending Vehs	249	251	259	245
Travel Distance (mi)	1022	1031	1036	1012
Travel Time (hr)	60.7	63.8	65.0	61.3
Total Delay (hr)	28.4	31.6	32.3	29.5
Total Stops	2551	2587	2727	2609
Fuel Used (gal)	46.6	47.9	48.3	46.7

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1864	1938	1871	1901	1898	1881	1904
Vehs Exited	1832	1921	1824	1856	1850	1874	1918
Starting Vehs	233	262	236	246	240	258	255
Ending Vehs	265	279	283	291	288	265	241
Travel Distance (mi)	1061	1115	1057	1077	1085	1086	1105
Travel Time (hr)	67.7	74.1	67.6	69.3	70.4	65.0	70.5
Total Delay (hr)	34.2	39.1	34.3	35.4	36.5	31.0	36.0
Total Stops	2916	3033	2838	2845	2964	2617	2943
Fuel Used (gal)	50.2	52.6	49.9	50.6	51.1	50.3	52.3

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1908	1910	1874	1894
Vehs Exited	1849	1874	1875	1867
Starting Vehs	249	251	259	245
Ending Vehs	308	287	258	275
Travel Distance (mi)	1068	1088	1065	1081
Travel Time (hr)	69.4	66.4	68.3	68.9
Total Delay (hr)	36.0	32.2	34.9	35.0
Total Stops	2910	2822	2822	2875
Fuel Used (gal)	50.8	50.5	50.1	50.8

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1729	1689	1573	1654	1742	1621	1775
Vehs Exited	1692	1721	1648	1710	1792	1680	1736
Starting Vehs	265	279	283	291	288	265	241
Ending Vehs	302	247	208	235	238	206	280
Travel Distance (mi)	1032	1021	962	994	1060	992	1056
Travel Time (hr)	65.4	62.2	56.8	61.1	66.9	59.3	67.1
Total Delay (hr)	33.1	30.1	26.5	29.8	33.5	28.1	33.7
Total Stops	2712	2513	2385	2434	2738	2544	2830
Fuel Used (gal)	48.1	47.0	44.5	46.3	48.9	46.1	49.9

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1712	1665	1657	1681
Vehs Exited	1758	1686	1694	1709
Starting Vehs	308	287	258	275
Ending Vehs	262	266	221	241
Travel Distance (mi)	1042	1017	1003	1018
Travel Time (hr)	68.7	60.8	60.3	62.9
Total Delay (hr)	36.0	28.9	28.8	30.8
Total Stops	2810	2535	2508	2597
Fuel Used (gal)	49.7	46.6	46.4	47.3

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1706	1680	1757	1611	1675	1750	1724
Vehs Exited	1736	1701	1679	1658	1694	1701	1747
Starting Vehs	302	247	208	235	238	206	280
Ending Vehs	272	226	286	188	219	255	257
Travel Distance (mi)	1034	1021	1042	995	997	1031	1029
Travel Time (hr)	65.6	60.1	63.2	59.1	60.0	60.4	63.8
Total Delay (hr)	32.9	28.2	30.8	28.0	28.4	28.1	31.4
Total Stops	2653	2457	2622	2516	2560	2470	2691
Fuel Used (gal)	48.1	47.3	48.0	45.8	46.0	46.9	47.5

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1659	1697	1637	1687
Vehs Exited	1649	1733	1610	1690
Starting Vehs	262	266	221	241
Ending Vehs	272	230	248	242
Travel Distance (mi)	988	1020	974	1013
Travel Time (hr)	58.9	64.5	59.6	61.5
Total Delay (hr)	28.0	32.3	29.2	29.7
Total Stops	2555	2763	2583	2590
Fuel Used (gal)	45.8	47.8	45.2	46.8

1: El Dorado Hills Blvd & Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	2.5	1.1	1.4
Total Delay (hr)	0.2	0.1	0.7	0.1	0.1	0.2	0.7	1.7	0.1	1.5	4.3	0.0
Total Del/Veh (s)	36.5	11.0	20.0	34.8	31.9	7.6	36.8	8.8	6.0	36.4	10.7	6.8
Stop Delay (hr)	0.2	0.1	0.6	0.1	0.1	0.1	0.6	0.8	0.0	1.4	1.9	0.0
Stop Del/Veh (s)	34.8	9.9	19.5	33.3	28.5	7.0	33.4	4.2	3.6	33.1	4.8	4.4

1: El Dorado Hills Blvd & Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.7
Total Delay (hr)	9.6
Total Del/Veh (s)	12.9
Stop Delay (hr)	6.0
Stop Del/Veh (s)	8.1

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.2	1.3	0.4	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	2.1	0.9	0.4	2.7	2.8	1.3	9.8	1.7	0.3	1.0	5.6	3.2
Total Del/Veh (s)	44.5	42.4	4.1	93.9	111.0	85.5	66.7	10.3	8.2	67.6	24.1	17.0
Stop Delay (hr)	1.9	0.8	0.0	2.6	2.6	1.3	8.7	0.9	0.2	0.9	3.6	1.4
Stop Del/Veh (s)	41.4	38.1	0.0	88.7	104.7	81.5	59.0	5.6	4.9	61.8	15.6	7.5

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	32.0
Total Del/Veh (s)	30.9
Stop Delay (hr)	25.0
Stop Del/Veh (s)	24.1

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Denied Del/Veh (s)	2.1	0.3	0.0	0.0	0.0	0.0	0.6
Total Delay (hr)	7.6	0.1	1.9	0.3	2.6	3.2	15.7
Total Del/Veh (s)	24.3	1.0	7.3	7.5	42.5	10.2	14.5
Stop Delay (hr)	5.6	0.0	0.5	0.1	2.1	0.7	9.1
Stop Del/Veh (s)	18.1	0.0	2.0	2.5	34.8	2.3	8.4

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	4.1	0.1	0.1	3.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.6	0.3	0.8	0.7	6.0	0.1	2.7	4.7	0.3
Total Del/Veh (s)	42.2	37.4	7.4	28.7	30.5	10.0	39.2	25.8	5.7	22.5	11.3	4.1
Stop Delay (hr)	0.1	0.1	0.0	0.5	0.2	0.7	0.6	4.0	0.1	2.2	2.3	0.2
Stop Del/Veh (s)	40.3	34.2	7.4	25.8	26.2	8.8	34.7	17.2	4.5	18.0	5.6	2.1

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	16.4
Total Del/Veh (s)	16.3
Stop Delay (hr)	11.0
Stop Del/Veh (s)	10.9

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (hr)	3.6	1.0	0.3	4.5	2.9	0.3	1.6	3.7	0.1	1.5	11.3	1.3
Total Del/Veh (s)	53.1	38.5	15.7	54.3	43.4	8.5	65.2	21.4	3.7	57.4	35.5	14.3
Stop Delay (hr)	3.4	0.8	0.3	4.0	2.4	0.2	1.5	3.2	0.1	1.3	6.9	0.9
Stop Del/Veh (s)	49.9	33.9	14.7	48.3	35.7	6.5	63.0	18.6	3.8	49.5	21.9	10.4

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	32.0
Total Del/Veh (s)	33.2
Stop Delay (hr)	25.2
Stop Del/Veh (s)	26.1

7: Driveway/Post St & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	3.0	0.4	0.3	0.1	0.1	0.1	3.9	0.3	0.3
Total Delay (hr)	1.0	1.2	0.0	0.6	3.9	0.6	0.4	0.0	0.0	0.4	0.1	0.3
Total Del/Veh (s)	46.2	18.1	4.6	54.4	26.8	11.2	46.6	39.2	3.8	34.7	22.1	9.0
Stop Delay (hr)	0.9	0.9	0.0	0.6	2.6	0.4	0.4	0.0	0.0	0.3	0.1	0.2
Stop Del/Veh (s)	42.8	13.9	2.9	48.5	17.7	7.9	44.5	36.9	3.9	32.4	19.4	8.2

7: Driveway/Post St & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	8.5
Total Del/Veh (s)	23.5
Stop Delay (hr)	6.5
Stop Del/Veh (s)	18.0

Total Zone Performance

Denied Delay (hr)	1.6
Denied Del/Veh (s)	1.1
Total Delay (hr)	114.4
Total Del/Veh (s)	235.7
Stop Delay (hr)	82.7
Stop Del/Veh (s)	170.4

Intersection: 1: El Dorado Hills Blvd & Saratoga Way

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	T	TR	L	T	TR
Maximum Queue (ft)	12	53	118	33	80	97	106	124	119	124	321	329
Average Queue (ft)	1	17	57	5	32	38	33	42	34	69	103	145
95th Queue (ft)	7	42	102	19	64	82	79	96	88	129	244	303
Link Distance (ft)		299		482	482		774	774	774		309	309
Upstream Blk Time (%)											1	1
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	150		200			250				100		
Storage Blk Time (%)										4	4	
Queuing Penalty (veh)										28	6	

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	166	149	174	276	175	368	377	144	161	187	180	287
Average Queue (ft)	84	77	68	153	109	211	217	50	65	88	50	154
95th Queue (ft)	141	133	167	244	196	351	360	111	131	158	125	247
Link Distance (ft)	1228	1228		621		646	646	646	646	646		774
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150		150						200	
Storage Blk Time (%)			0	14	3							2
Queuing Penalty (veh)			0	21	4							1

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	284	372	225
Average Queue (ft)	106	123	144
95th Queue (ft)	203	278	244
Link Distance (ft)	774	774	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			200
Storage Blk Time (%)		0	4
Queuing Penalty (veh)		0	13

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	R	L	T	T	T	T
Maximum Queue (ft)	357	308	134	184	226	146	262	217	204	203	58
Average Queue (ft)	226	193	20	43	54	25	151	35	28	27	17
95th Queue (ft)	321	289	78	115	151	82	234	121	111	118	47
Link Distance (ft)	1211		572	572	572			646	646	646	646
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		450				275	575				
Storage Blk Time (%)					0						
Queuing Penalty (veh)					0						

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	L	T	T	T
Maximum Queue (ft)	9	49	36	33	102	153	112	55	68	233	248	291
Average Queue (ft)	0	9	8	5	41	60	41	16	28	90	109	138
95th Queue (ft)	3	34	28	23	82	116	81	42	58	182	204	250
Link Distance (ft)			778	778		526	526			839	839	839
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					0	2				0		
Queuing Penalty (veh)					1	2				0		

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	70	163	176	221	234	230	108
Average Queue (ft)	22	77	101	102	128	100	41
95th Queue (ft)	53	133	151	184	213	190	80
Link Distance (ft)	839			572	572	572	572
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		325	325				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	152	195	94	134	176	183	191	220	102	145	158	144
Average Queue (ft)	72	110	29	61	99	110	71	97	43	59	84	66
95th Queue (ft)	141	172	72	112	170	176	157	186	84	124	140	126
Link Distance (ft)			346	346				315	315		278	278
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								1				
Storage Bay Dist (ft)	325	325			175	175	175			270		
Storage Blk Time (%)					0	1	1	0				
Queuing Penalty (veh)					0	1	1	2				

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	108	97	50	63	249	402	428	367	250
Average Queue (ft)	45	11	23	15	45	215	234	50	62
95th Queue (ft)	97	54	50	46	166	367	385	222	166
Link Distance (ft)	278	278				839	839	839	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			25	225	225				250
Storage Blk Time (%)		2	1			8		1	0
Queuing Penalty (veh)		3	2			8		2	0

Intersection: 7: Driveway/Post St & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	102	127	143	33	145	333	243	78	37	70	109
Average Queue (ft)	55	39	64	5	44	180	95	26	12	26	40
95th Queue (ft)	97	97	118	24	111	294	182	63	30	59	83
Link Distance (ft)		315	315			1064	1064	216	216		408
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	5	1	1		0	20				7	7
Queuing Penalty (veh)	6	1	0		0	9				9	3

Zone Summary

Zone wide Queuing Penalty: 123

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	431	309	347	55	81
v/c Ratio	0.45	0.64	0.14	0.28	0.09
Control Delay	22.1	29.8	6.6	37.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	29.8	6.6	37.9	0.2
Queue Length 50th (ft)	46	76	14	15	0
Queue Length 95th (ft)	203	325	102	87	0
Internal Link Dist (ft)	327		554		213
Turn Bay Length (ft)		190		155	
Base Capacity (vph)	2630	1468	3350	430	1322
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.21	0.10	0.13	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	303	115	300	337	0	53	0	79	0	0	0
Future Volume (veh/h)	0	303	115	300	337	0	53	0	79	0	0	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	312	119	309	347	0	55	0	81	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	802	300	375	2352	0	66	0	126	174	4	0
Arrive On Green	0.00	0.32	0.32	0.21	0.66	0.00	0.04	0.00	0.08	0.00	0.00	0.00
Sat Flow, veh/h	1030	2522	943	1774	3632	0	1774	0	1583	1312	1863	0
Grp Volume(v), veh/h	0	217	214	309	347	0	55	0	81	0	0	0
Grp Sat Flow(s),veh/h/ln	1030	1770	1696	1774	1770	0	1774	0	1583	1312	1863	0
Q Serve(g_s), s	0.0	4.0	4.1	6.9	1.5	0.0	1.3	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.0	4.1	6.9	1.5	0.0	1.3	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.56	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	174	563	539	375	2352	0	66	0	126	174	4	0
V/C Ratio(X)	0.00	0.39	0.40	0.82	0.15	0.00	0.83	0.00	0.64	0.00	0.00	0.00
Avail Cap(c_a), veh/h	840	1708	1637	1944	7772	0	488	0	665	815	782	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.0	11.0	15.6	2.6	0.0	19.8	0.0	18.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	1.8	0.0	0.0	9.7	0.0	2.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.0	2.0	3.5	0.7	0.0	0.8	0.0	1.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	11.5	11.6	17.4	2.6	0.0	29.5	0.0	20.5	0.0	0.0	0.0
LnGrp LOS		B	B	B	A		C		C			
Approach Vol, veh/h		431			656			136			0	
Approach Delay, s/veh		11.6			9.6			24.2			0.0	
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	14.4	19.2		7.9		33.5	6.1	1.8
Change Period (Y+Rc), s	5.6	6.0		4.6		6.0	4.6	4.6
Max Green Setting (Gmax), s	45.4	40.0		17.4		91.0	11.4	17.4
Max Q Clear Time (g_c+I1), s	8.9	6.1		4.1		3.5	3.3	0.0
Green Ext Time (p_c), s	0.1	7.1		0.1		7.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	0	1	0	0	5	0	68	0	3	25	74
Future Vol, veh/h	76	0	1	0	0	5	0	68	0	3	25	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	0	1	0	0	7	0	97	0	4	36	106

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	198	194	89	195	247	97	141	0	0	97	0	0
Stage 1	97	97	-	97	97	-	-	-	-	-	-	-
Stage 2	101	97	-	98	150	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	761	701	969	764	655	959	1442	-	-	1496	-	-
Stage 1	910	815	-	910	815	-	-	-	-	-	-	-
Stage 2	905	815	-	908	773	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	754	699	969	761	653	959	1442	-	-	1496	-	-
Mov Cap-2 Maneuver	754	699	-	761	653	-	-	-	-	-	-	-
Stage 1	910	813	-	910	815	-	-	-	-	-	-	-
Stage 2	898	815	-	904	771	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	8.8	0	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1442	-	-	756	959	1496	-	-
HCM Lane V/C Ratio	-	-	-	0.146	0.007	0.003	-	-
HCM Control Delay (s)	0	-	-	10.6	8.8	7.4	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	61	0	12	14
Future Vol, veh/h	0	7	61	0	12	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	62	0	12	14

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	101	62	0	0	62	0
Stage 1	62	-	-	-	-	-
Stage 2	39	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.12	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	880	1003	-	-	1541	-
Stage 1	949	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	875	1003	-	-	1541	-
Mov Cap-2 Maneuver	875	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	3.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	1003	1541	-
HCM Lane V/C Ratio	-	-	-	0.007	0.008	-
HCM Control Delay (s)	-	-	0	8.6	7.4	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	0	0	46	13	1
Future Vol, veh/h	15	0	0	46	13	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	0	0	59	17	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	76	17	18	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	927	1062	1599	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	927	1062	1599	-	-	-
Mov Cap-2 Maneuver	927	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	927	-	-
HCM Lane V/C Ratio	-	-	0.021	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	8682	8668	8309	8482	8388	8378	8298
Vehs Exited	8646	8596	8229	8427	8377	8323	8291
Starting Vehs	360	346	340	340	325	353	316
Ending Vehs	396	418	420	395	336	408	323
Travel Distance (mi)	4783	4756	4570	4685	4659	4643	4597
Travel Time (hr)	414.1	394.7	383.8	364.7	379.4	385.0	364.7
Total Delay (hr)	261.0	242.6	237.9	215.2	230.6	236.7	217.4
Total Stops	16147	16608	15327	15364	15898	15807	15149
Fuel Used (gal)	255.6	250.1	242.3	241.1	244.2	244.7	239.4

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	8544	8488	8524	8475
Vehs Exited	8441	8440	8478	8425
Starting Vehs	316	324	334	329
Ending Vehs	419	372	380	382
Travel Distance (mi)	4693	4683	4659	4673
Travel Time (hr)	367.8	373.6	372.7	380.1
Total Delay (hr)	218.3	223.5	223.5	230.7
Total Stops	15788	15653	15583	15734
Fuel Used (gal)	242.6	244.2	242.1	244.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2188	2109	2062	2051	2102	2044	2028
Vehs Exited	2185	2059	2092	2042	2067	2036	1998
Starting Vehs	360	346	340	340	325	353	316
Ending Vehs	363	396	310	349	360	361	346
Travel Distance (mi)	1223	1140	1153	1156	1158	1146	1125
Travel Time (hr)	92.8	89.3	90.7	84.0	87.6	85.0	83.3
Total Delay (hr)	53.8	52.7	54.0	47.2	50.6	48.5	47.4
Total Stops	4030	3901	3893	3682	3675	3750	3717
Fuel Used (gal)	62.2	58.8	60.2	58.3	59.0	57.8	57.6

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2120	2070	2076	2082
Vehs Exited	2040	2040	2060	2059
Starting Vehs	316	324	334	329
Ending Vehs	396	354	350	354
Travel Distance (mi)	1142	1155	1178	1158
Travel Time (hr)	86.2	84.1	92.7	87.6
Total Delay (hr)	49.7	47.3	55.2	50.6
Total Stops	3797	3653	3876	3799
Fuel Used (gal)	58.7	58.5	60.4	59.2

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2251	2348	2201	2248	2278	2238	2212
Vehs Exited	2250	2296	2081	2211	2205	2214	2179
Starting Vehs	363	396	310	349	360	361	346
Ending Vehs	364	448	430	386	433	385	379
Travel Distance (mi)	1206	1259	1155	1195	1198	1214	1200
Travel Time (hr)	95.1	108.9	100.7	90.7	105.0	102.3	96.9
Total Delay (hr)	56.5	68.7	64.0	52.4	66.6	63.4	58.4
Total Stops	4010	4535	3999	3928	4328	4190	4107
Fuel Used (gal)	62.5	67.3	61.8	60.8	64.5	64.4	62.7

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2330	2220	2312	2265
Vehs Exited	2357	2196	2263	2223
Starting Vehs	396	354	350	354
Ending Vehs	369	378	399	389
Travel Distance (mi)	1272	1188	1193	1208
Travel Time (hr)	106.2	95.9	97.3	99.9
Total Delay (hr)	65.8	57.8	58.8	61.2
Total Stops	4431	4056	4037	4161
Fuel Used (gal)	67.0	62.3	62.4	63.6

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2142	2078	1997	2121	2058	2060	2010
Vehs Exited	2071	2182	2090	2187	2132	2105	2060
Starting Vehs	364	448	430	386	433	385	379
Ending Vehs	435	344	337	320	359	340	329
Travel Distance (mi)	1185	1185	1126	1203	1182	1157	1133
Travel Time (hr)	111.0	101.7	100.5	98.4	99.9	97.5	92.0
Total Delay (hr)	73.1	63.8	64.2	59.9	62.4	60.6	55.7
Total Stops	4051	4065	3796	4013	4142	3896	3614
Fuel Used (gal)	65.3	63.1	60.6	63.2	62.7	61.2	59.3

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2012	2117	2044	2061
Vehs Exited	2062	2073	2109	2101
Starting Vehs	369	378	399	389
Ending Vehs	319	422	334	352
Travel Distance (mi)	1134	1161	1145	1161
Travel Time (hr)	90.3	92.0	90.3	97.4
Total Delay (hr)	54.1	54.6	53.5	60.2
Total Stops	3837	3810	3847	3907
Fuel Used (gal)	59.1	59.9	59.5	61.4

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2101	2133	2049	2062	1950	2036	2048
Vehs Exited	2140	2059	1966	1987	1973	1968	2054
Starting Vehs	435	344	337	320	359	340	329
Ending Vehs	396	418	420	395	336	408	323
Travel Distance (mi)	1169	1172	1135	1131	1121	1126	1140
Travel Time (hr)	115.1	94.8	91.9	91.6	86.8	100.2	92.4
Total Delay (hr)	77.7	57.4	55.7	55.7	51.1	64.2	55.9
Total Stops	4056	4107	3639	3741	3753	3971	3711
Fuel Used (gal)	65.5	60.9	59.7	58.8	58.0	61.4	59.8

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2082	2081	2092	2064
Vehs Exited	1982	2131	2046	2029
Starting Vehs	319	422	334	352
Ending Vehs	419	372	380	382
Travel Distance (mi)	1145	1180	1143	1146
Travel Time (hr)	85.1	101.6	92.5	95.2
Total Delay (hr)	48.7	63.8	55.9	58.6
Total Stops	3723	4134	3823	3862
Fuel Used (gal)	57.8	63.4	59.8	60.5

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.3	0.3	0.0	0.0	0.0	4.3	2.5	1.7
Total Delay (hr)	0.4	0.3	0.3	0.5	0.2	1.2	1.7	7.0	0.4	2.4	4.3	0.1
Total Del/Veh (s)	41.1	37.4	9.5	34.8	38.3	16.4	49.4	19.4	15.1	50.1	19.9	8.6
Stop Delay (hr)	0.4	0.2	0.2	0.5	0.2	1.1	1.5	3.4	0.2	2.2	3.0	0.1
Stop Del/Veh (s)	39.2	33.3	8.8	32.6	33.1	14.2	42.4	9.5	8.0	45.8	13.8	7.2

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	0.8
Denied Del/Veh (s)	0.9
Total Delay (hr)	18.9
Total Del/Veh (s)	22.6
Stop Delay (hr)	13.0
Stop Del/Veh (s)	15.6

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	3.6	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.2	0.7	0.1	2.3	1.3	1.3	12.3	7.4	1.7	1.6	20.5	1.5
Total Del/Veh (s)	32.8	33.3	3.2	49.6	58.0	64.9	44.6	20.4	19.5	185.1	125.7	16.6
Stop Delay (hr)	1.1	0.6	0.0	2.1	1.2	1.2	9.7	4.0	1.0	1.5	18.4	1.0
Stop Del/Veh (s)	30.2	29.5	0.0	45.1	52.3	61.7	35.1	11.1	11.7	175.0	112.9	10.8

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	51.9
Total Del/Veh (s)	44.2
Stop Delay (hr)	41.8
Stop Del/Veh (s)	35.7

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.3	0.1	0.0	0.0	0.0	0.0	0.4
Denied Del/Veh (s)	1.3	0.6	0.0	0.0	0.0	0.0	0.3
Total Delay (hr)	3.9	0.4	5.9	1.6	2.8	3.6	18.2
Total Del/Veh (s)	16.9	2.0	11.4	11.8	55.9	18.3	13.7
Stop Delay (hr)	2.7	0.0	1.5	0.4	2.4	1.3	8.4
Stop Del/Veh (s)	11.9	0.0	2.9	2.9	47.4	6.8	6.3

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.5	0.2	0.2	3.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	5.8	0.6	0.3	1.0	0.1	7.1	0.0	26.8	0.4	10.0	4.9	0.0
Total Del/Veh (s)	69.3	59.0	17.2	60.8	58.9	41.4	141.7	65.2	9.4	64.4	18.3	2.8
Stop Delay (hr)	5.4	0.5	0.3	0.9	0.1	6.7	0.0	19.4	0.3	8.7	3.2	0.0
Stop Del/Veh (s)	64.3	55.7	16.1	56.1	54.6	39.6	127.4	47.3	7.5	55.9	12.1	1.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.3
Total Delay (hr)	56.9
Total Del/Veh (s)	48.3
Stop Delay (hr)	45.7
Stop Del/Veh (s)	38.7

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay (hr)	4.6	3.6	0.7	2.9	2.3	0.6	1.2	9.8	1.3	3.8	5.5	0.6
Total Del/Veh (s)	48.7	36.8	26.9	52.2	43.0	12.1	57.4	32.6	13.3	55.4	31.8	10.0
Stop Delay (hr)	4.3	3.0	0.6	2.7	1.9	0.5	1.1	8.4	1.3	3.4	3.8	0.5
Stop Del/Veh (s)	44.9	30.8	24.2	47.5	36.8	10.2	54.8	28.0	12.6	48.7	21.8	7.6

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	37.0
Total Del/Veh (s)	33.4
Stop Delay (hr)	31.4
Stop Del/Veh (s)	28.4

7: Driveway/Post St & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.3	3.7
Denied Del/Veh (s)	0.4	0.1	0.3	3.2	0.4	0.3	0.1	0.1	0.1	73.9	77.5	71.2
Total Delay (hr)	3.6	4.4	0.0	0.8	2.8	0.8	0.7	0.1	0.1	7.0	0.4	4.1
Total Del/Veh (s)	63.0	21.4	8.5	61.0	28.2	15.1	47.3	29.0	9.1	132.1	99.9	79.8
Stop Delay (hr)	3.3	3.0	0.0	0.7	2.0	0.6	0.7	0.1	0.1	6.6	0.4	3.7
Stop Del/Veh (s)	57.4	14.7	4.4	56.3	20.5	11.4	45.0	26.4	8.9	124.8	91.2	73.7

7: Driveway/Post St & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	8.1
Denied Del/Veh (s)	14.3
Total Delay (hr)	24.7
Total Del/Veh (s)	43.7
Stop Delay (hr)	21.2
Stop Del/Veh (s)	37.5

Total Zone Performance

Denied Delay (hr)	9.9
Denied Del/Veh (s)	6.2
Total Delay (hr)	207.7
Total Del/Veh (s)	600.2
Stop Delay (hr)	161.5
Stop Del/Veh (s)	466.7

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	T	TR	L	T	TR
Maximum Queue (ft)	46	100	80	90	210	207	272	302	306	124	330	269
Average Queue (ft)	5	41	38	26	103	81	118	139	134	91	156	112
95th Queue (ft)	25	80	69	64	181	161	240	272	273	150	320	244
Link Distance (ft)		324		482	482		778	778	778		309	309
Upstream Blk Time (%)											5	1
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	150		200			250				100		
Storage Blk Time (%)		0				0	0			12	13	
Queuing Penalty (veh)		0				0	0			45	22	

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	124	144	143	172	233	455	458	291	356	389	225	740
Average Queue (ft)	61	62	65	83	114	290	301	156	193	221	88	480
95th Queue (ft)	107	115	118	160	190	419	429	255	305	350	252	839
Link Distance (ft)	1293	1293			621	641	641	641	641	641		778
Upstream Blk Time (%)												6
Queuing Penalty (veh)												18
Storage Bay Dist (ft)			150	150							200	
Storage Blk Time (%)			0	0	4						0	65
Queuing Penalty (veh)			0	1	9						0	20

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	707	488	215
Average Queue (ft)	379	157	91
95th Queue (ft)	779	424	176
Link Distance (ft)	778	778	
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	1	0	
Storage Bay Dist (ft)			200
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	1

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	R	L	T	T	T	T
Maximum Queue (ft)	298	261	312	362	474	299	168	281	140	101	62
Average Queue (ft)	157	99	81	105	145	89	90	127	56	37	16
95th Queue (ft)	259	216	222	263	341	231	144	246	118	81	48
Link Distance (ft)	1211		572	572	572			641	641	641	641
Upstream Blk Time (%)			0	0	0						
Queuing Penalty (veh)			0	0	1						
Storage Bay Dist (ft)		450				275	575				
Storage Blk Time (%)					1	0					
Queuing Penalty (veh)					5	1					

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	T	T	T	R
Maximum Queue (ft)	279	318	115	124	125	312	312	132	638	701	665	158
Average Queue (ft)	146	208	21	43	76	191	190	6	335	407	461	40
95th Queue (ft)	273	302	77	92	154	293	291	60	549	621	658	110
Link Distance (ft)			778	778		526	526		839	839	839	839
Upstream Blk Time (%)										0		
Queuing Penalty (veh)										0		
Storage Bay Dist (ft)	350	350			100			225				
Storage Blk Time (%)		0			1	39			21			
Queuing Penalty (veh)		0			4	23			0			

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	332	344	408	273	212	32
Average Queue (ft)	218	232	178	130	101	5
95th Queue (ft)	317	323	335	224	184	21
Link Distance (ft)			572	572	572	572
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)	325	325				
Storage Blk Time (%)	0	1	0			
Queuing Penalty (veh)	1	3	3			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	223	253	247	250	135	142	143	154	169	150	269	270
Average Queue (ft)	106	144	117	139	62	79	45	75	65	46	164	157
95th Queue (ft)	193	224	202	220	120	126	105	127	124	110	242	238
Link Distance (ft)			346	346				315	315		278	278
Upstream Blk Time (%)		0	0	0							0	0
Queuing Penalty (veh)		0	0	0							0	0
Storage Bay Dist (ft)	325	325			175	175	175			270		
Storage Blk Time (%)		0	0		0	0	0	0			0	
Queuing Penalty (veh)		0	0		0	0	0	0			0	

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	B80	B25	SB	SB	SB	SB	SB	SB	
Directions Served	T	T	R	T	T	L	L	T	T	T	R	
Maximum Queue (ft)	241	227	59	7	2	152	207	282	305	94	128	
Average Queue (ft)	141	96	47	0	0	68	73	111	131	9	27	
95th Queue (ft)	215	201	58	4	3	129	154	243	264	70	88	
Link Distance (ft)	278	278		247	501			839	839	839		
Upstream Blk Time (%)	0	0										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)			25			225	225				250	
Storage Blk Time (%)		11	23				0	1		0		
Queuing Penalty (veh)		38	61				0	3		0		

Intersection: 7: Driveway/Post St & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR	
Maximum Queue (ft)	104	336	336	123	126	250	246	92	61	75	441	
Average Queue (ft)	98	207	188	14	42	110	115	38	19	72	342	
95th Queue (ft)	118	335	309	66	94	195	209	79	46	81	538	
Link Distance (ft)		315	315			585	585	216	216		408	
Upstream Blk Time (%)		1	1								42	
Queuing Penalty (veh)		6	3								0	
Storage Bay Dist (ft)	80			110	120					50		
Storage Blk Time (%)	42	10	17	0	0	8				76	6	
Queuing Penalty (veh)	155	21	4	0	0	4				150	13	

Zone Summary

Zone wide Queuing Penalty: 615

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	642	105	390	253	254
v/c Ratio	0.55	0.45	0.22	0.55	0.33
Control Delay	25.2	44.4	12.5	34.3	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	44.4	12.5	34.3	1.1
Queue Length 50th (ft)	94	35	31	77	0
Queue Length 95th (ft)	346	160	160	316	0
Internal Link Dist (ft)	327		554		213
Turn Bay Length (ft)		190		155	
Base Capacity (vph)	2421	632	3167	1076	1407
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.17	0.12	0.24	0.18

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	532	71	99	367	0	238	0	239	0	0	0
Future Volume (veh/h)	0	532	71	99	367	0	238	0	239	0	0	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	566	76	105	390	0	253	0	254	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	1210	162	134	2046	0	330	0	318	150	4	0
Arrive On Green	0.00	0.39	0.39	0.08	0.58	0.00	0.19	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	990	3138	420	1774	3632	0	1774	0	1583	1121	1863	0
Grp Volume(v), veh/h	0	319	323	105	390	0	253	0	254	0	0	0
Grp Sat Flow(s),veh/h/ln	990	1770	1789	1774	1770	0	1774	0	1583	1121	1863	0
Q Serve(g_s), s	0.0	6.5	6.5	2.8	2.5	0.0	6.5	0.0	7.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.5	6.5	2.8	2.5	0.0	6.5	0.0	7.3	0.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	150	682	690	134	2046	0	330	0	318	150	4	0
V/C Ratio(X)	0.00	0.47	0.47	0.78	0.19	0.00	0.77	0.00	0.80	0.00	0.00	0.00
Avail Cap(c_a), veh/h	655	1585	1602	754	5088	0	1308	0	508	600	598	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.0	11.1	21.8	4.8	0.0	18.6	0.0	18.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	3.7	0.1	0.0	3.8	0.0	1.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	3.3	1.5	1.2	0.0	3.5	0.0	3.3	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	11.7	11.7	25.5	4.9	0.0	22.3	0.0	20.0	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		B			
Approach Vol, veh/h		642			495			507			0	
Approach Delay, s/veh		11.7			9.2			21.1			0.0	
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	9.2	24.5		14.3		33.7	13.5	0.7
Change Period (Y+Rc), s	5.6	6.0		4.6		6.0	4.6	4.6
Max Green Setting (Gmax), s	20.4	43.0		15.4		69.0	35.4	15.4
Max Q Clear Time (g_c+I1), s	4.8	8.5		9.3		4.5	8.5	0.0
Green Ext Time (p_c), s	0.0	10.0		0.3		11.1	0.7	0.0

Intersection Summary			
HCM 2010 Ctrl Delay		13.9	
HCM 2010 LOS		B	

Notes

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	3	4	0	4	32	2	41	0	16	84	69
Future Vol, veh/h	87	3	4	0	4	32	2	41	0	16	84	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	3	4	0	4	35	2	45	0	18	92	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	234	214	130	218	252	45	168	0	0	45	0	0
Stage 1	165	165	-	49	49	-	-	-	-	-	-	-
Stage 2	69	49	-	169	203	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	721	684	920	738	651	1025	1410	-	-	1563	-	-
Stage 1	837	762	-	964	854	-	-	-	-	-	-	-
Stage 2	941	854	-	833	733	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	685	674	920	724	642	1025	1410	-	-	1563	-	-
Mov Cap-2 Maneuver	685	674	-	724	642	-	-	-	-	-	-	-
Stage 1	836	752	-	963	853	-	-	-	-	-	-	-
Stage 2	903	853	-	815	723	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	8.9	0.4	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1410	-	-	692	961	1563	-	-
HCM Lane V/C Ratio	0.002	-	-	0.149	0.041	0.011	-	-
HCM Control Delay (s)	7.6	-	-	11.1	8.9	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	13	30	6	33	55
Future Vol, veh/h	6	13	30	6	33	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	15	36	7	39	65

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	39	0	0	43	0
Stage 1	39	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	806	1033	-	-	1566	-
Stage 1	983	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	786	1033	-	-	1566	-
Mov Cap-2 Maneuver	786	-	-	-	-	-
Stage 1	983	-	-	-	-	-
Stage 2	861	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	2.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	786	1033	1566	-
HCM Lane V/C Ratio	-	-	0.009	0.015	0.025	-
HCM Control Delay (s)	-	-	9.6	8.5	7.4	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1	0	21	50	11
Future Vol, veh/h	15	1	0	21	50	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	1	0	25	60	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	91	66	73	0	-	0
Stage 1	66	-	-	-	-	-
Stage 2	25	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	909	998	1527	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	909	998	1527	-	-	-
Mov Cap-2 Maneuver	909	-	-	-	-	-
Stage 1	957	-	-	-	-	-
Stage 2	998	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

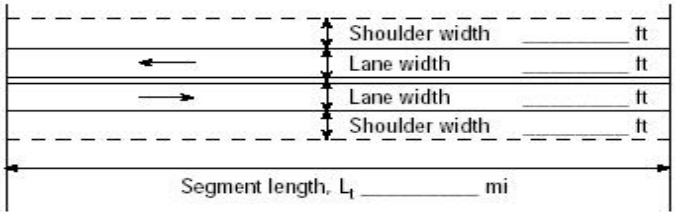
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1527	-	914	-	-
HCM Lane V/C Ratio	-	-	0.021	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*AM NB*	Analysis Year	*Existing (2017)*

Project Description: *Saratoga Estates*

Input Data



Analysis direction vol., V_d *62*veh/h

Opposing direction vol., V_o *31*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100*%

% Trucks and Buses , P_T *2* %

% Recreational vehicles, P_R *0*%

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.7*	*2.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.967*	*0.967*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.67*	*0.67*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*99*	*49*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*41.1 mi/h*
		Percent free flow speed, PFFS	*92.0* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.73*	*0.73*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*89*	*45*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*10.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*50.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*44.0*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.06*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1101*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1219*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*92.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*63.9*
Effective width, Wv (Eq. 15-29) ft	*36.42*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.39*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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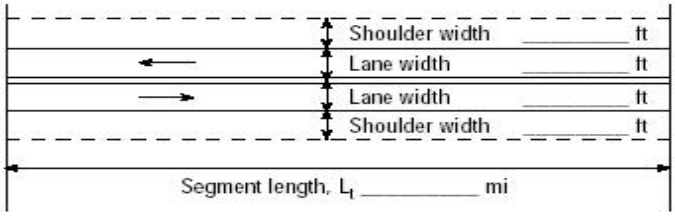
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*AM SB*	Analysis Year	*Existing (2017)*

Project Description: *Saratoga Estates*

Input Data



Analysis direction vol., V_d *31*veh/h

Opposing direction vol., V_o *62*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100*%

% Trucks and Buses , P_T *2* %

% Recreational vehicles, P_R *0*%

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.7*	*2.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.967*	*0.967*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.67*	*0.67*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*49*	*99*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*41.1 mi/h*
		Percent free flow speed, PFFS	*92.0* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.73*	*0.73*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*45*	*89*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*5.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*50.5*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*22.5*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*A*
Volume to capacity ratio, *v/c*	*0.03*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1101*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1219*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*92.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*32.0*
Effective width, Wv (Eq. 15-29) ft	*39.21*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-3.80*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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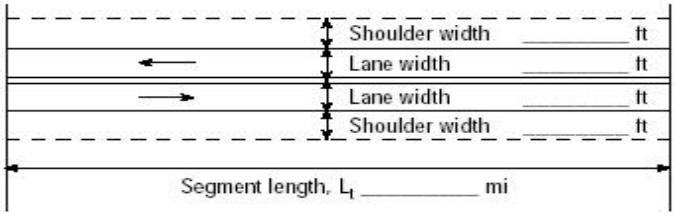
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*PM NB*	Analysis Year	*Existing (2017)*

Project Description: *Saratoga Estates*

Input Data



☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling
Grade Length mi Up/down
Peak-hour factor, PHF *0.85*
No-passing zone *100%*
% Trucks and Buses , P_T *2 %*
% Recreational vehicles, P_R *0%*
Access points *mi* *1*/mi

Analysis direction vol., V_d *49*veh/h
Opposing direction vol., V_o *84*veh/h
Shoulder width ft *6.0*
Lane Width ft *12.0*
Segment Length mi *0.6*

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.7*	*2.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.967*	*0.967*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.67*	*0.67*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*89*	*153*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.2 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*39.5 mi/h*
		Percent free flow speed, PFFS	*88.5 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.73*	*0.73*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*80*	*138*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*9.5*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*52.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*28.7*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.05*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1155*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1272*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*88.5*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*57.6*
Effective width, Wv (Eq. 15-29) ft	*37.59*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-2.88*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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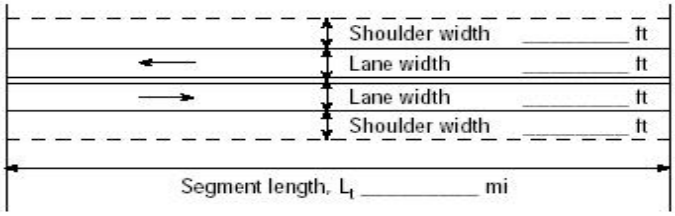
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*PM SB*	Analysis Year	*Existing (2017)*

Project Description: *Saratoga Estates*

Input Data



☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.85*

No-passing zone *100%*

Analysis direction vol., V_d *84*veh/h

Opposing direction vol., V_o *49*veh/h

% Trucks and Buses , P_T *2 %*

% Recreational vehicles, P_R *0%*

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.7*	*2.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.967*	*0.967*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.67*	*0.67*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*153*	*89*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*2.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*40.3 mi/h*
		Percent free flow speed, PFFS	*90.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.9*	*1.9*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.982*	*0.982*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.73*	*0.73*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*138*	*80*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*15.6*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*52.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*48.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*B*
Volume to capacity ratio, *v/c*	*0.09*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1101*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1219*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*90.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*98.8*
Effective width, Wv (Eq. 15-29) ft	*34.44*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*-1.47*
Bicycle level of service (Exhibit 15-4)	*A*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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Segment Inputs				Existing Conditions													
				Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westt Eastb	West of Latrobe Rd SB Off Ramp	6690	3	0.33	2,665	4,386	994.547	74.12	75	74.9997	13.261	B	1636.804	74.12	75	70.5109	23.2	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	1,274	2,884	475.442	73.6	75	71.954	6.6076	A	1076.275	73.6	75	74.9356	14.363	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	2	0.50	2,531	1,634	1416.81	73.6	75	73.0768	19.388	C	914.6848	73.6	75	74.9194	12.209	B
	West of El Dorado Hills Blvd On Ramp	5890	2	0.33	3,773	3,020	2112.06	74.12	75	61.31	34.449	D	1690.543	74.12	75	69.7213	24.247	C

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Existing Conditions

Segment Inputs				AM Flow Inputs			AM LOS Performance Measures											PM Flow Inputs			PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_R/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_R/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
NB El Dorado Hills Blvd On Ramp	2	1	795	3773	2531	1242	4224	2834	1391	81	1	2833.6	4800	0	2125	2834	0.88	32.799	D	3020	1634	1386	3381	1829	1552	52	1	1829.4	4800	0	1372	1829	0.7044	26.149	C

Univeral Inputs:

Length	1500	(ft)
s_{FF}	70	(mi/h)
s_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Existing Conditions

	Segment Inputs				AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3			v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3			v_{12a}	v/c	D	LOS
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)							(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	3	1	1298	140	1582	2665	1083	344.826	2983.6	1212.5	0.6047	2283.6	7200	350	1713	2284	0.4144	22.631	C	2222	3020	798	788.174	3381.1	893.41	0.6625	2541.4	7200	420	1906	2541	0.4696	24.848	C
	Latrobe NB Off Ramp	3	1	-	140	1274	1582	308	-	1771.2	344.83	0.6999	1343.1	7200	428	1007	1343	0.246	14.542	B	1518	2222	704	-	2487.7	788.17	0.6616	1912.5	7200	575	1434	1912	0.3455	19.439	B

Univeral Inputs:

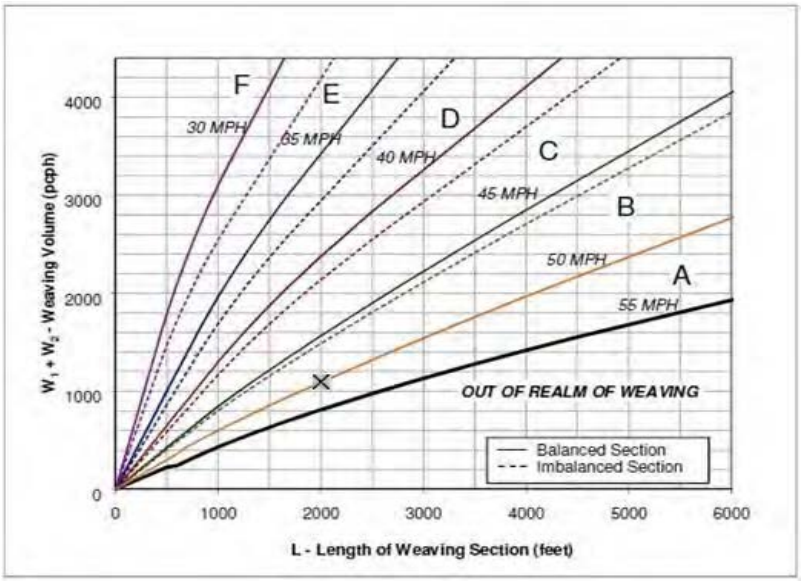
Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) Conditons (AM)

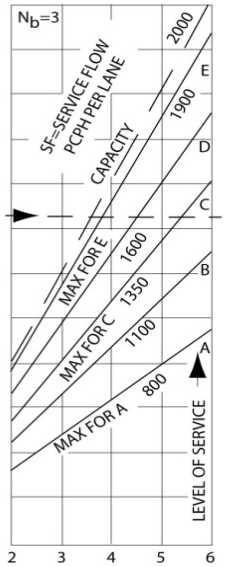
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	1,652	Volume (vph)	378	Volume (vph)	253
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,685	Volume (pcph)	382	Volume (pcph)	256

W1 + W2	637
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	50.0
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	421
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

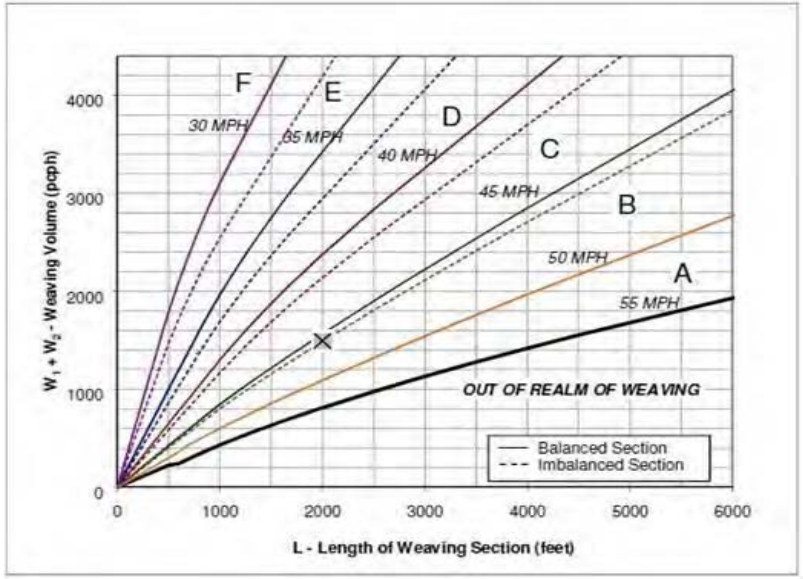


EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) Conditons (PM)

Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	3,556	Volume (vph)	672	Volume (vph)	741
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,627	Volume (pcph)	679	Volume (pcph)	748

W1 + W2	1,427
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	45.4
Weaving Intensity Factor (k)	1.60
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,009
Level of Service (LOS)	B



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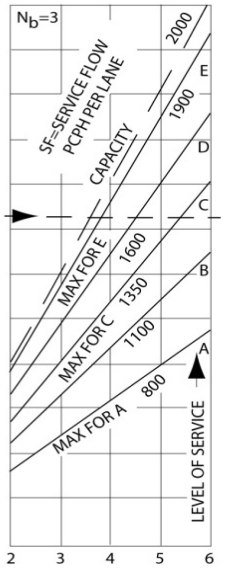
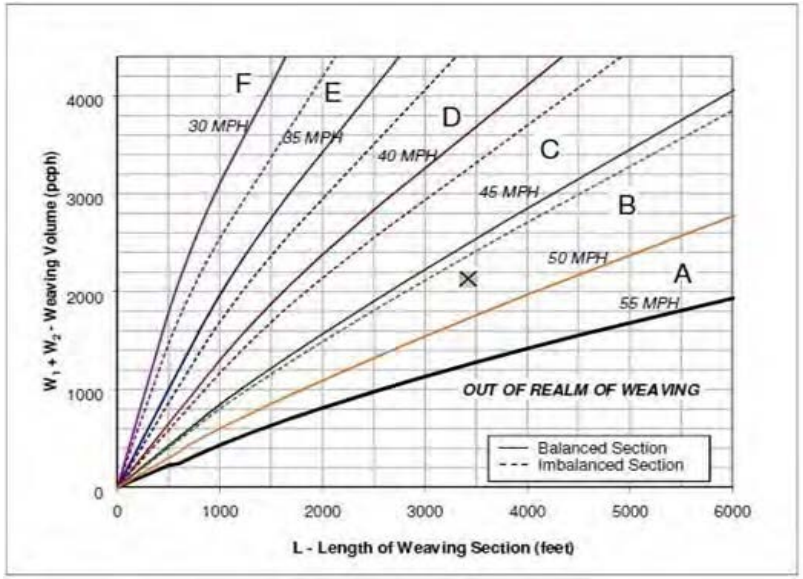


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) Conditons (AM)

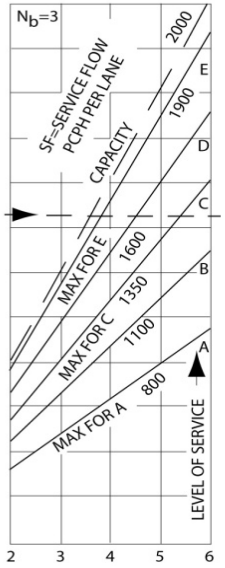
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	3,135	Volume (vph)	928	Volume (vph)	604
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,166	Volume (pcph)	937	Volume (pcph)	610

W1 + W2	1,547
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.8
Weaving Intensity Factor (k)	1.40
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	853
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

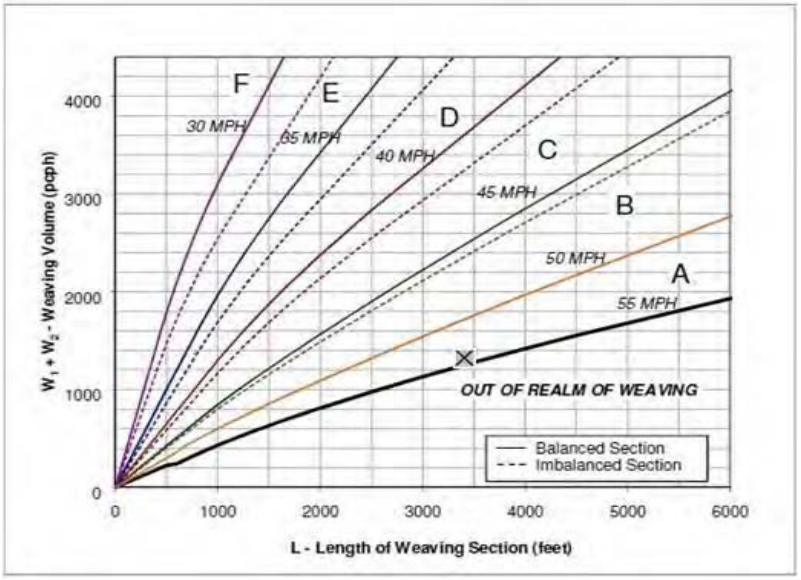


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) Conditons (PM)

Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	1,962	Volume (vph)	284	Volume (vph)	328
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,982	Volume (pcph)	287	Volume (pcph)	331

W1 + W2	618
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	54.8
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	495
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
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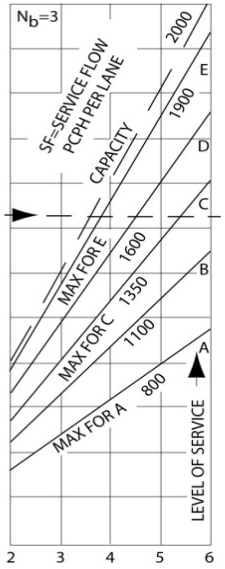


Appendix C

Analysis Worksheets for
Existing (2017) plus Proposed Project Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	7270	7356	7433	7281	7404	7368	7388
Vehs Exited	7369	7335	7422	7299	7355	7355	7423
Starting Vehs	322	278	262	267	244	260	323
Ending Vehs	223	299	273	249	293	273	288
Travel Distance (mi)	4286	4335	4367	4309	4344	4334	4344
Travel Time (hr)	275.4	277.0	336.1	276.2	296.1	293.6	291.2
Total Delay (hr)	139.7	140.0	197.1	139.7	159.0	156.2	153.6
Total Stops	11552	11615	12246	11583	12105	11983	12030
Fuel Used (gal)	203.1	205.3	219.9	204.5	209.9	208.6	208.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	7277	7298	7383	7348
Vehs Exited	7227	7269	7366	7342
Starting Vehs	235	244	267	266
Ending Vehs	285	273	284	270
Travel Distance (mi)	4274	4271	4340	4320
Travel Time (hr)	277.2	284.7	321.1	292.9
Total Delay (hr)	141.9	148.9	183.3	155.9
Total Stops	11666	12054	12146	11897
Fuel Used (gal)	203.1	205.3	215.8	208.4

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1793	1809	1816	1830	1777	1730	1792
Vehs Exited	1851	1796	1776	1811	1764	1726	1841
Starting Vehs	322	278	262	267	244	260	323
Ending Vehs	264	291	302	286	257	264	274
Travel Distance (mi)	1068	1073	1081	1097	1073	1035	1080
Travel Time (hr)	71.9	68.4	74.2	71.2	66.9	67.3	71.1
Total Delay (hr)	37.9	34.5	39.6	36.4	33.2	34.4	36.9
Total Stops	2999	2807	3089	2973	2832	2822	2974
Fuel Used (gal)	51.0	50.7	52.1	52.4	50.4	48.9	51.5

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1763	1765	1799	1789
Vehs Exited	1727	1711	1823	1778
Starting Vehs	235	244	267	266
Ending Vehs	271	298	243	265
Travel Distance (mi)	1046	1038	1089	1068
Travel Time (hr)	66.8	71.3	71.6	70.1
Total Delay (hr)	33.5	38.2	37.1	36.2
Total Stops	2860	2941	2926	2923
Fuel Used (gal)	49.3	50.4	51.8	50.9

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1994	2003	2073	1950	2009	1992	1969
Vehs Exited	1952	1985	2024	1978	1983	1934	1955
Starting Vehs	264	291	302	286	257	264	274
Ending Vehs	306	309	351	258	283	322	288
Travel Distance (mi)	1105	1133	1141	1110	1127	1125	1107
Travel Time (hr)	71.3	73.5	89.0	72.7	80.7	81.1	76.2
Total Delay (hr)	36.2	37.9	52.6	37.5	45.0	45.6	41.1
Total Stops	3014	3152	3183	3021	3282	3145	3107
Fuel Used (gal)	52.6	54.0	57.5	53.2	55.1	55.4	53.6

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2045	1980	2015	2001
Vehs Exited	2000	1981	1959	1978
Starting Vehs	271	298	243	265
Ending Vehs	316	297	299	302
Travel Distance (mi)	1130	1123	1125	1123
Travel Time (hr)	76.5	76.0	82.4	77.9
Total Delay (hr)	40.9	40.3	46.9	42.4
Total Stops	3222	3172	3283	3153
Fuel Used (gal)	54.6	54.1	55.9	54.6

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1799	1745	1750	1735	1783	1847	1829
Vehs Exited	1814	1797	1858	1755	1795	1849	1837
Starting Vehs	306	309	351	258	283	322	288
Ending Vehs	291	257	243	238	271	320	280
Travel Distance (mi)	1082	1063	1080	1055	1060	1090	1103
Travel Time (hr)	70.8	68.9	88.0	66.0	76.2	74.9	72.5
Total Delay (hr)	36.6	35.3	53.7	32.6	42.5	40.3	37.6
Total Stops	2906	2855	3054	2759	3015	3077	2977
Fuel Used (gal)	51.5	50.6	55.9	49.3	52.3	53.0	52.7

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1704	1780	1800	1782
Vehs Exited	1789	1805	1813	1809
Starting Vehs	316	297	299	302
Ending Vehs	231	272	286	265
Travel Distance (mi)	1068	1051	1070	1072
Travel Time (hr)	68.0	68.3	83.6	73.7
Total Delay (hr)	34.3	34.8	49.6	39.7
Total Stops	2793	2913	3087	2942
Fuel Used (gal)	50.3	50.2	54.6	52.0

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	1684	1799	1794	1766	1835	1799	1798
Vehs Exited	1752	1757	1764	1755	1813	1846	1790
Starting Vehs	291	257	243	238	271	320	280
Ending Vehs	223	299	273	249	293	273	288
Travel Distance (mi)	1031	1066	1065	1047	1083	1084	1053
Travel Time (hr)	61.4	66.1	84.9	66.3	72.4	70.3	71.5
Total Delay (hr)	28.9	32.3	51.2	33.2	38.3	35.9	38.0
Total Stops	2633	2801	2920	2830	2976	2939	2972
Fuel Used (gal)	47.9	50.0	54.4	49.7	52.0	51.3	50.9

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	1765	1773	1769	1777
Vehs Exited	1711	1772	1771	1770
Starting Vehs	231	272	286	265
Ending Vehs	285	273	284	270
Travel Distance (mi)	1029	1060	1057	1057
Travel Time (hr)	65.9	69.2	83.4	71.1
Total Delay (hr)	33.3	35.6	49.7	37.6
Total Stops	2791	3028	2850	2871
Fuel Used (gal)	48.9	50.7	53.5	50.9

1: El Dorado Hills Blvd & Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	10.2	0.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	25.6	25.7	27.2
Total Delay (hr)	0.6	0.1	1.9	0.2	0.2	0.2	3.0	2.6	0.1	2.2	10.7	0.5
Total Del/Veh (s)	39.5	9.4	27.5	51.5	49.5	10.5	55.8	13.0	8.2	54.1	27.0	24.5
Stop Delay (hr)	0.6	0.1	1.8	0.2	0.1	0.2	2.7	1.6	0.0	2.0	7.0	0.4
Stop Del/Veh (s)	37.6	8.3	26.3	49.7	45.6	9.7	49.7	7.8	5.6	49.1	17.6	19.4

1: El Dorado Hills Blvd & Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	11.8
Denied Del/Veh (s)	14.1
Total Delay (hr)	22.2
Total Del/Veh (s)	26.4
Stop Delay (hr)	16.6
Stop Del/Veh (s)	19.8

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.2	1.3	0.5	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	2.4	0.9	0.4	3.1	2.6	1.4	8.3	2.0	0.3	1.0	6.2	4.0
Total Del/Veh (s)	44.2	44.1	4.2	97.4	106.8	90.0	57.2	10.4	7.8	66.4	24.7	19.7
Stop Delay (hr)	2.2	0.8	0.0	2.9	2.5	1.4	7.2	1.0	0.2	0.9	3.9	1.7
Stop Del/Veh (s)	40.9	39.7	0.0	92.2	100.3	86.0	49.9	5.3	4.2	60.3	15.5	8.5

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	32.7
Total Del/Veh (s)	29.7
Stop Delay (hr)	24.7
Stop Del/Veh (s)	22.4

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Denied Del/Veh (s)	2.3	0.3	0.0	0.1	0.0	0.0	0.6
Total Delay (hr)	7.7	0.1	2.2	0.4	3.0	3.3	16.8
Total Del/Veh (s)	24.7	1.1	8.2	8.6	44.1	10.4	14.9
Stop Delay (hr)	5.7	0.0	0.7	0.2	2.5	0.8	9.8
Stop Del/Veh (s)	18.4	0.0	2.5	3.1	35.8	2.5	8.7

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	4.4	0.1	0.1	3.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.1	0.1	0.0	0.6	0.3	0.9	0.7	6.5	0.1	3.2	5.3	0.4
Total Del/Veh (s)	41.6	43.2	9.5	33.6	33.7	11.7	42.0	27.0	5.7	26.3	12.6	4.2
Stop Delay (hr)	0.1	0.1	0.0	0.6	0.3	0.8	0.6	4.4	0.1	2.6	2.8	0.2
Stop Del/Veh (s)	39.8	40.3	9.5	30.7	29.3	10.3	37.6	18.2	4.6	21.4	6.7	2.2

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	18.3
Total Del/Veh (s)	17.9
Stop Delay (hr)	12.6
Stop Del/Veh (s)	12.4

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total Delay (hr)	4.0	1.0	0.3	4.7	3.0	0.3	1.7	4.0	0.1	1.6	11.6	1.5
Total Del/Veh (s)	57.6	38.6	16.4	55.5	42.9	8.6	68.3	22.2	3.3	58.8	36.6	15.6
Stop Delay (hr)	3.8	0.9	0.3	4.2	2.5	0.2	1.7	3.4	0.1	1.4	7.1	1.0
Stop Del/Veh (s)	54.4	34.0	15.3	49.5	35.3	6.5	66.0	19.3	3.4	50.6	22.4	11.1

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	33.8
Total Del/Veh (s)	34.4
Stop Delay (hr)	26.6
Stop Del/Veh (s)	27.1

7: Driveway/Post St & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	2.8	0.4	0.3	0.1	0.1	0.1	4.0	0.3	0.3
Total Delay (hr)	1.0	1.2	0.0	0.7	4.0	0.7	0.4	0.0	0.0	0.4	0.1	0.3
Total Del/Veh (s)	46.3	18.1	4.4	57.4	26.6	12.5	48.9	51.4	3.9	35.8	20.6	9.8
Stop Delay (hr)	1.0	0.9	0.0	0.6	2.6	0.5	0.4	0.0	0.0	0.4	0.0	0.3
Stop Del/Veh (s)	42.8	13.8	2.5	51.0	17.6	8.8	46.8	47.3	4.0	33.4	17.5	8.9

7: Driveway/Post St & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	8.9
Total Del/Veh (s)	23.9
Stop Delay (hr)	6.8
Stop Del/Veh (s)	18.3

Total Zone Performance

Denied Delay (hr)	12.9
Denied Del/Veh (s)	8.4
Total Delay (hr)	132.9
Total Del/Veh (s)	266.9
Stop Delay (hr)	97.1
Stop Del/Veh (s)	194.9

Intersection: 1: El Dorado Hills Blvd & Saratoga Way

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	T	TR	L	T	TR
Maximum Queue (ft)	54	206	214	39	114	247	157	152	144	124	336	353
Average Queue (ft)	7	43	120	6	39	125	49	65	52	92	237	290
95th Queue (ft)	32	111	196	24	82	220	124	133	118	151	387	409
Link Distance (ft)		299		482	482		774	774	774		309	309
Upstream Blk Time (%)		0									7	24
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)	150		200			250				100		
Storage Blk Time (%)		0	1			1				10	20	
Queuing Penalty (veh)		0	1			3				69	30	

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	180	177	174	288	173	334	341	142	157	187	180	308
Average Queue (ft)	100	83	74	158	111	201	202	58	66	88	50	158
95th Queue (ft)	162	152	176	256	200	305	312	118	135	157	121	270
Link Distance (ft)	1228	1228		621		646	646	646	646	646		774
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150		150						200	
Storage Blk Time (%)			0	14	4							5
Queuing Penalty (veh)			0	22	5							2

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	261	418	225
Average Queue (ft)	102	151	159
95th Queue (ft)	200	338	263
Link Distance (ft)	774	774	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			200
Storage Blk Time (%)		0	7
Queuing Penalty (veh)		0	23

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	R	L	T	T	T	T
Maximum Queue (ft)	371	369	138	158	216	116	305	249	134	215	104
Average Queue (ft)	225	196	28	47	64	30	174	50	27	30	19
95th Queue (ft)	325	302	92	119	159	88	275	164	93	126	76
Link Distance (ft)	1211		572	572	572			646	646	646	646
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		450				275	575				
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	L	T	T	T
Maximum Queue (ft)	13	46	34	31	104	155	126	52	87	216	251	280
Average Queue (ft)	1	9	6	5	44	66	47	15	29	97	120	149
95th Queue (ft)	10	33	25	22	89	125	93	42	66	187	221	257
Link Distance (ft)			778	778		526	526			839	839	839
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					1	3				0		
Queuing Penalty (veh)					1	2				0		

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	70	199	206	227	255	257	154
Average Queue (ft)	22	94	115	116	145	113	44
95th Queue (ft)	52	171	183	199	232	203	83
Link Distance (ft)	839			572	572	572	572
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		325	325				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	179	198	134	143	175	183	189	229	123	153	169	151
Average Queue (ft)	81	115	31	60	100	114	73	100	45	65	92	72
95th Queue (ft)	152	176	83	114	169	175	159	177	89	131	156	137
Link Distance (ft)			346	346				315	315		278	278
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	325	325			175	175	175			270		
Storage Blk Time (%)					0	1	1	0				
Queuing Penalty (veh)					0	2	1	2				

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	132	71	48	73	249	476	476	385	262
Average Queue (ft)	52	11	22	19	50	235	250	62	65
95th Queue (ft)	112	44	50	53	180	401	416	253	179
Link Distance (ft)	278	278				839	839	839	
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)			25	225	225				250
Storage Blk Time (%)		2	1		0	9		0	0
Queuing Penalty (veh)		2	1		0	9		1	2

Intersection: 7: Driveway/Post St & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	103	152	151	31	145	341	214	76	38	67	126
Average Queue (ft)	59	42	66	4	50	178	107	26	9	27	43
95th Queue (ft)	103	109	117	21	118	296	192	60	29	58	89
Link Distance (ft)		315	315			1064	1064	216	216		408
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	6	1	1		0	20				8	8
Queuing Penalty (veh)	7	1	0		0	9				9	3

Zone Summary

Zone wide Queuing Penalty: 207

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	444	309	359	55	81
v/c Ratio	0.46	0.64	0.14	0.28	0.10
Control Delay	22.4	30.1	6.6	38.2	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	30.1	6.6	38.2	0.2
Queue Length 50th (ft)	48	77	14	15	0
Queue Length 95th (ft)	211	327	105	87	0
Internal Link Dist (ft)	327		554		213
Turn Bay Length (ft)		190		155	
Base Capacity (vph)	2616	1460	3346	427	1316
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.21	0.11	0.13	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	315	115	300	348	0	53	0	79	0	0	0
Future Volume (veh/h)	0	315	115	300	348	0	53	0	79	0	0	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	325	119	309	359	0	55	0	81	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	826	297	375	2365	0	66	0	126	171	4	0
Arrive On Green	0.00	0.32	0.32	0.21	0.67	0.00	0.04	0.00	0.08	0.00	0.00	0.00
Sat Flow, veh/h	1018	2552	918	1774	3632	0	1774	0	1583	1312	1863	0
Grp Volume(v), veh/h	0	224	220	309	359	0	55	0	81	0	0	0
Grp Sat Flow(s),veh/h/ln	1018	1770	1701	1774	1770	0	1774	0	1583	1312	1863	0
Q Serve(g_s), s	0.0	4.1	4.2	7.0	1.6	0.0	1.3	0.0	2.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.1	4.2	7.0	1.6	0.0	1.3	0.0	2.1	0.0	0.0	0.0
Prop In Lane	1.00		0.54	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	171	573	550	375	2365	0	66	0	126	171	4	0
V/C Ratio(X)	0.00	0.39	0.40	0.82	0.15	0.00	0.83	0.00	0.64	0.00	0.00	0.00
Avail Cap(c_a), veh/h	812	1685	1620	1917	7667	0	481	0	656	803	772	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.0	11.0	15.8	2.6	0.0	20.1	0.0	18.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	1.8	0.0	0.0	9.6	0.0	2.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.0	3.5	0.8	0.0	0.8	0.0	1.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	11.5	11.6	17.6	2.6	0.0	29.7	0.0	20.8	0.0	0.0	0.0
LnGrp LOS		B	B	B	A		C		C			
Approach Vol, veh/h		444			668			136			0	
Approach Delay, s/veh		11.6			9.5			24.4			0.0	
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	14.5	19.6		7.9		34.1	6.2	1.8
Change Period (Y+Rc), s	5.6	6.0		4.6		6.0	4.6	4.6
Max Green Setting (Gmax), s	45.4	40.0		17.4		91.0	11.4	17.4
Max Q Clear Time (g_c+I1), s	9.0	6.2		4.1		3.6	3.3	0.0
Green Ext Time (p_c), s	0.1	7.4		0.1		8.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Notes

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	0	4	0	0	5	3	224	0	3	192	74
Future Vol, veh/h	76	0	4	0	0	5	3	224	0	3	192	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	109	0	6	0	0	7	4	320	0	4	274	106

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	668	665	327	668	718	320	380	0	0	320	0	0
Stage 1	336	336	-	329	329	-	-	-	-	-	-	-
Stage 2	332	329	-	339	389	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	372	381	714	372	355	721	1178	-	-	1240	-	-
Stage 1	678	642	-	684	646	-	-	-	-	-	-	-
Stage 2	681	646	-	676	608	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	366	378	714	367	352	721	1178	-	-	1240	-	-
Mov Cap-2 Maneuver	366	378	-	367	352	-	-	-	-	-	-	-
Stage 1	676	639	-	682	644	-	-	-	-	-	-	-
Stage 2	672	644	-	668	606	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	10	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1178	-	-	375	721	1240	-	-
HCM Lane V/C Ratio	0.004	-	-	0.305	0.01	0.003	-	-
HCM Control Delay (s)	8.1	-	-	18.8	10	7.9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0	0	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	86	141	1	97	99
Future Vol, veh/h	1	86	141	1	97	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	88	144	1	99	101

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	443	144	0	0	145	0
Stage 1	144	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	572	903	-	-	1437	-
Stage 1	883	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	533	903	-	-	1437	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	3.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	533	903	1437	-
HCM Lane V/C Ratio	-	-	0.002	0.097	0.069	-
HCM Control Delay (s)	-	-	11.8	9.4	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0.3	0.2	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	0	0	47	14	4
Future Vol, veh/h	18	0	0	47	14	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	0	0	60	18	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	81	21	23	0	-	0
Stage 1	21	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	921	1056	1592	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	921	1056	1592	-	-	-
Mov Cap-2 Maneuver	921	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	921	-	-
HCM Lane V/C Ratio	-	-	0.025	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	8679	8582	8681	8634	8719	8738	8637
Vehs Exited	8612	8531	8603	8620	8581	8623	8573
Starting Vehs	363	358	329	391	357	319	336
Ending Vehs	430	409	407	405	495	434	400
Travel Distance (mi)	4760	4729	4761	4797	4788	4798	4766
Travel Time (hr)	495.4	416.8	413.1	449.1	413.5	466.7	413.4
Total Delay (hr)	341.8	264.5	259.6	295.0	259.3	312.3	260.1
Total Stops	17048	16481	16330	16966	16774	17360	16583
Fuel Used (gal)	272.7	254.9	255.7	264.6	256.9	268.6	256.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	8749	8687	8654	8674
Vehs Exited	8660	8610	8587	8598
Starting Vehs	318	346	363	345
Ending Vehs	407	423	430	419
Travel Distance (mi)	4844	4823	4774	4784
Travel Time (hr)	433.6	409.7	424.8	433.6
Total Delay (hr)	278.1	255.1	271.5	279.7
Total Stops	16887	16719	16525	16773
Fuel Used (gal)	263.1	257.0	259.8	261.0

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2251	2131	2169	2133	2196	2164	2076
Vehs Exited	2157	2080	2112	2129	2171	2099	2078
Starting Vehs	363	358	329	391	357	319	336
Ending Vehs	457	409	386	395	382	384	334
Travel Distance (mi)	1240	1162	1195	1183	1180	1186	1172
Travel Time (hr)	106.0	89.7	95.2	93.2	88.7	90.6	86.8
Total Delay (hr)	65.9	52.3	56.4	55.0	50.6	52.6	49.2
Total Stops	4501	3959	4188	4070	3913	4036	3903
Fuel Used (gal)	65.8	60.0	61.7	61.7	60.5	60.5	60.4

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2220	2085	2137	2156
Vehs Exited	2114	2076	2116	2111
Starting Vehs	318	346	363	345
Ending Vehs	424	355	384	387
Travel Distance (mi)	1216	1181	1188	1190
Travel Time (hr)	95.5	89.7	91.9	92.7
Total Delay (hr)	56.5	51.9	53.8	54.4
Total Stops	4222	3956	3995	4071
Fuel Used (gal)	62.8	60.8	61.9	61.6

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2219	2298	2313	2255	2289	2311	2322
Vehs Exited	2245	2229	2306	2192	2244	2256	2221
Starting Vehs	457	409	386	395	382	384	334
Ending Vehs	431	478	393	458	427	439	435
Travel Distance (mi)	1188	1210	1245	1222	1246	1232	1226
Travel Time (hr)	128.1	109.7	105.9	110.2	103.8	110.5	100.0
Total Delay (hr)	89.7	70.6	65.9	71.1	63.7	71.0	60.5
Total Stops	4344	4448	4272	4280	4466	4553	4344
Fuel Used (gal)	68.9	66.0	66.3	66.0	65.8	67.3	64.0

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2326	2270	2359	2294
Vehs Exited	2291	2158	2302	2244
Starting Vehs	424	355	384	387
Ending Vehs	459	467	441	434
Travel Distance (mi)	1237	1199	1249	1225
Travel Time (hr)	114.4	101.4	109.4	109.3
Total Delay (hr)	74.5	63.1	69.2	69.9
Total Stops	4376	4137	4536	4370
Fuel Used (gal)	67.5	63.8	67.0	66.3

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2144	2046	2127	2083	2113	2152	2098
Vehs Exited	2137	2176	2122	2211	2157	2132	2137
Starting Vehs	431	478	393	458	427	439	435
Ending Vehs	438	348	398	330	383	459	396
Travel Distance (mi)	1183	1201	1167	1199	1205	1178	1180
Travel Time (hr)	128.9	108.4	101.7	117.9	106.4	119.8	108.6
Total Delay (hr)	90.9	70.0	64.3	79.3	67.7	81.5	70.7
Total Stops	4168	4029	3988	4181	4180	4350	4065
Fuel Used (gal)	68.9	65.1	63.0	67.9	65.0	67.2	64.9

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2149	2145	2056	2114
Vehs Exited	2188	2219	2116	2157
Starting Vehs	459	467	441	434
Ending Vehs	420	393	381	388
Travel Distance (mi)	1208	1220	1176	1192
Travel Time (hr)	112.2	109.2	110.1	112.3
Total Delay (hr)	73.5	69.9	72.4	74.0
Total Stops	4229	4284	3981	4150
Fuel Used (gal)	66.9	66.0	65.5	66.0

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2065	2107	2072	2163	2121	2111	2141
Vehs Exited	2073	2046	2063	2088	2009	2136	2137
Starting Vehs	438	348	398	330	383	459	396
Ending Vehs	430	409	407	405	495	434	400
Travel Distance (mi)	1149	1156	1154	1193	1157	1203	1187
Travel Time (hr)	132.4	109.0	110.3	127.8	114.5	145.8	118.0
Total Delay (hr)	95.3	71.7	73.0	89.6	77.2	107.2	79.7
Total Stops	4035	4045	3882	4435	4215	4421	4271
Fuel Used (gal)	69.0	63.7	64.6	69.1	65.5	73.6	67.4

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2054	2187	2102	2110
Vehs Exited	2067	2157	2053	2080
Starting Vehs	420	393	381	388
Ending Vehs	407	423	430	419
Travel Distance (mi)	1183	1223	1161	1177
Travel Time (hr)	111.5	109.4	113.4	119.2
Total Delay (hr)	73.6	70.3	76.1	81.4
Total Stops	4060	4342	4013	4169
Fuel Used (gal)	65.9	66.3	65.4	67.1

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	15.1	1.5
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.0	0.0	73.0	69.9	72.1
Total Delay (hr)	1.0	0.3	1.4	1.2	0.2	1.6	5.4	8.4	0.4	4.2	9.9	0.4
Total Del/Veh (s)	49.1	48.3	23.4	78.7	47.4	20.8	86.1	23.4	19.2	94.6	48.8	18.7
Stop Delay (hr)	1.0	0.3	1.3	1.2	0.2	1.4	4.8	4.6	0.3	4.0	8.3	0.3
Stop Del/Veh (s)	46.6	43.2	22.4	76.1	42.5	18.4	76.5	12.9	11.8	89.7	40.7	15.5

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	20.0
Denied Del/Veh (s)	22.1
Total Delay (hr)	34.5
Total Del/Veh (s)	38.5
Stop Delay (hr)	27.6
Stop Del/Veh (s)	30.9

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Denied Del/Veh (s)	0.1	0.2	0.1	3.6	0.6	0.7	0.0	0.0	0.0	0.0	0.7	0.0
Total Delay (hr)	1.5	0.7	0.1	2.2	1.4	1.2	12.1	7.6	1.6	2.3	30.7	2.1
Total Del/Veh (s)	32.5	33.9	3.2	48.0	56.7	67.0	43.2	20.1	18.5	297.7	180.6	22.1
Stop Delay (hr)	1.4	0.6	0.0	2.0	1.2	1.2	9.4	4.0	0.9	2.3	28.5	1.4
Stop Del/Veh (s)	29.7	29.9	0.0	43.6	50.9	63.8	33.8	10.5	10.7	289.4	167.5	14.7

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.3
Total Delay (hr)	63.5
Total Del/Veh (s)	52.5
Stop Delay (hr)	52.8
Stop Del/Veh (s)	43.7

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.3	0.1	0.0	0.0	0.0	0.0	0.4
Denied Del/Veh (s)	1.3	0.6	0.0	0.0	0.0	0.0	0.3
Total Delay (hr)	3.7	0.4	6.5	1.7	3.2	3.5	19.0
Total Del/Veh (s)	16.1	2.0	12.3	12.8	58.3	17.9	14.1
Stop Delay (hr)	2.6	0.0	1.8	0.5	2.7	1.3	8.8
Stop Del/Veh (s)	11.2	0.0	3.4	3.7	49.2	6.5	6.5

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.6	0.2	0.2	3.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	5.7	0.5	0.3	1.1	0.1	7.4	0.0	28.6	0.4	9.6	4.7	0.0
Total Del/Veh (s)	66.1	57.5	14.7	62.5	63.6	43.9	132.8	67.9	8.6	64.5	17.6	3.3
Stop Delay (hr)	5.2	0.5	0.3	1.0	0.1	7.1	0.0	20.8	0.3	8.4	3.1	0.0
Stop Del/Veh (s)	61.2	54.4	13.7	57.7	59.1	41.9	116.7	49.5	6.8	56.1	11.5	2.1

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.3
Total Delay (hr)	58.5
Total Del/Veh (s)	49.2
Stop Delay (hr)	46.9
Stop Del/Veh (s)	39.4

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	4.9	3.7	0.6	2.7	2.2	0.7	1.2	9.7	1.3	3.7	5.5	0.7
Total Del/Veh (s)	48.1	37.6	26.4	50.4	42.7	12.9	56.0	32.5	13.8	54.6	31.8	10.1
Stop Delay (hr)	4.5	3.1	0.6	2.5	1.9	0.6	1.1	8.4	1.3	3.3	3.7	0.5
Stop Del/Veh (s)	44.2	31.4	23.7	45.9	36.7	10.8	53.4	27.9	13.0	47.8	21.8	7.6

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	37.0
Total Del/Veh (s)	33.3
Stop Delay (hr)	31.4
Stop Del/Veh (s)	28.2

7: Driveway/Post St & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.2	3.6
Denied Del/Veh (s)	0.3	0.1	0.3	3.3	0.3	0.3	0.1	0.1	0.1	66.1	53.6	69.8
Total Delay (hr)	3.9	4.4	0.1	0.7	2.8	0.9	0.7	0.1	0.1	7.0	0.3	4.1
Total Del/Veh (s)	64.8	22.0	8.6	57.3	29.1	17.8	48.1	31.7	10.1	129.8	85.1	82.1
Stop Delay (hr)	3.5	3.1	0.0	0.6	2.1	0.7	0.7	0.1	0.1	6.6	0.3	3.8
Stop Del/Veh (s)	59.1	15.3	4.7	52.9	21.3	13.6	45.7	29.0	9.9	122.7	76.3	75.8

7: Driveway/Post St & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	7.5
Denied Del/Veh (s)	13.3
Total Delay (hr)	25.3
Total Del/Veh (s)	44.6
Stop Delay (hr)	21.7
Stop Del/Veh (s)	38.4

Total Zone Performance

Denied Delay (hr)	28.6
Denied Del/Veh (s)	17.8
Total Delay (hr)	237.7
Total Del/Veh (s)	673.4
Stop Delay (hr)	189.2
Stop Del/Veh (s)	535.9

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	TR	L	T	T	TR	L	T	TR
Maximum Queue (ft)	94	218	198	138	280	272	387	380	362	125	345	333
Average Queue (ft)	20	67	86	43	117	176	173	175	163	109	256	226
95th Queue (ft)	63	149	165	107	216	285	382	343	309	161	414	384
Link Distance (ft)		324		482	482		778	778	778		309	309
Upstream Blk Time (%)		0									39	7
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)	150		200			250				100		
Storage Blk Time (%)		0	2			10	1			24	45	
Queuing Penalty (veh)		1	2			44	1			91	74	

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB	SB
Directions Served	L	LT	L	LT	TR	L	L	T	T	TR	L	T
Maximum Queue (ft)	138	142	135	172	246	446	450	314	361	390	225	817
Average Queue (ft)	74	66	62	83	115	284	294	163	185	205	86	673
95th Queue (ft)	122	122	114	159	205	414	424	272	295	329	251	997
Link Distance (ft)	1293	1293			621	641	641	641	641	641		778
Upstream Blk Time (%)												32
Queuing Penalty (veh)												108
Storage Bay Dist (ft)			150	150							200	
Storage Blk Time (%)			0	0	5						0	82
Queuing Penalty (veh)			0	0	10						0	25

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	797	757	224
Average Queue (ft)	580	278	115
95th Queue (ft)	985	678	223
Link Distance (ft)	778	778	
Upstream Blk Time (%)	3	0	
Queuing Penalty (veh)	12	1	
Storage Bay Dist (ft)			200
Storage Blk Time (%)		0	2
Queuing Penalty (veh)		2	5

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	R	L	T	T	T	T
Maximum Queue (ft)	288	241	392	468	541	299	213	323	166	140	80
Average Queue (ft)	150	83	87	121	158	98	102	127	54	39	20
95th Queue (ft)	242	190	243	315	376	248	178	255	125	86	57
Link Distance (ft)	1211		572	572	572			641	641	641	641
Upstream Blk Time (%)			0	0	0			0			
Queuing Penalty (veh)			0	0	1			0			
Storage Bay Dist (ft)		450				275	575				
Storage Blk Time (%)					1	0					
Queuing Penalty (veh)					7	1					

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	T	T	T	R
Maximum Queue (ft)	302	323	63	125	125	342	345	65	626	677	694	112
Average Queue (ft)	142	201	19	44	82	198	198	3	356	425	479	37
95th Queue (ft)	263	283	52	95	158	302	297	38	559	627	672	83
Link Distance (ft)			778	778		526	526		839	839	839	839
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225				
Storage Blk Time (%)	0	0			2	41			23			
Queuing Penalty (veh)	0	0			5	24			0			

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	323	338	389	230	205	50
Average Queue (ft)	213	226	162	129	106	6
95th Queue (ft)	313	318	300	215	188	32
Link Distance (ft)			572	572	572	572
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	325	325				
Storage Blk Time (%)	0	0	0			
Queuing Penalty (veh)	0	2	1			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	220	240	208	231	142	149	126	143	152	166	278	274
Average Queue (ft)	112	149	116	138	61	79	43	74	69	48	165	158
95th Queue (ft)	198	224	182	208	123	130	96	124	124	114	240	233
Link Distance (ft)			346	346				315	315		278	278
Upstream Blk Time (%)										0	0	0
Queuing Penalty (veh)										0	0	0
Storage Bay Dist (ft)	325	325			175	175	175			270		
Storage Blk Time (%)					0	0	0	0		0	0	
Queuing Penalty (veh)					0	0	0	0		0	0	

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	B80	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	R	T	L	L	T	T	T	R		
Maximum Queue (ft)	252	260	66	30	148	185	275	289	96	146		
Average Queue (ft)	139	95	46	1	69	71	109	131	8	28		
95th Queue (ft)	208	206	60	15	129	143	228	256	53	95		
Link Distance (ft)	278	278		247			839	839	839			
Upstream Blk Time (%)	0	0										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)			25		225	225				250		
Storage Blk Time (%)		10	21				0			0		
Queuing Penalty (veh)		35	57				1			0		

Intersection: 7: Driveway/Post St & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR	
Maximum Queue (ft)	105	340	343	135	139	227	273	102	57	75	453	
Average Queue (ft)	99	209	185	20	42	107	130	41	21	73	348	
95th Queue (ft)	120	336	310	89	97	188	233	84	49	80	533	
Link Distance (ft)		315	315			585	585	216	216		408	
Upstream Blk Time (%)		2	1								43	
Queuing Penalty (veh)		7	3								0	
Storage Bay Dist (ft)	80			110	120					50		
Storage Blk Time (%)	46	11	17	0	0	7				78	6	
Queuing Penalty (veh)	169	24	4	0	0	3				154	11	

Zone Summary

Zone wide Queuing Penalty: 885

Lane Group	EBT	WBL	WBT	NBL	NBT
Lane Group Flow (vph)	653	105	400	253	254
v/c Ratio	0.55	0.46	0.22	0.55	0.33
Control Delay	25.3	44.8	12.5	34.5	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	44.8	12.5	34.5	1.1
Queue Length 50th (ft)	96	35	32	78	0
Queue Length 95th (ft)	354	161	164	318	0
Internal Link Dist (ft)	327		554		213
Turn Bay Length (ft)		190		155	
Base Capacity (vph)	2413	628	3165	1071	1404
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.17	0.13	0.24	0.18

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	542	71	99	376	0	238	0	239	0	0	0
Future Volume (veh/h)	0	542	71	99	376	0	238	0	239	0	0	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	577	76	105	400	0	253	0	254	0	0	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	1226	161	134	2056	0	329	0	318	148	4	0
Arrive On Green	0.00	0.39	0.39	0.08	0.58	0.00	0.19	0.00	0.20	0.00	0.00	0.00
Sat Flow, veh/h	981	3146	413	1774	3632	0	1774	0	1583	1121	1863	0
Grp Volume(v), veh/h	0	324	329	105	400	0	253	0	254	0	0	0
Grp Sat Flow(s),veh/h/ln	981	1770	1790	1774	1770	0	1774	0	1583	1121	1863	0
Q Serve(g_s), s	0.0	6.6	6.7	2.8	2.6	0.0	6.6	0.0	7.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.6	6.7	2.8	2.6	0.0	6.6	0.0	7.4	0.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	148	690	698	134	2056	0	329	0	318	148	4	0
V/C Ratio(X)	0.00	0.47	0.47	0.78	0.19	0.00	0.77	0.00	0.80	0.00	0.00	0.00
Avail Cap(c_a), veh/h	635	1568	1586	746	5032	0	1294	0	502	593	591	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.1	11.1	22.0	4.8	0.0	18.8	0.0	18.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	3.7	0.1	0.0	3.8	0.0	2.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	3.4	1.5	1.2	0.0	3.6	0.0	3.4	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	11.7	11.7	25.7	4.9	0.0	22.6	0.0	20.5	0.0	0.0	0.0
LnGrp LOS		B	B	C	A		C		C			
Approach Vol, veh/h		653			505			507			0	
Approach Delay, s/veh		11.7			9.2			21.5			0.0	
Approach LOS		B			A			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	9.3	24.9		14.3		34.2	13.6	0.7
Change Period (Y+Rc), s	5.6	6.0		4.6		6.0	4.6	4.6
Max Green Setting (Gmax), s	20.4	43.0		15.4		69.0	35.4	15.4
Max Q Clear Time (g_c+I1), s	4.8	8.7		9.4		4.6	8.6	0.0
Green Ext Time (p_c), s	0.0	10.2		0.3		11.4	0.7	0.0

Intersection Summary			
HCM 2010 Ctrl Delay		13.9	
HCM 2010 LOS		B	

Notes

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	3	6	0	4	32	4	174	0	16	223	69
Future Vol, veh/h	87	3	6	0	4	32	4	174	0	16	223	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	96	3	7	0	4	35	4	191	0	18	245	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	538	518	283	523	556	191	321	0	0	191	0	0
Stage 1	318	318	-	200	200	-	-	-	-	-	-	-
Stage 2	220	200	-	323	356	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	454	462	756	465	439	851	1239	-	-	1383	-	-
Stage 1	693	654	-	802	736	-	-	-	-	-	-	-
Stage 2	782	736	-	689	629	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	426	453	756	452	431	851	1239	-	-	1383	-	-
Mov Cap-2 Maneuver	426	453	-	452	431	-	-	-	-	-	-	-
Stage 1	691	644	-	799	734	-	-	-	-	-	-	-
Stage 2	743	734	-	669	619	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	9.9	0.2	0.4
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1239	-	-	439	768	1383	-	-
HCM Lane V/C Ratio	0.004	-	-	0.24	0.052	0.013	-	-
HCM Control Delay (s)	7.9	-	-	15.8	9.9	7.6	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	80	98	7	103	126
Future Vol, veh/h	7	80	98	7	103	126
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	95	117	8	123	150

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	516	121	0	0	125	0
Stage 1	121	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	519	930	-	-	1462	-
Stage 1	904	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	475	930	-	-	1462	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	3.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	475	930	1462	-
HCM Lane V/C Ratio	-	-	0.018	0.102	0.084	-
HCM Control Delay (s)	-	-	12.7	9.3	7.7	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.3	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	1	0	23	51	13
Future Vol, veh/h	17	1	0	23	51	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	1	0	27	61	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	95	68	76	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	27	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	905	995	1523	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	996	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	905	995	1523	-	-	-
Mov Cap-2 Maneuver	905	-	-	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	996	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

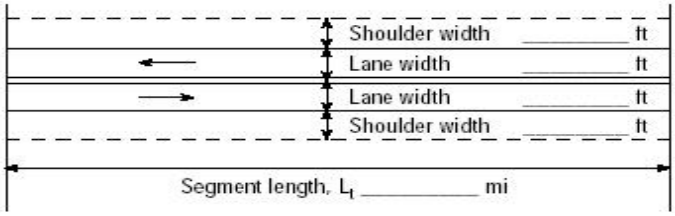
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1523	-	910	-	-
HCM Lane V/C Ratio	-	-	0.024	-	-
HCM Control Delay (s)	0	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*AM NB*	Analysis Year	*Existing (2017) plus Project*

Project Description: *Saratoga Estates*

Input Data



Analysis direction vol., V_d *221*veh/h

Opposing direction vol., V_o *200*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100*%

% Trucks and Buses , P_T *2* %

% Recreational vehicles, P_R *0*%

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.2*	*2.3*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.977*	*0.975*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.77*	*0.75*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*303*	*282*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.5 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*36.6 mi/h*
		Percent free flow speed, PFFS	*82.0* %

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.7*	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*	*0.986*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.81*	*0.80*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*285*	*261*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*30.2*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*58.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*60.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.18*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1329*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1392*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.0*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*227.8*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.00*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain. 2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F. 3. For the analysis direction only and for v>200 veh/h. 4. For the analysis direction only 5. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

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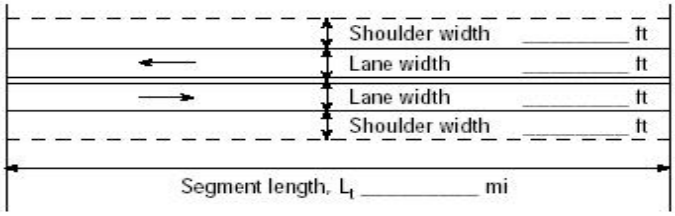
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*AM SB*	Analysis Year	*Existing (2017) plus Project*

Project Description: *Saratoga Estates*

Input Data



☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.97*

No-passing zone *100%*

Analysis direction vol., V_d *200*veh/h

Opposing direction vol., V_o *221*veh/h

% Trucks and Buses , P_T *2 %*

% Recreational vehicles, P_R *0%*

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.3*	*2.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.975*	*0.977*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.75*	*0.77*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*282*	*303*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.3 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*36.7 mi/h*
		Percent free flow speed, PFFS	*82.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.7*	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*	*0.986*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.80*	*0.81*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*261*	*285*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*28.8*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*58.2*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*56.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.17*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1363*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1408*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*206.2*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.95*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	
1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain. 2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F. 3. For the analysis direction only and for v>200 veh/h. 4. For the analysis direction only 5. Exhibit 15-20 provides coefficients a and b for Equation 15-10. 6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.	

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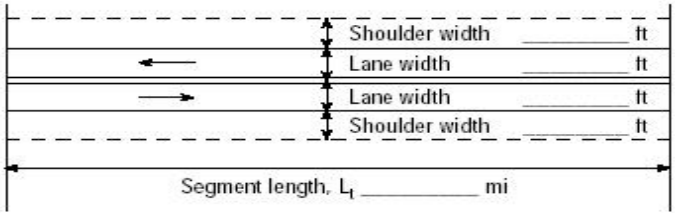
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*PM NB*	Analysis Year	*Existing (2017) plus Project*

Project Description: *Saratoga Estates*

Input Data



Analysis direction vol., V_d *184*veh/h

Opposing direction vol., V_o *224*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.85*

No-passing zone *100%*

% Trucks and Buses , P_T *2 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.3*	*2.2*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.975*	*0.977*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.76*	*0.80*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*292*	*337*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, FFS=S_{FM}+0.00776(*v*/ $f_{HV,ATS}$)		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.1 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, ATS_d=FFS-0.00776($v_{d,ATS}$ + $v_{o,ATS}$) - $f_{np,ATS}$	*36.6 mi/h*
		Percent free flow speed, PFFS	*82.1 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.7*	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*	*0.986*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.81*	*0.83*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*271*	*322*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*31.1*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*55.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*56.6*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.17*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1413*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1445*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*82.1*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*216.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.97*
Bicycle level of service (Exhibit 15-4)	*B*

Notes

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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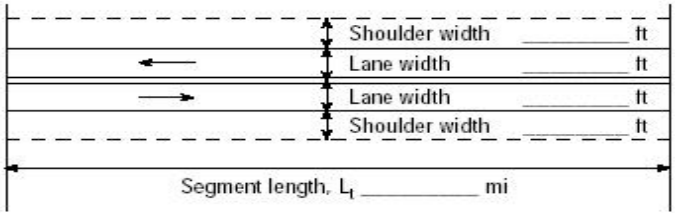
DIRECTIONAL TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst		Highway / Direction of Travel	*Saratoga Way*
Agency or Company	*Kimley-Horn*	From/To	*W of El Dorado Hills Blvd*
Date Performed	*3/14/17*	Jurisdiction	*EDC*
Analysis Time Period	*PM SB*	Analysis Year	*Existing (2017) plus Project*

Project Description: *Saratoga Estates*

Input Data



Analysis direction vol., V_d *224*veh/h

Opposing direction vol., V_o *184*veh/h

Shoulder width ft *6.0*

Lane Width ft *12.0*

Segment Length mi *0.6*

☐ Class I highway ☐ Class II highway ☑ Class III highway

Terrain ☐ Level ☑ Rolling

Grade Length mi Up/down

Peak-hour factor, PHF *0.85*

No-passing zone *100%*

% Trucks and Buses , P_T *2 %*

% Recreational vehicles, P_R *0%*

Access points *mi* *1*/mi

Average Travel Speed

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T (Exhibit 15-11 or 15-12)	*2.2*	*2.3*
Passenger-car equivalents for RVs, E_R (Exhibit 15-11 or 15-13)	*1.1*	*1.1*
Heavy-vehicle adjustment factor, $f_{HV,ATS}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.977*	*0.975*
Grade adjustment factor[1], $f_{g,ATS}$ (Exhibit 15-9)	*0.80*	*0.76*
Demand flow rate[2], v_i (pc/h) $v_i=V_i/(PHF*f_{g,ATS}*f_{HV,ATS})$	*337*	*292*

Free-Flow Speed from Field Measurement		**Estimated Free-Flow Speed**	
Mean speed of sample[3], S_{FM}		Base free-flow speed[4], BFFS	*45.0 mi/h*
Total demand flow rate, both directions, *v*		Adj. for lane and shoulder width,[4] f_{LS}(Exhibit 15-7)	*0.0 mi/h*
Free-flow speed, $FFS=S_{FM}+0.00776(v/f_{HV,ATS})$		Adj. for access points[4], f_A (Exhibit 15-8)	*0.4 mi/h*
Adj. for no-passing zones, $f_{np,ATS}$ (Exhibit 15-15)	*3.4 mi/h*	Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*44.6 mi/h*
		Average travel speed, $ATS_d=FFS-0.00776(v_{d,ATS}+v_{o,ATS})-f_{np,ATS}$	*36.3 mi/h*
		Percent free flow speed, PFFS	*81.4 %*

Percent Time-Spent-Following

	Analysis Direction (d)	Opposing Direction (o)
Passenger-car equivalents for trucks, E_T(Exhibit 15-18 or 15-19)	*1.7*	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 15-18 or 15-19)	*1.0*	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*	*0.986*
Grade adjustment factor[1], $f_{g,PTSF}$ (Exhibit 15-16 or Ex 15-17)	*0.83*	*0.81*
Directional flow rate[2], v_i(pc/h) $v_i=V_i/(PHF*f_{HV,PTSF}*f_{g,PTSF})$	*322*	*271*
Base percent time-spent-following[4], $BPTSF_d(\%)=100(1-e^{av_d^b})$	*34.4*	
Adj. for no-passing zone, $f_{np,PTSF}$ (Exhibit 15-21)	*55.9*	
Percent time-spent-following, $PTSF_d(\%)=BPTSF_d+f_{np,PTSF}*(v_{d,PTSF}/v_{d,PTSF}+v_{o,PTSF})$	*64.8*	

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 15-3)	*C*
Volume to capacity ratio, *v/c*	*0.20*

Capacity, $C_{d,ATS}$ (Equation 15-12) veh/h	*1345*
Capacity, $C_{d,PTSF}$ (Equation 15-13) veh/h	*1408*
Percent Free-Flow Speed $PFFS_d$(Equation 15-11 - Class III only)	*81.4*
Bicycle Level of Service	
Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*263.5*
Effective width, Wv (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.08*
Bicycle level of service (Exhibit 15-4)	*B*
Notes	

1. Note that the adjustment factor for level terrain is 1.00,as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If v_i(v_d or v_o) >=1,700 pc/h, terminate analysis--the LOS is F.
3. For the analysis direction only and for v>200 veh/h.
4. For the analysis direction only
5. Exhibit 15-20 provides coefficients a and b for Equation 15-10.
6. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

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	Segment Inputs				Existing plus Project Conditions													
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westt Eastb	West of Latrobe Rd SB Off Ramp	6690	3	0.33	2,712	4,425	1012.09	74.12	75	74.9984	13.495	B	1651.359	74.12	75	70.3034	23.5	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	1,265	2,876	472.083	73.6	75	71.9148	6.5645	A	1073.29	73.6	75	74.9405	14.322	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	2	0.50	2,522	1,626	1411.77	73.6	75	73.123	19.307	C	910.2065	73.6	75	74.9107	12.151	B
	West of El Dorado Hills Blvd On Ramp	5890	2	0.33	3,817	3,057	2136.69	74.12	75	60.6968	35.203	E	1711.255	74.12	75	69.3999	24.658	C

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Existing plus Project Conditions

Segment Inputs				AM Flow Inputs			AM LOS Performance Measures											PM Flow Inputs			PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_R/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_R/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
⇔ El Dorado Hills Blvd On Ramp	2	1	795	3817	2522	1295	4273	2824	1450	81	1	2823.5	4800	0	2118	2824	0.8903	33.156	D	3057	1626	1431	3423	1820	1602	52	1	1820.4	4800	0	1365	1820	0.713	26.449	C

Univeral Inputs:

Length	1500	(ft)
s_{FF}	70	(mi/h)
s_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Existing plus Project Conditions

	Segment Inputs				AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures										
		Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
		(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB	Latrobe SB Off Ramp	3	1	1389	140	1629	2712	1083	407.522	3036.3	1212.5	0.613	2330.4	7200	353	1748	2330	0.4217	23.034	C	2259	3057	798	840.793	3422.5	893.41	0.6694	2586.5	7200	418	1940	2586	0.4753	25.236	C
	Latrobe NB Off Ramp	3	1	-	140	1265	1629	364	-	1823.8	407.52	0.6957	1392.7	7200	431	1045	1393	0.2533	14.97	B	1508	2259	751	-	2529.1	840.79	0.6581	1951.9	7200	577	1464	1952	0.3513	19.778	B

Univeral Inputs:

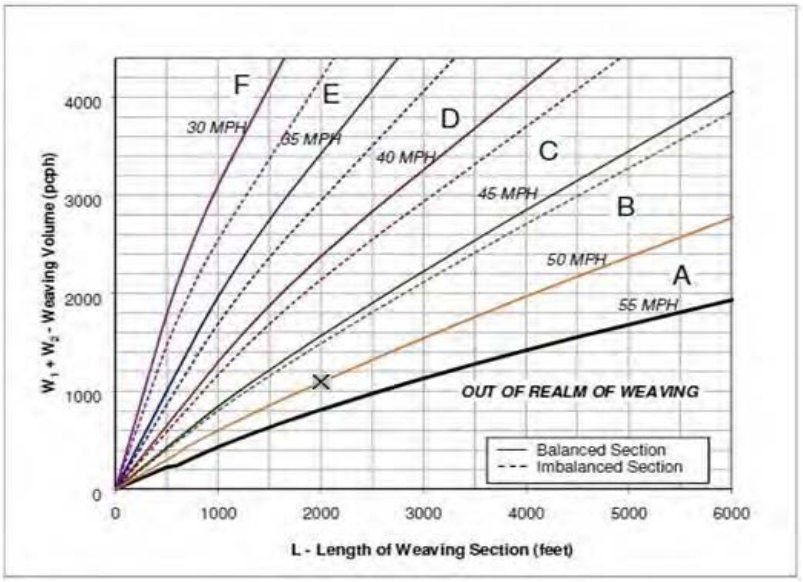
Leng	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) plus Project Conditons (AM)

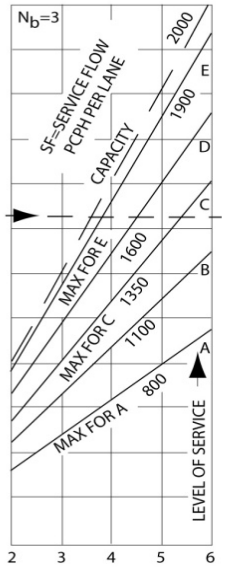
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	1,676	Volume (vph)	411	Volume (vph)	253
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	1,710	Volume (pcph)	415	Volume (pcph)	256

W1 + W2	671
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	50.0
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	427
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

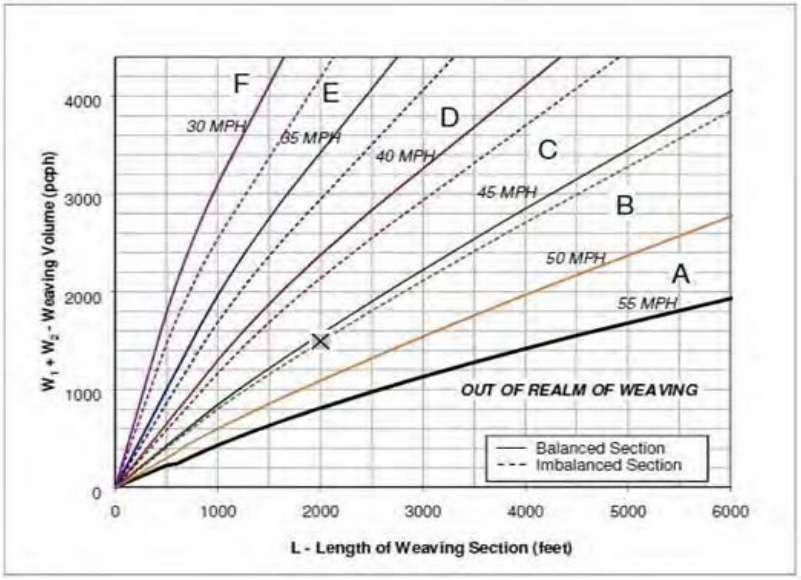


EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) plus Project Conditons (PM)

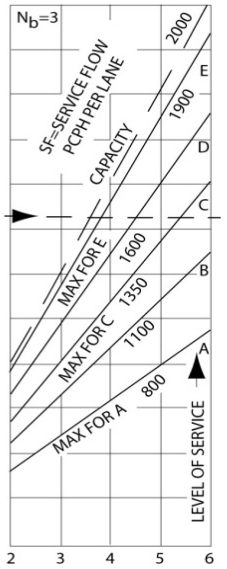
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	3,577	Volume (vph)	701	Volume (vph)	741
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,649	Volume (pcph)	708	Volume (pcph)	748

W1 + W2	1,456
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	45.4
Weaving Intensity Factor (k)	1.60
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,018
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

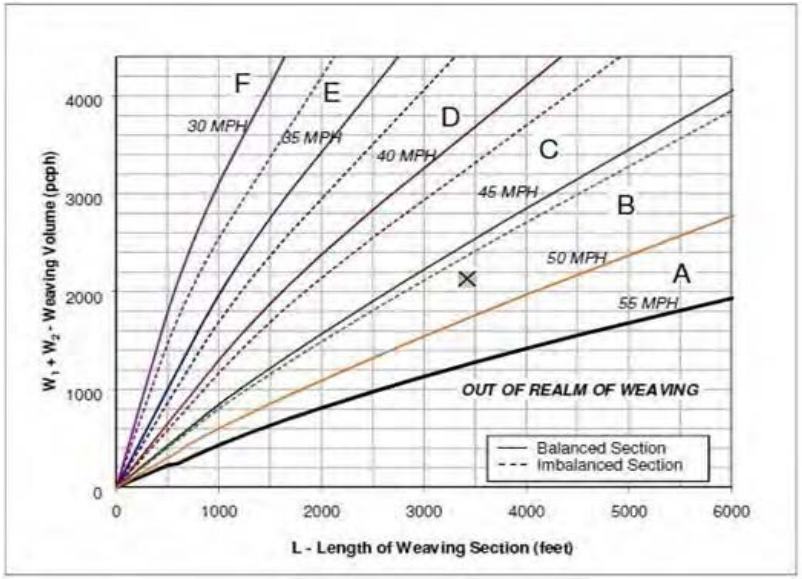


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) plus Project Conditons (AM)

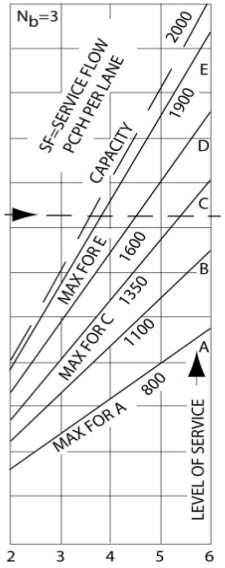
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	3,162	Volume (vph)	928	Volume (vph)	640
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,194	Volume (pcph)	937	Volume (pcph)	646

W1 + W2	1,584
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.8
Weaving Intensity Factor (k)	1.40
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	863
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

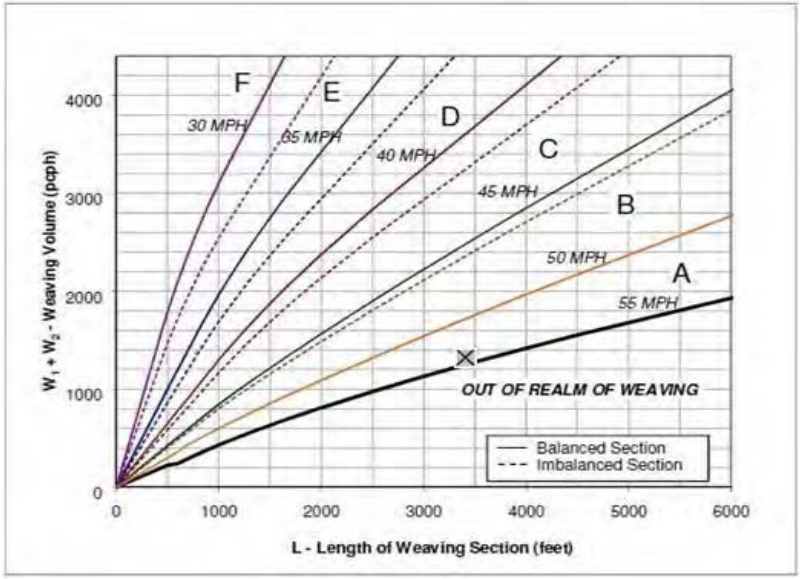


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) plus Project Conditons (PM)

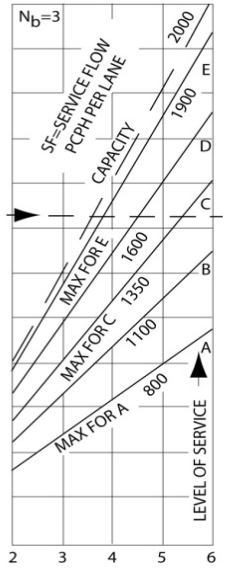
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	1,984	Volume (vph)	284	Volume (vph)	358
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,004	Volume (pcph)	287	Volume (pcph)	362

W1 + W2	648
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	54.8
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	501
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS



Appendix D

Analysis Worksheets for
Cumulative (2035) Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9168	9183	9204	9096	9152	9051	9327
Vehs Exited	9131	9119	9114	9089	9082	8966	9276
Starting Vehs	405	391	361	405	382	395	410
Ending Vehs	442	455	451	412	452	480	461
Travel Distance (mi)	6675	6688	6648	6665	6631	6514	6812
Travel Time (hr)	464.8	449.7	451.7	420.7	449.0	474.7	474.8
Total Delay (hr)	259.3	243.6	247.0	215.8	245.1	273.8	265.9
Total Stops	17304	17813	18013	17046	18006	17933	19011
Fuel Used (gal)	306.2	303.7	304.0	296.2	302.6	304.0	312.2

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	9088	9159	9108	9151
Vehs Exited	9040	9129	9106	9104
Starting Vehs	369	371	425	384
Ending Vehs	417	401	427	441
Travel Distance (mi)	6621	6686	6621	6656
Travel Time (hr)	425.8	425.4	425.1	446.2
Total Delay (hr)	222.2	218.9	221.8	241.4
Total Stops	17175	17198	17346	17688
Fuel Used (gal)	297.6	296.8	296.3	302.0

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2239	2252	2240	2233	2253	2186	2271
Vehs Exited	2267	2250	2195	2221	2235	2151	2269
Starting Vehs	405	391	361	405	382	395	410
Ending Vehs	377	393	406	417	400	430	412
Travel Distance (mi)	1666	1643	1597	1627	1630	1580	1669
Travel Time (hr)	98.6	100.8	100.4	102.0	98.3	98.8	106.7
Total Delay (hr)	47.5	50.3	51.0	51.9	48.3	50.1	55.5
Total Stops	4027	4078	4025	4188	4026	4065	4427
Fuel Used (gal)	72.4	72.8	71.3	72.7	71.7	69.9	74.1

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2240	2211	2235	2233
Vehs Exited	2212	2193	2274	2225
Starting Vehs	369	371	425	384
Ending Vehs	397	389	386	398
Travel Distance (mi)	1616	1609	1641	1628
Travel Time (hr)	97.6	96.0	95.4	99.5
Total Delay (hr)	48.0	46.3	44.8	49.4
Total Stops	3983	3842	3956	4058
Fuel Used (gal)	71.3	70.1	71.9	71.8

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2498	2468	2419	2400	2447	2424	2417
Vehs Exited	2328	2323	2317	2378	2339	2318	2324
Starting Vehs	377	393	406	417	400	430	412
Ending Vehs	547	538	508	439	508	536	505
Travel Distance (mi)	1764	1754	1693	1717	1718	1684	1714
Travel Time (hr)	120.6	118.4	115.5	105.7	119.7	118.9	114.9
Total Delay (hr)	66.4	64.3	63.5	52.8	66.9	66.9	62.2
Total Stops	4859	4738	4696	4286	4848	4736	4618
Fuel Used (gal)	80.0	79.6	77.1	75.4	79.1	77.9	77.6

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2451	2426	2406	2432
Vehs Exited	2378	2284	2367	2333
Starting Vehs	397	389	386	398
Ending Vehs	470	531	425	490
Travel Distance (mi)	1755	1717	1724	1724
Travel Time (hr)	114.6	109.7	111.7	115.0
Total Delay (hr)	60.8	56.7	58.9	61.9
Total Stops	4704	4457	4633	4659
Fuel Used (gal)	79.2	75.9	76.8	77.9

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2286	2245	2231	2273	2217	2219	2320
Vehs Exited	2377	2358	2307	2281	2265	2274	2328
Starting Vehs	547	538	508	439	508	536	505
Ending Vehs	456	425	432	431	460	481	497
Travel Distance (mi)	1690	1680	1672	1689	1636	1648	1709
Travel Time (hr)	121.2	115.0	118.7	109.4	115.0	131.1	127.0
Total Delay (hr)	69.2	63.3	67.1	57.8	64.6	80.3	74.5
Total Stops	4586	4498	4712	4377	4479	4743	5048
Fuel Used (gal)	78.7	76.6	78.1	75.7	75.9	79.4	80.4

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2197	2246	2270	2249
Vehs Exited	2241	2358	2258	2302
Starting Vehs	470	531	425	490
Ending Vehs	426	419	437	443
Travel Distance (mi)	1614	1685	1653	1668
Travel Time (hr)	106.0	117.8	108.4	116.9
Total Delay (hr)	56.2	65.7	57.7	65.6
Total Stops	4213	4767	4481	4590
Fuel Used (gal)	73.1	77.3	74.4	77.0

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2145	2218	2314	2190	2235	2222	2319
Vehs Exited	2159	2188	2295	2209	2243	2223	2355
Starting Vehs	456	425	432	431	460	481	497
Ending Vehs	442	455	451	412	452	480	461
Travel Distance (mi)	1556	1611	1685	1632	1647	1601	1718
Travel Time (hr)	124.4	115.5	117.2	103.6	116.1	125.8	126.2
Total Delay (hr)	76.2	65.7	65.4	53.3	65.4	76.4	73.7
Total Stops	3832	4499	4580	4195	4653	4389	4918
Fuel Used (gal)	75.1	74.8	77.4	72.3	75.9	76.9	80.2

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2200	2276	2197	2229
Vehs Exited	2209	2294	2207	2234
Starting Vehs	426	419	437	443
Ending Vehs	417	401	427	441
Travel Distance (mi)	1637	1676	1603	1637
Travel Time (hr)	107.5	101.8	109.7	114.8
Total Delay (hr)	57.2	50.3	60.4	64.4
Total Stops	4275	4132	4276	4374
Fuel Used (gal)	74.0	73.5	73.2	75.3

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.6	1.3	0.0	0.0	0.0	1.4	0.4	1.2
Total Delay (hr)	0.7	1.3	0.5	1.5	1.6	0.4	2.6	3.4	0.0	4.2	12.6	0.3
Total Del/Veh (s)	35.2	39.2	11.4	32.4	28.0	8.6	55.2	17.4	3.0	76.2	30.2	7.8
Stop Delay (hr)	0.7	1.1	0.4	1.3	1.3	0.3	2.4	2.3	0.0	3.6	7.6	0.1
Stop Del/Veh (s)	32.6	33.9	10.9	28.3	22.8	6.5	50.9	11.8	1.8	64.7	18.2	3.2

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.5
Total Delay (hr)	29.1
Total Del/Veh (s)	29.1
Stop Delay (hr)	21.1
Stop Del/Veh (s)	21.1

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.8	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	2.1	0.2	1.1	2.7	0.4	9.2	2.1	0.2	0.1	10.5	0.4
Total Del/Veh (s)	35.3	55.4	3.7	35.6	47.2	36.2	61.2	10.3	4.8	42.1	27.1	3.4
Stop Delay (hr)	0.9	1.9	0.0	1.0	2.4	0.4	8.0	0.8	0.1	0.1	7.5	0.2
Stop Del/Veh (s)	32.8	50.6	0.0	31.1	41.3	33.2	53.6	3.7	1.1	39.2	19.4	1.6

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	30.1
Total Del/Veh (s)	26.8
Stop Delay (hr)	23.3
Stop Del/Veh (s)	20.7

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.9	0.0	0.0	0.0	0.0	0.0	0.9
Denied Del/Veh (s)	2.6	0.2	0.0	0.0	0.0	0.0	0.7
Total Delay (hr)	7.4	0.0	3.1	0.6	1.2	3.9	16.3
Total Del/Veh (s)	22.0	0.5	9.2	5.6	15.8	9.9	12.3
Stop Delay (hr)	4.4	0.0	1.1	0.0	0.7	0.8	6.9
Stop Del/Veh (s)	13.1	0.0	3.2	0.3	9.1	1.9	5.3

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.3	0.1	0.1	3.2	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	0.1	0.0	2.0	0.5	2.3	0.5	9.3	0.2	4.7	7.8	0.9
Total Del/Veh (s)	29.4	31.4	10.7	50.3	47.8	20.4	40.7	29.1	6.3	29.2	17.3	7.0
Stop Delay (hr)	0.4	0.1	0.0	1.8	0.5	2.0	0.4	5.9	0.1	3.8	4.4	0.4
Stop Del/Veh (s)	27.6	28.6	10.7	45.6	42.5	17.5	33.9	18.4	4.7	23.6	9.7	3.5

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	28.6
Total Del/Veh (s)	22.5
Stop Delay (hr)	19.7
Stop Del/Veh (s)	15.5

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	6.0	2.1	0.7	8.4	7.7	0.4	12.2	6.0	0.2	2.3	11.5	12.3
Total Del/Veh (s)	65.4	49.3	25.8	57.3	49.2	10.0	214.4	26.9	4.9	67.5	41.6	66.6
Stop Delay (hr)	5.6	1.9	0.7	7.3	6.3	0.3	11.9	5.3	0.2	2.0	7.9	9.9
Stop Del/Veh (s)	61.4	43.6	23.8	50.2	40.1	7.7	209.7	23.6	4.7	59.8	28.6	53.6

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	69.7
Total Del/Veh (s)	52.7
Stop Delay (hr)	59.2
Stop Del/Veh (s)	44.8

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.7	0.5	0.3	0.1	0.1	0.1	3.8	0.3	0.3
Total Delay (hr)	1.7	0.7	0.0	1.2	17.3	1.6	0.5	0.0	0.0	0.4	0.1	0.8
Total Del/Veh (s)	44.1	9.2	3.2	105.1	58.4	27.4	46.4	22.3	4.0	43.7	32.2	19.7
Stop Delay (hr)	1.6	0.4	0.0	1.0	12.3	1.0	0.5	0.0	0.0	0.4	0.1	0.7
Stop Del/Veh (s)	39.9	5.2	1.5	89.0	41.6	16.9	44.3	19.8	4.1	40.3	27.9	18.2

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	24.3
Total Del/Veh (s)	44.2
Stop Delay (hr)	18.0
Stop Del/Veh (s)	32.6

Total Zone Performance

Denied Delay (hr)	1.8
Denied Del/Veh (s)	1.0
Total Delay (hr)	198.7
Total Del/Veh (s)	323.3
Stop Delay (hr)	148.4
Stop Del/Veh (s)	241.3

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	58	89	165	117	177	233	118	238	191	196	205	12
Average Queue (ft)	15	39	73	53	88	96	40	116	73	91	99	0
95th Queue (ft)	44	72	133	94	146	176	83	210	151	161	172	6
Link Distance (ft)			309	309		1429			469	469	469	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)			1		0	0		1			0	
Queuing Penalty (veh)			1		0	1		2			0	

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	125	613	560	468	207
Average Queue (ft)	117	306	229	189	42
95th Queue (ft)	145	561	458	363	111
Link Distance (ft)		1017	1017	1017	
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	100				200
Storage Blk Time (%)	31	30		3	0
Queuing Penalty (veh)	154	58		4	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB
Directions Served	L	LT	L	L	T	R	L	L	T	T	T	TR
Maximum Queue (ft)	112	220	77	174	294	175	320	317	276	143	153	69
Average Queue (ft)	49	102	28	66	134	38	195	199	81	53	66	26
95th Queue (ft)	91	182	64	146	239	109	307	309	211	114	122	54
Link Distance (ft)	1070	1070			1644			626	626	626	626	626
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	150		150	550					
Storage Blk Time (%)				0	9	0						
Queuing Penalty (veh)				0	13	0						

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	100	300	244	272	210	76	30	42	9
Average Queue (ft)	8	196	132	154	49	7	1	2	0
95th Queue (ft)	66	322	253	261	152	42	16	19	4
Link Distance (ft)		229	229	229	229	469	469	469	469
Upstream Blk Time (%)	0	9	1	2	0				
Queuing Penalty (veh)	0	42	4	9	0				
Storage Bay Dist (ft)	200								
Storage Blk Time (%)		14							
Queuing Penalty (veh)		2							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	311	317	167	179	151	159	38	109	99	234	164	223
Average Queue (ft)	168	181	61	49	37	54	0	42	41	31	17	36
95th Queue (ft)	262	281	142	135	112	125	14	87	79	129	83	119
Link Distance (ft)	1203			569	569	569	569			626	626	626
Upstream Blk Time (%)										0		
Queuing Penalty (veh)										0		
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)	0	0	0	0								
Queuing Penalty (veh)	0	0	1	1								

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	145
Average Queue (ft)	26
95th Queue (ft)	85
Link Distance (ft)	626
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	L	T	T	T
Maximum Queue (ft)	50	60	36	29	125	317	298	53	209	300	296	319
Average Queue (ft)	14	23	9	6	92	142	84	15	29	157	145	170
95th Queue (ft)	42	54	30	23	146	277	221	42	104	264	254	279
Link Distance (ft)			778	778		520	520			837	837	837
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					12	20				2		
Queuing Penalty (veh)					29	27				1		

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	78	214	218	266	341	419	349
Average Queue (ft)	23	117	133	105	142	209	106
95th Queue (ft)	55	186	198	205	298	393	309
Link Distance (ft)	837			569	569	569	569
Upstream Blk Time (%)					0	0	0
Queuing Penalty (veh)					0	1	1
Storage Bay Dist (ft)		325	325				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	229	243	160	197	187	200	336	321	106	278	364	270
Average Queue (ft)	118	140	68	93	151	188	280	169	53	245	279	101
95th Queue (ft)	198	220	129	163	218	230	392	284	92	332	460	209
Link Distance (ft)			355	355			312	312	312		278	278
Upstream Blk Time (%)							12	0		29	50	0
Queuing Penalty (veh)							50	2		0	0	0
Storage Bay Dist (ft)	325	325			175	175				270		
Storage Blk Time (%)	0	0			3	14	19			44	47	
Queuing Penalty (veh)	0	0			9	39	98			91	97	

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB	SB	SB
Directions Served	T	T	R	T	T	T	T	T	T	L	L	T
Maximum Queue (ft)	172	141	54	308	256	209	282	256	177	92	242	354
Average Queue (ft)	83	47	32	157	94	29	87	74	27	31	49	180
95th Queue (ft)	143	116	60	391	272	143	348	332	205	76	153	287
Link Distance (ft)	278	278		242	242	242	496	496	496			837
Upstream Blk Time (%)				28	1	0	8	3	1			
Queuing Penalty (veh)				0	0	0	0	0	0			
Storage Bay Dist (ft)			25							225	225	
Storage Blk Time (%)		10	1								0	3
Queuing Penalty (veh)		14	3								0	3

Intersection: 5: Latrobe Road & White Rock Road

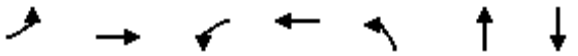
Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	425	714	275
Average Queue (ft)	191	399	237
95th Queue (ft)	326	818	346
Link Distance (ft)	837	837	
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		5	
Storage Bay Dist (ft)			250
Storage Blk Time (%)		1	34
Queuing Penalty (veh)		5	109

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	104	196	108	35	145	884	705	77	34	75	185
Average Queue (ft)	77	43	43	5	56	478	316	29	10	31	76
95th Queue (ft)	116	141	92	23	145	910	619	65	28	67	147
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)		0									
Queuing Penalty (veh)		0									
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	16	0	0		0	50				9	22
Queuing Penalty (veh)	20	1	0		1	20				14	8

Zone Summary

Zone wide Queuing Penalty: 941



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	613	757	751	92	158	44
v/c Ratio	0.52	0.85	0.85	0.31	0.77	0.42	0.30
Control Delay	80.2	58.4	39.7	11.1	97.2	13.4	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	58.4	39.7	11.1	97.2	13.4	30.9
Queue Length 50th (ft)	37	234	489	115	72	16	12
Queue Length 95th (ft)	93	#448	#1040	274	#208	72	47
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	137	723	889	2400	119	608	468
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.85	0.85	0.31	0.77	0.26	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	419	145	696	691	0	85	21	124	0	15	26
Future Volume (veh/h)	44	419	145	696	691	0	85	21	124	0	15	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	455	158	757	751	0	92	23	135	0	16	28
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	612	211	781	2309	0	116	38	222	2	31	54
Arrive On Green	0.03	0.24	0.24	0.44	0.65	0.00	0.07	0.16	0.16	0.00	0.05	0.05
Sat Flow, veh/h	1774	2585	890	1774	3632	0	1774	236	1383	1774	609	1066
Grp Volume(v), veh/h	48	310	303	757	751	0	92	0	158	0	0	44
Grp Sat Flow(s),veh/h/ln	1774	1770	1706	1774	1770	0	1774	0	1619	1774	0	1675
Q Serve(g_s), s	2.7	16.1	16.4	41.4	9.3	0.0	5.1	0.0	9.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	2.7	16.1	16.4	41.4	9.3	0.0	5.1	0.0	9.0	0.0	0.0	2.5
Prop In Lane	1.00		0.52	1.00		0.00	1.00		0.85	1.00		0.64
Lane Grp Cap(c), veh/h	61	419	404	781	2309	0	116	0	259	2	0	84
V/C Ratio(X)	0.78	0.74	0.75	0.97	0.33	0.00	0.79	0.00	0.61	0.00	0.00	0.52
Avail Cap(c_a), veh/h	171	456	439	1114	2827	0	150	0	622	54	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.6	35.1	35.2	27.2	7.6	0.0	45.8	0.0	38.8	0.0	0.0	46.0
Incr Delay (d2), s/veh	7.9	6.2	6.9	14.6	0.1	0.0	14.6	0.0	0.9	0.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	8.6	8.5	23.3	4.5	0.0	3.0	0.0	4.1	0.0	0.0	1.2
LnGrp Delay(d),s/veh	55.5	41.4	42.1	41.7	7.7	0.0	60.3	0.0	39.7	0.0	0.0	47.9
LnGrp LOS	E	D	D	D	A		E		D			D
Approach Vol, veh/h		661			1508			250			44	
Approach Delay, s/veh		42.7			24.8			47.3			47.9	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.4	29.5	10.9	9.6	8.0	70.9	0.0	20.5
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	62.4	25.6	8.4	33.0	9.6	79.4	3.0	38.2
Max Q Clear Time (g_c+I1), s	43.4	18.4	7.1	4.5	4.7	11.3	0.0	11.0
Green Ext Time (p_c), s	0.3	5.2	0.0	0.5	0.0	17.7	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	1	0	0	5	0	325	0	3	406	74
Future Vol, veh/h	0	0	1	0	0	5	0	325	0	3	406	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	5	0	353	0	3	441	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	261	-	-	177	522	0	-	353	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	738	0	0	835	1041	-	0	1202	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	738	-	-	835	1041	-	-	1202	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.3	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1041	-	738	835	1202	-	-
HCM Lane V/C Ratio	-	-	0.001	0.007	0.003	-	-
HCM Control Delay (s)	0	-	9.9	9.3	8	-	-
HCM Lane LOS	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	318	0	12	395
Future Vol, veh/h	0	7	318	0	12	395
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	346	0	13	429

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	587	173	0	0	346	0
Stage 1	346	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	441	840	-	-	1210	-
Stage 1	688	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	436	840	-	-	1210	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	840	1210	-
HCM Lane V/C Ratio	-	-	-	0.009	0.011	-
HCM Control Delay (s)	-	-	0	9.3	8	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	91	0	0	227	394	1
Future Vol, veh/h	91	0	0	227	394	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	0	0	247	428	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	552	215	429	0	-	0
Stage 1	429	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	464	790	1127	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	464	790	1127	-	-	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1127	-	464	-	-
HCM Lane V/C Ratio	-	-	0.213	-	-
HCM Control Delay (s)	0	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Summary of All Intervals

Run Number	10	12	16	17	18	20	7
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9926	9918	10041	10041	10086	10059	10086
Vehs Exited	9450	9437	9343	9423	9481	9575	9481
Starting Vehs	570	664	541	538	522	602	522
Ending Vehs	1046	1145	1239	1156	1127	1086	1127
Travel Distance (mi)	6903	6959	6885	6910	6976	7044	6976
Travel Time (hr)	1318.7	1403.9	1412.8	1387.5	1292.9	1296.2	1292.9
Total Delay (hr)	1105.5	1189.2	1200.6	1174.9	1077.8	1078.8	1077.8
Total Stops	27506	26969	28232	27266	25922	27331	25922
Fuel Used (gal)	512.6	535.3	533.3	530.8	511.3	513.1	511.3

Summary of All Intervals

Run Number	097909004\03 Analysis Files\Synchro Files\Cumulative_PM			Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	10059	10088	9804	10008
Vehs Exited	9575	9650	9261	9466
Starting Vehs	602	619	590	570
Ending Vehs	1086	1057	1133	1110
Travel Distance (mi)	7044	7022	6762	6948
Travel Time (hr)	1296.2	1299.8	1481.0	1348.2
Total Delay (hr)	1078.8	1083.6	1272.6	1134.0
Total Stops	27331	28592	27796	27288
Fuel Used (gal)	513.1	514.3	545.9	522.1

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	10	12	16	17	18	20	7
Vehs Entered	2620	2595	2596	2712	2668	2656	2668
Vehs Exited	2382	2516	2446	2428	2422	2518	2422
Starting Vehs	570	664	541	538	522	602	522
Ending Vehs	808	743	691	822	768	740	768
Travel Distance (mi)	1796	1833	1823	1842	1819	1869	1819
Travel Time (hr)	181.2	192.0	171.7	167.1	164.7	182.1	164.7
Total Delay (hr)	125.9	135.3	115.5	110.7	108.5	124.6	108.5
Total Stops	6262	6242	5787	5924	5716	5945	5716
Fuel Used (gal)	96.3	100.1	95.2	94.7	93.4	98.8	93.4

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	097909004\03 Analysis Files\Synchro Files\Cumulative_PM			Avg
Vehs Entered	2656	2686	2674	2649
Vehs Exited	2518	2470	2361	2448
Starting Vehs	602	619	590	570
Ending Vehs	740	835	903	777
Travel Distance (mi)	1869	1845	1788	1830
Travel Time (hr)	182.1	190.9	202.4	179.9
Total Delay (hr)	124.6	134.1	147.4	123.5
Total Stops	5945	6261	6486	6024
Fuel Used (gal)	98.8	100.6	100.6	97.2

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	10	12	16	17	18	20	7
Vehs Entered	2563	2529	2680	2652	2662	2657	2662
Vehs Exited	2424	2296	2355	2442	2379	2376	2379
Starting Vehs	808	743	691	822	768	740	768
Ending Vehs	947	976	1016	1032	1051	1021	1051
Travel Distance (mi)	1772	1753	1790	1785	1786	1773	1786
Travel Time (hr)	291.9	304.5	286.1	283.3	283.2	279.8	283.2
Total Delay (hr)	237.0	250.6	230.7	228.0	228.3	224.9	228.3
Total Stops	6967	6705	7182	7099	6712	6713	6712
Fuel Used (gal)	120.5	123.5	119.8	119.6	119.4	118.2	119.4

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	097909004\03 Analysis Files\Synchro Files\Cumulative_PM			Avg
Vehs Entered	2657	2671	2545	2628
Vehs Exited	2376	2465	2316	2377
Starting Vehs	740	835	903	777
Ending Vehs	1021	1041	1132	1023
Travel Distance (mi)	1773	1827	1727	1777
Travel Time (hr)	279.8	278.3	327.1	289.7
Total Delay (hr)	224.9	222.0	273.9	234.9
Total Stops	6713	7561	7302	6967
Fuel Used (gal)	118.2	119.9	127.3	120.6

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	10	12	16	17	18	20	7
Vehs Entered	2318	2397	2412	2465	2354	2428	2354
Vehs Exited	2326	2348	2248	2352	2392	2389	2392
Starting Vehs	947	976	1016	1032	1051	1021	1051
Ending Vehs	939	1025	1180	1145	1013	1060	1013
Travel Distance (mi)	1653	1698	1610	1699	1699	1752	1699
Travel Time (hr)	387.7	416.9	413.3	415.3	375.5	381.2	375.5
Total Delay (hr)	336.8	364.3	363.9	363.2	323.1	327.2	323.1
Total Stops	6780	6717	7356	7622	6820	7229	6820
Fuel Used (gal)	139.8	147.4	143.5	147.4	138.5	141.5	138.5

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	097909004\03 Analysis Files\Synchro Files\Cumulative_PM			Avg
Vehs Entered	2428	2351	2346	2383
Vehs Exited	2389	2321	2390	2351
Starting Vehs	1021	1041	1132	1023
Ending Vehs	1060	1071	1088	1052
Travel Distance (mi)	1752	1666	1656	1689
Travel Time (hr)	381.2	374.3	427.9	394.9
Total Delay (hr)	327.2	322.9	376.6	342.8
Total Stops	7229	7425	7031	7099
Fuel Used (gal)	141.5	136.9	148.5	142.3

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	10	12	16	17	18	20	7
Vehs Entered	2425	2397	2353	2212	2402	2318	2402
Vehs Exited	2318	2277	2294	2201	2288	2292	2288
Starting Vehs	939	1025	1180	1145	1013	1060	1013
Ending Vehs	1046	1145	1239	1156	1127	1086	1127
Travel Distance (mi)	1683	1676	1662	1583	1672	1650	1672
Travel Time (hr)	457.9	490.5	541.7	521.8	469.5	453.2	469.5
Total Delay (hr)	405.8	438.9	490.6	473.1	417.8	402.2	417.8
Total Stops	7497	7305	7907	6621	6674	7444	6674
Fuel Used (gal)	156.1	164.2	174.8	169.0	159.9	154.7	159.9

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	097909004\03 Analysis Files\Synchro Files\Cumulative_PM			Avg
Vehs Entered	2318	2380	2239	2347
Vehs Exited	2292	2394	2194	2282
Starting Vehs	1060	1071	1088	1052
Ending Vehs	1086	1057	1133	1110
Travel Distance (mi)	1650	1684	1591	1652
Travel Time (hr)	453.2	456.3	523.6	483.7
Total Delay (hr)	402.2	404.7	474.7	432.8
Total Stops	7444	7345	6977	7191
Fuel Used (gal)	154.7	156.9	169.5	162.0

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	2.1	0.7	2.6	0.0	0.0	0.0	27.1	109.8	4.8
Denied Del/Veh (s)	0.0	0.0	0.0	28.7	27.3	28.2	0.0	0.0	0.0	419.9	423.2	382.6
Total Delay (hr)	4.3	7.7	3.2	13.2	3.2	9.7	1.9	9.6	0.1	17.0	27.4	0.1
Total Del/Veh (s)	59.5	83.5	36.8	182.8	125.2	107.2	57.8	32.2	10.1	347.6	142.8	9.7
Stop Delay (hr)	3.7	6.7	3.1	12.1	2.8	8.5	1.8	7.1	0.0	16.6	25.1	0.1
Stop Del/Veh (s)	51.8	73.5	35.5	167.8	110.2	94.0	52.8	23.9	7.4	340.5	130.5	5.3

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	147.0
Denied Del/Veh (s)	132.8
Total Delay (hr)	97.3
Total Del/Veh (s)	94.7
Stop Delay (hr)	87.7
Stop Del/Veh (s)	85.3

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.7	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	14.8	14.9	12.7	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	3.5	17.1	0.0	11.8	19.1	1.7	46.0	5.0	0.5	0.2	17.9	0.0
Total Del/Veh (s)	135.3	438.4	5.2	231.9	274.3	258.3	161.8	16.2	6.6	108.3	57.9	1.3
Stop Delay (hr)	3.4	17.0	0.0	11.4	18.5	1.6	41.3	2.8	0.1	0.1	15.4	0.0
Stop Del/Veh (s)	130.5	437.6	1.2	223.6	265.6	251.5	145.2	9.0	1.5	104.2	49.7	0.6

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	1.9
Denied Del/Veh (s)	1.6
Total Delay (hr)	122.8
Total Del/Veh (s)	101.8
Stop Delay (hr)	111.6
Stop Del/Veh (s)	92.5

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.0	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	1.2	0.1	15.4	1.1	1.6	2.4	21.8
Total Del/Veh (s)	11.2	0.7	26.9	6.4	31.4	7.6	16.5
Stop Delay (hr)	0.8	0.0	9.3	0.1	1.3	0.4	11.9
Stop Del/Veh (s)	7.2	0.0	16.3	0.3	24.9	1.3	9.0

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.0	0.0	10.1	1.6	99.2	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.9	0.2	0.2	437.6	481.4	432.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	6.8	0.5	0.2	4.1	0.6	27.0	0.0	46.6	0.9	10.7	3.8	0.0
Total Del/Veh (s)	56.2	50.4	14.3	232.4	221.4	150.2	154.5	97.8	22.3	68.0	15.6	1.9
Stop Delay (hr)	6.3	0.5	0.2	4.1	0.6	26.3	0.0	37.1	0.7	9.3	2.5	0.0
Stop Del/Veh (s)	51.7	47.2	13.3	232.8	223.5	146.4	133.7	77.9	17.6	59.6	10.3	1.2

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	111.2
Denied Del/Veh (s)	83.9
Total Delay (hr)	101.3
Total Del/Veh (s)	78.9
Stop Delay (hr)	87.7
Stop Del/Veh (s)	68.3

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	28.4	7.1	0.8	15.6	3.6	0.9	10.6	14.8	3.8	11.1	4.7	0.5
Total Del/Veh (s)	247.9	45.7	35.8	130.7	38.3	17.4	372.0	41.6	31.3	171.4	29.7	9.2
Stop Delay (hr)	27.6	5.7	0.7	14.7	2.9	0.8	10.7	12.7	3.5	10.6	3.3	0.4
Stop Del/Veh (s)	241.1	36.9	31.4	123.2	30.8	15.0	372.6	35.7	29.1	163.9	20.8	6.5

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	102.0
Total Del/Veh (s)	76.0
Stop Delay (hr)	93.6
Stop Del/Veh (s)	69.7

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.9	20.5	4.7	0.1	0.0	0.0	8.5	0.4	11.8
Denied Del/Veh (s)	0.0	0.0	0.0	91.7	94.4	94.4	6.3	3.4	3.3	173.8	139.1	173.0
Total Delay (hr)	4.6	6.0	0.1	3.6	59.4	7.6	2.8	0.1	0.1	6.6	0.4	7.3
Total Del/Veh (s)	68.5	22.7	10.3	375.3	293.1	165.2	172.5	29.0	12.2	141.9	119.7	113.6
Stop Delay (hr)	4.2	3.9	0.0	3.6	55.7	6.7	2.8	0.1	0.1	6.4	0.4	7.1
Stop Del/Veh (s)	62.0	14.8	5.6	368.2	275.3	144.6	170.5	26.4	11.9	137.0	114.3	110.4

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	47.0
Denied Del/Veh (s)	61.9
Total Delay (hr)	98.6
Total Del/Veh (s)	133.7
Stop Delay (hr)	91.0
Stop Del/Veh (s)	123.3

Total Zone Performance

Denied Delay (hr)	307.4
Denied Del/Veh (s)	176.0
Total Delay (hr)	545.1
Total Del/Veh (s)	671.6
Stop Delay (hr)	483.4
Stop Del/Veh (s)	595.6

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	159	175	306	294	225	1466	225	215	305	314	318	158
Average Queue (ft)	83	159	281	162	191	715	101	92	163	181	185	17
95th Queue (ft)	150	218	340	283	272	1710	214	177	259	273	280	79
Link Distance (ft)			288	288		1429			468	468	468	
Upstream Blk Time (%)			41	3		20						
Queuing Penalty (veh)			194	16		0						
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)	0	2	62		45	0	2	0	1		2	
Queuing Penalty (veh)	1	8	180		193	0	8	0	1		1	

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	125	1070	1036	991	107
Average Queue (ft)	118	927	764	439	19
95th Queue (ft)	153	1305	1309	1023	66
Link Distance (ft)		1017	1017	1017	
Upstream Blk Time (%)		75	7	1	
Queuing Penalty (veh)		0	0	0	
Storage Bay Dist (ft)	100				200
Storage Blk Time (%)	41	59		1	0
Queuing Penalty (veh)	128	141		1	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	587	664	69	141	175	1242	175	575	704	712	654	631
Average Queue (ft)	248	412	5	72	154	818	50	545	613	600	260	193
95th Queue (ft)	574	716	69	125	230	1577	163	646	780	822	675	542
Link Distance (ft)	1240	1240	1240			1644			628	628	628	628
Upstream Blk Time (%)						10			31	35	1	0
Queuing Penalty (veh)						0			168	188	8	1
Storage Bay Dist (ft)				150	150		150	550				
Storage Blk Time (%)				1	0	73	0	23	46			
Queuing Penalty (veh)				2	1	144	0	137	271			

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	NB	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	TR	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	208	164	333	305	290	154	497	491	375	190
Average Queue (ft)	48	19	302	209	142	10	452	354	63	8
95th Queue (ft)	134	120	331	330	280	80	569	597	250	91
Link Distance (ft)	628		229	229	229	229	468	468	468	468
Upstream Blk Time (%)		0	81	17	3	0	19	2	0	
Queuing Penalty (veh)		0	309	65	13	1	75	7	0	
Storage Bay Dist (ft)		200								
Storage Blk Time (%)			79							
Queuing Penalty (veh)			5							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	125	72	200	594	598	574	168	91	85	210	56	67
Average Queue (ft)	58	26	161	322	224	159	13	33	24	79	7	10
95th Queue (ft)	103	54	250	684	569	432	114	72	61	158	30	39
Link Distance (ft)	1203			569	569	569	569			628	628	628
Upstream Blk Time (%)				6	2	0						
Queuing Penalty (veh)				45	15	1						
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)			27	18								
Queuing Penalty (veh)			159	106								

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	55
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	628
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	T	T	T	R
Maximum Queue (ft)	244	280	77	92	125	569	553	87	790	780	789	773
Average Queue (ft)	158	179	18	38	93	536	504	5	542	540	549	311
95th Queue (ft)	232	254	53	75	173	593	614	54	899	901	896	819
Link Distance (ft)			778	778		520	520		837	837	837	837
Upstream Blk Time (%)						92	20		5	4	5	1
Queuing Penalty (veh)						0	0		24	19	27	8
Storage Bay Dist (ft)	350	350			100			225				
Storage Blk Time (%)					2	90			52			
Queuing Penalty (veh)					9	71			1			

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	317	327	434	198	236	48
Average Queue (ft)	220	230	169	88	95	13
95th Queue (ft)	311	321	372	164	186	34
Link Distance (ft)			569	569	569	569
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			2			
Storage Bay Dist (ft)	325	325				
Storage Blk Time (%)	0	1	2			
Queuing Penalty (veh)	1	3	11			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	B40	B40	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	TR	T	T	L	L	T	T	R	L
Maximum Queue (ft)	337	350	435	342	582	571	187	200	334	287	158	278
Average Queue (ft)	329	346	412	203	534	61	183	198	310	103	73	216
95th Queue (ft)	360	367	440	315	724	345	198	214	382	207	139	348
Link Distance (ft)			355	355	548	548			312	312	312	
Upstream Blk Time (%)	0	29	70	0	43	1			32	0		18
Queuing Penalty (veh)	0	0	473	1	295	4			116	2		0
Storage Bay Dist (ft)	325	325					175	175				270
Storage Blk Time (%)	18	74	5				14	56	0			44
Queuing Penalty (veh)	61	254	32				26	106	2			139

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB
Directions Served	T	T	T	T	R	T	T	T	T	T	T	L
Maximum Queue (ft)	368	330	332	352	63	278	266	276	150	135	154	216
Average Queue (ft)	287	215	203	219	50	95	83	67	32	31	21	137
95th Queue (ft)	421	333	314	352	56	298	280	263	164	169	147	257
Link Distance (ft)	278	278	278	278		242	242	242	496	496	496	
Upstream Blk Time (%)	43	3	2	8		15	7	4			0	
Queuing Penalty (veh)	0	0	0	0		0	0	0			0	
Storage Bay Dist (ft)					25							225
Storage Blk Time (%)	40			20	43							8
Queuing Penalty (veh)	39			89	135							17

Intersection: 5: Latrobe Road & White Rock Road

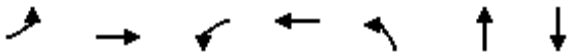
Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	224	339	253	187	96
Average Queue (ft)	144	121	81	53	18
95th Queue (ft)	271	320	175	134	67
Link Distance (ft)		837	837	837	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	225				250
Storage Blk Time (%)	13	0			
Queuing Penalty (veh)	27	1			

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	104	350	365	135	145	1545	1539	160	80	75	456
Average Queue (ft)	100	250	236	17	56	1163	1106	86	24	72	390
95th Queue (ft)	118	379	378	77	154	1945	1947	183	78	88	533
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)		5	3			46	25	6	1		65
Queuing Penalty (veh)		33	24			0	0	0	0		0
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	52	13	21	0	0	80				62	42
Queuing Penalty (veh)	278	39	6	0	1	34				161	74

Zone Summary

Zone wide Queuing Penalty: 5237



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	33	1101	175	583	337	502	85
v/c Ratio	0.41	0.82	0.80	0.33	0.82	0.69	0.45
Control Delay	72.1	39.2	76.9	20.5	61.1	19.7	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.1	39.2	76.9	20.5	61.1	19.7	26.6
Queue Length 50th (ft)	24	358	124	131	229	156	19
Queue Length 95th (ft)	67	#674	#311	259	#511	268	65
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	106	1364	225	1775	416	935	522
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.81	0.78	0.33	0.81	0.54	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	886	127	161	536	0	310	21	441	0	25	53
Future Volume (veh/h)	30	886	127	161	536	0	310	21	441	0	25	53
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	963	138	175	583	0	337	23	479	0	27	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	1217	174	205	1745	0	366	25	515	2	48	102
Arrive On Green	0.02	0.39	0.39	0.12	0.49	0.00	0.21	0.34	0.34	0.00	0.09	0.09
Sat Flow, veh/h	1774	3109	445	1774	3632	0	1774	73	1521	1774	528	1134
Grp Volume(v), veh/h	33	548	553	175	583	0	337	0	502	0	0	85
Grp Sat Flow(s),veh/h/ln	1774	1770	1784	1774	1770	0	1774	0	1594	1774	0	1663
Q Serve(g_s), s	1.9	28.6	28.6	10.1	10.5	0.0	19.5	0.0	31.8	0.0	0.0	5.1
Cycle Q Clear(g_c), s	1.9	28.6	28.6	10.1	10.5	0.0	19.5	0.0	31.8	0.0	0.0	5.1
Prop In Lane	1.00		0.25	1.00		0.00	1.00		0.95	1.00		0.68
Lane Grp Cap(c), veh/h	41	693	698	205	1745	0	366	0	540	2	0	150
V/C Ratio(X)	0.80	0.79	0.79	0.85	0.33	0.00	0.92	0.00	0.93	0.00	0.00	0.57
Avail Cap(c_a), veh/h	117	757	764	247	1809	0	458	0	865	51	0	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	28.1	28.1	45.4	16.1	0.0	40.7	0.0	33.4	0.0	0.0	45.6
Incr Delay (d2), s/veh	12.4	5.5	5.5	18.6	0.1	0.0	19.2	0.0	8.1	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	14.9	15.2	6.0	5.1	0.0	11.5	0.0	15.2	0.0	0.0	2.4
LnGrp Delay(d),s/veh	63.3	33.6	33.6	64.0	16.2	0.0	59.9	0.0	41.5	0.0	0.0	46.9
LnGrp LOS	E	C	C	E	B		E		D			D
Approach Vol, veh/h		1134			758			839			85	
Approach Delay, s/veh		34.5			27.3			48.9			46.9	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	47.0	26.0	14.0	7.0	57.6	0.0	40.0
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	14.6	44.8	27.0	33.0	6.9	53.5	3.0	56.8
Max Q Clear Time (g_c+I1), s	12.1	30.6	21.5	7.1	3.9	12.5	0.0	33.8
Green Ext Time (p_c), s	0.0	10.4	0.1	1.6	0.0	20.9	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	4	0	0	32	2	904	0	16	181	69
Future Vol, veh/h	0	0	4	0	0	32	2	904	0	16	181	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	35	2	983	0	17	197	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	136	-	-	491	272	0	0	983	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	888	0	0	523	1288	-	-	698	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	888	-	-	523	1288	-	-	698	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	12.4	0	0.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1288	-	-	888	523	698	-	-
HCM Lane V/C Ratio	0.002	-	-	0.005	0.067	0.025	-	-
HCM Control Delay (s)	7.8	-	-	9.1	12.4	10.3	-	-
HCM Lane LOS	A	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	17	889	9	33	152
Future Vol, veh/h	6	17	889	9	33	152
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	18	966	10	36	165

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1125	488	0	0	976	0
Stage 1	971	-	-	-	-	-
Stage 2	154	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	199	526	-	-	703	-
Stage 1	328	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	189	526	-	-	703	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	328	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	189	526	703	-
HCM Lane V/C Ratio	-	-	0.035	0.035	0.051	-
HCM Control Delay (s)	-	-	24.7	12.1	10.4	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	0.2	-

Intersection	
Int Delay, s/veh	1.6

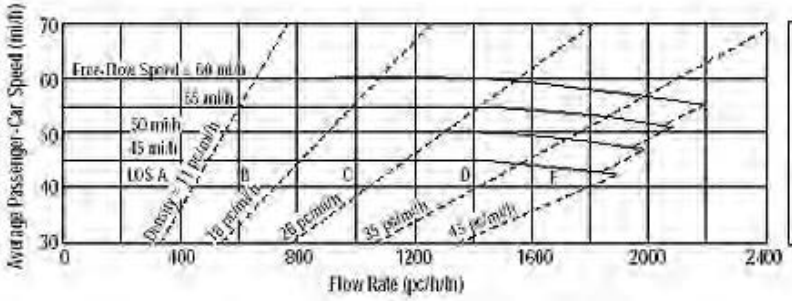
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	105	1	0	793	147	11
Future Vol, veh/h	105	1	0	793	147	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	1	0	862	160	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	597	86	172	0	-	0
Stage 1	166	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	434	956	1402	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	434	956	1402	-	-	-
Mov Cap-2 Maneuver	434	-	-	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1402	-	436	-	-
HCM Lane V/C Ratio	-	-	0.264	-	-
HCM Control Delay (s)	0	-	16.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	AM NB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035)

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	330	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	184
Speed, S (mi/h)	45.0
D (pc/mi/ln)	4.1
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*179.3*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.88*
Bicycle level of service (Exhibit 15-4)	*B*

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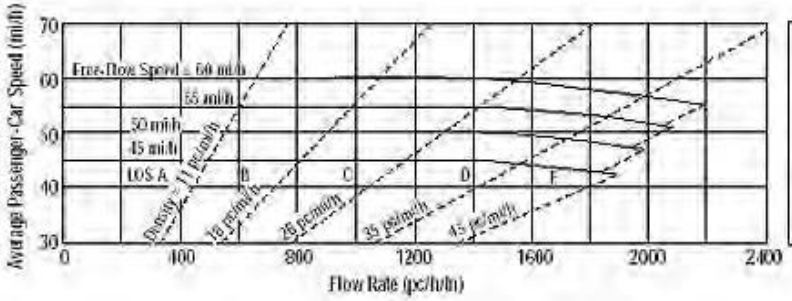
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	AM SB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035)

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	483	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	270
Speed, S (mi/h)	45.0
D (pc/mi/ln)	6.0
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*262.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.07*
Bicycle level of service (Exhibit 15-4)	*B*

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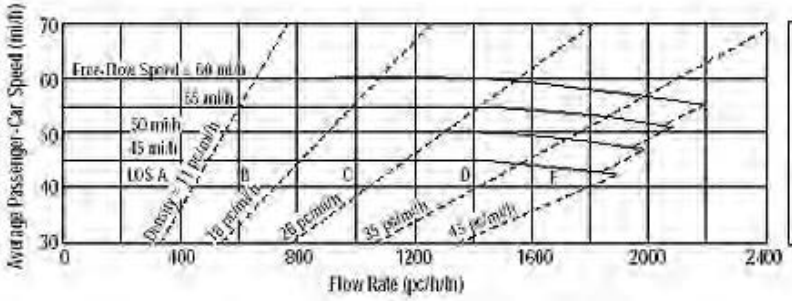
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	PM NB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035)

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	936	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	523
Speed, S (mi/h)	45.0
D (pc/mi/ln)	11.6
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*508.7*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.41*
Bicycle level of service (Exhibit 15-4)	*B*

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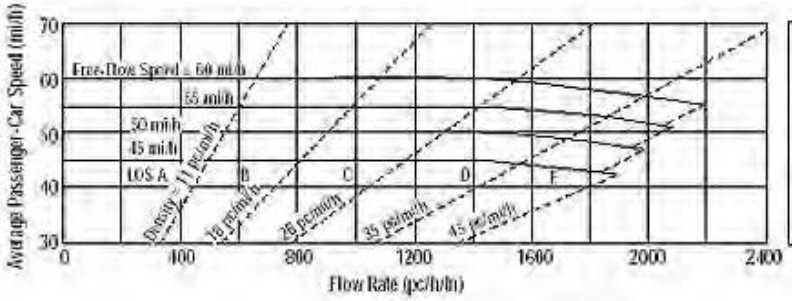
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	PM SB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035)

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	266	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	148
Speed, S (mi/h)	45.0
D (pc/mi/ln)	3.3
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*144.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.77*
Bicycle level of service (Exhibit 15-4)	*B*

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	Segment Inputs				Cumulative Conditions													
					Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westt Eastb	West of Latrobe Rd SB Off Ramp	6690	3	0.33	3,041	3,785	1134.87	74.12	75	74.7986	15.172	B	1412.518	74.12	75	73.1162	19.3	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	1,677	2,421	625.837	73.6	75	73.4502	8.5206	A	903.4891	73.6	75	74.8969	12.063	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	3	0.50	3,718	4,033	1387.51	73.6	75	73.3376	18.92	C	1505.069	73.6	75	72.1761	20.853	C
	West of El Dorado Hills Blvd On Ramp	5890	3	0.33	4,816	5,533	1797.28	74.12	75	67.9634	26.445	D	2064.851	74.12	75	62.4476	33.065	D

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Cumulative Conditions

Segment Inputs				AM Flow Inputs			AM LOS Performance Measures											PM Flow Inputs			PM LOS Performance Measures										
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
⇔ El Dorado Hills Blvd On Ramp	3	1	795	4816	3718	1098	5392	4163	1229	119	0.5998	2496.5	7200	833	1872	2497	0.7489	28.986	D	5533	4033	1500	6195	4515	1679	129	0.5998	2708	7200	904	2031	2708	0.8604	33.939	D

Univeral Inputs:

Length	1500	(ft)
S_{FU}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Cumulative Conditions

	Segment Inputs				AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures											
	Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB Latrobe SB Off Ramp	3	1	430	140	1895	3041	1146	244.065	3404.6	1283	0.436	2208	7200	598	1656	2208	0.4729	21.981	C	4387	5533	1146	244.065	6194.6	1283	0.436	3424.4	7200	1385	2568	3424	0.8604	32.442	D
Latrobe NB Off Ramp	3	1	-	140	1677	1895	218	-	2121.6	244.07	0.6957	1550.3	7200	571	1163	1550	0.2947	16.325	B	4169	4387	218	-	4911.5	244.07	0.626	3165.8	7200	1746	2374	3166	0.6822	30.218	D

Univeral Inputs:

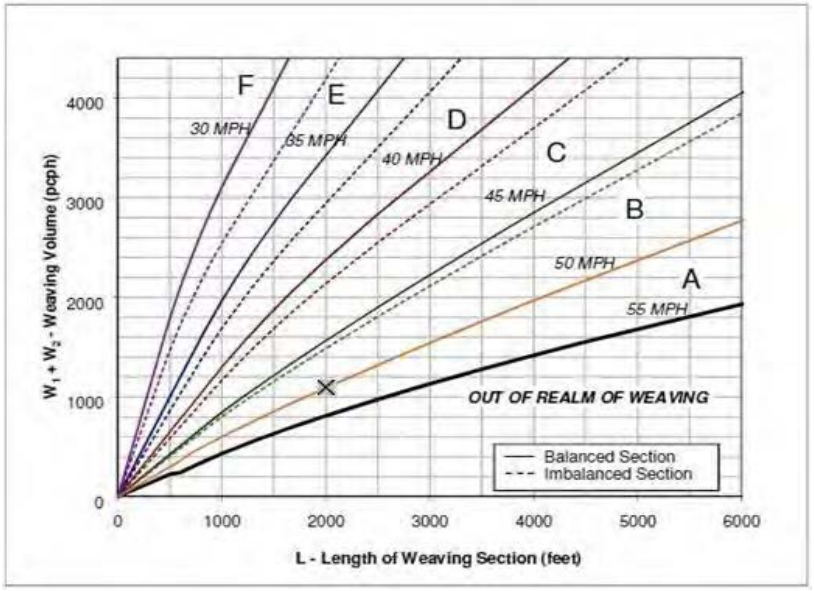
Lengt	1500 (ft)
S_{FF}	70 (mi/h)
S_{FR}	35 (mi/h)
PHF	0.92
(P_T)	6%
f_{HV}	0.970873786

EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) Conditons (AM)

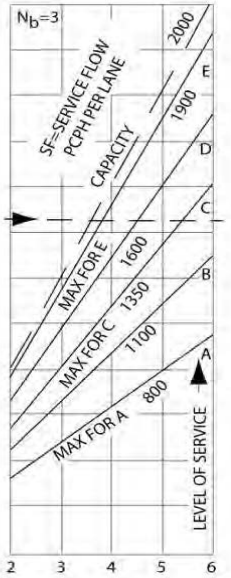
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	2,333	Volume (vph)	656	Volume (vph)	290
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,380	Volume (pcph)	663	Volume (pcph)	293

W1 + W2	955
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	50.0
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	595
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

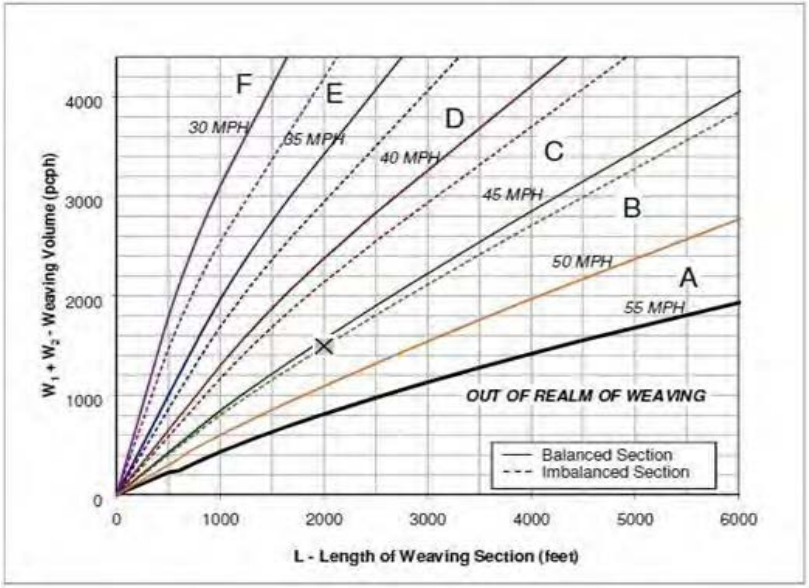


EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) Conditons (PM)

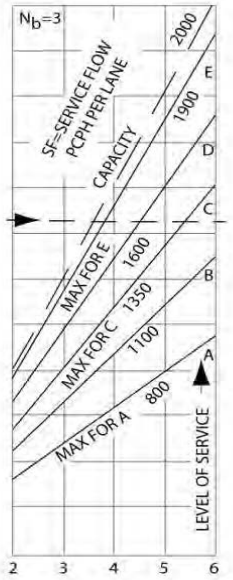
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	3,077	Volume (vph)	656	Volume (vph)	670
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,139	Volume (pcph)	663	Volume (pcph)	677

W1 + W2	1,339
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	45.4
Weaving Intensity Factor (k)	1.60
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	884
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

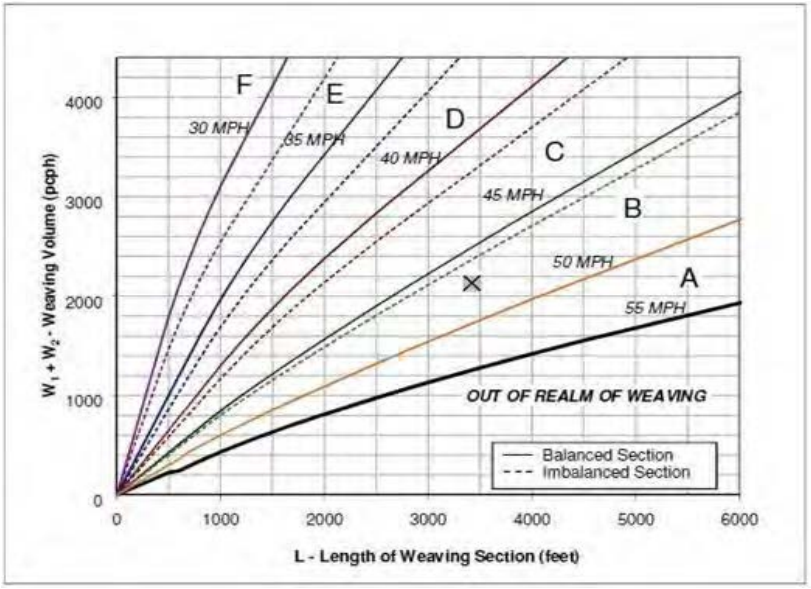


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) Conditons (AM)

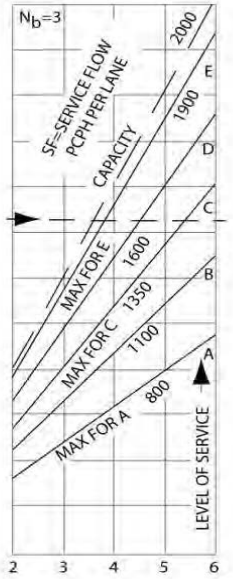
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,140	Volume (vph)	1,180	Volume (vph)	422
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,181	Volume (pcph)	1,192	Volume (pcph)	426

W1 + W2	1,618
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.8
Weaving Intensity Factor (k)	1.40
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,088
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

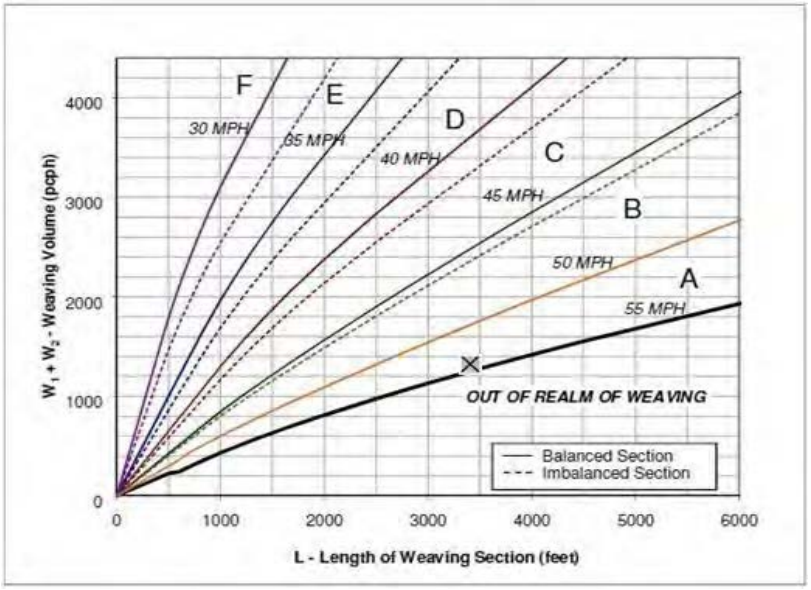


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) Conditons (PM)

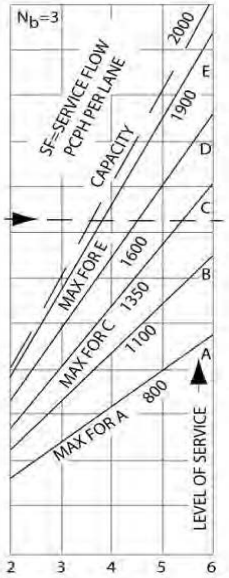
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,276	Volume (vph)	500	Volume (vph)	243
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,319	Volume (pcph)	505	Volume (pcph)	245

W1 + W2	750
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	54.8
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,080
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

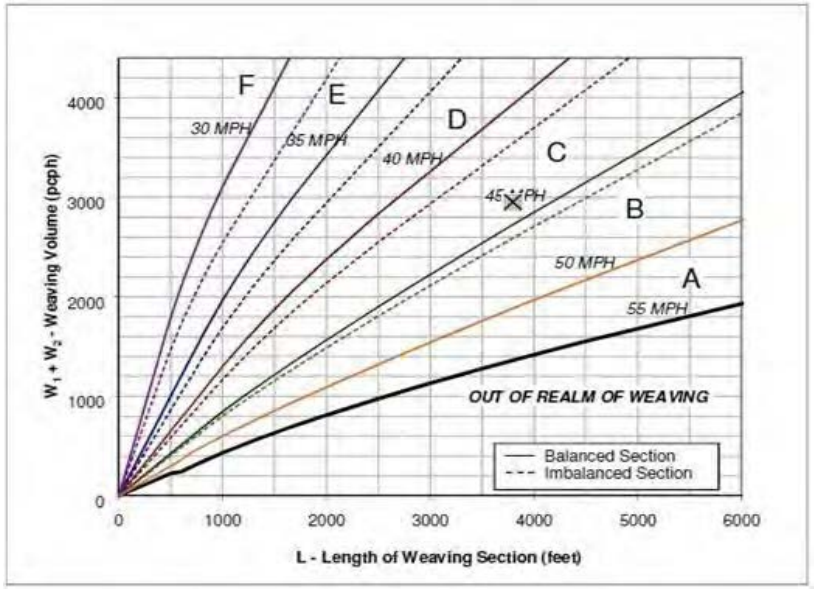


WB US-50, West of El Dorado Hills On Ramp, Cumulative (2035) Conditons (AM)

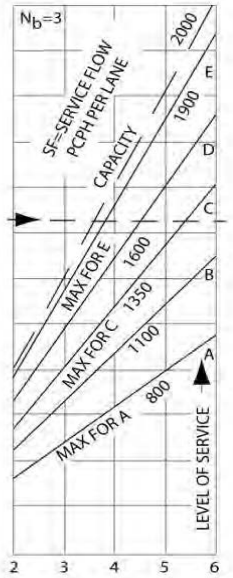
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3775

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,816	Volume (vph)	1,098	Volume (vph)	1,340
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,864	Volume (pcph)	1,109	Volume (pcph)	1,353

W1 + W2	2,462
In between	
Speed 1	40
Speed 2	45
Interpolated Weaving Speed (Sw, mph)	43.8
Weaving Intensity Factor (k)	1.65
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,396
Level of Service (LOS)	D



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

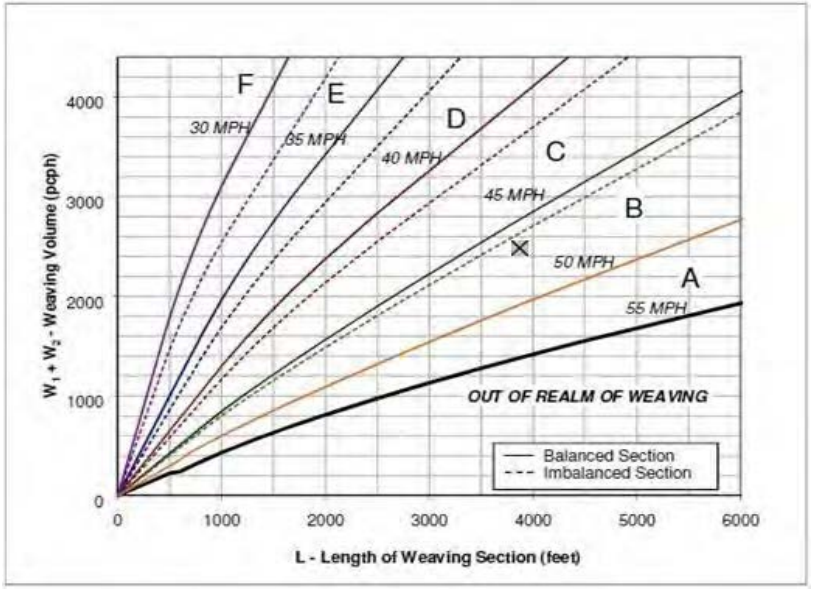


WB US-50, West of El Dorado Hills On Ramp, Cumulative (2035) Conditons (PM)

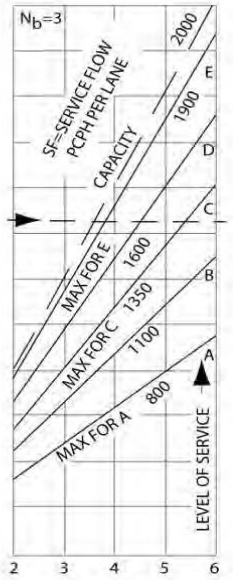
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3775

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	5,533	Volume (vph)	1,500	Volume (vph)	1,100
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,588	Volume (pcph)	1,515	Volume (pcph)	1,111

W1 + W2	2,626
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.0
Weaving Intensity Factor (k)	1.20
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,453
Level of Service (LOS)	D



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS



Appendix E

Analysis Worksheets for
Cumulative (2035) plus Proposed Project Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9541	9503	9394	9545	9509	9566	9328
Vehs Exited	9435	9434	9230	9463	9380	9366	9211
Starting Vehs	410	443	442	447	417	413	374
Ending Vehs	516	512	606	529	546	613	491
Travel Distance (mi)	6851	6923	6810	6904	6860	6860	6750
Travel Time (hr)	522.4	516.6	510.7	514.0	547.0	517.6	456.4
Total Delay (hr)	310.3	303.1	300.6	301.2	335.7	306.1	248.3
Total Stops	19387	20009	18806	19369	20455	19018	18476
Fuel Used (gal)	324.1	326.1	322.9	324.6	331.7	323.3	307.7

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	9465	9340	9427	9459
Vehs Exited	9336	9236	9388	9347
Starting Vehs	416	393	407	415
Ending Vehs	545	497	446	524
Travel Distance (mi)	6826	6728	6848	6836
Travel Time (hr)	514.9	502.2	497.4	509.9
Total Delay (hr)	303.8	294.1	285.5	298.9
Total Stops	19390	19249	19638	19376
Fuel Used (gal)	323.5	316.7	321.0	322.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2326	2304	2289	2408	2305	2276	2344
Vehs Exited	2269	2284	2305	2398	2265	2243	2283
Starting Vehs	410	443	442	447	417	413	374
Ending Vehs	467	463	426	457	457	446	435
Travel Distance (mi)	1654	1679	1694	1730	1671	1652	1666
Travel Time (hr)	102.6	109.6	107.7	113.2	107.8	106.5	104.2
Total Delay (hr)	51.2	57.6	55.4	59.6	56.4	55.4	52.8
Total Stops	4100	4498	4340	4572	4256	4236	4261
Fuel Used (gal)	72.6	75.5	75.6	77.7	75.1	73.9	74.5

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2330	2293	2331	2316
Vehs Exited	2279	2202	2283	2279
Starting Vehs	416	393	407	415
Ending Vehs	467	484	455	451
Travel Distance (mi)	1677	1622	1680	1673
Travel Time (hr)	110.7	107.9	118.5	108.9
Total Delay (hr)	58.7	57.7	66.4	57.1
Total Stops	4609	4476	4786	4412
Fuel Used (gal)	76.6	72.6	78.4	75.2

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2504	2507	2454	2576	2588	2575	2407
Vehs Exited	2408	2406	2328	2446	2382	2463	2359
Starting Vehs	467	463	426	457	457	446	435
Ending Vehs	563	564	552	587	663	558	483
Travel Distance (mi)	1799	1782	1750	1818	1775	1810	1748
Travel Time (hr)	132.1	127.9	129.5	132.8	137.4	124.8	117.1
Total Delay (hr)	76.7	73.0	75.6	76.8	82.8	69.1	63.3
Total Stops	5154	5163	4965	5177	5332	4988	4866
Fuel Used (gal)	84.0	82.4	82.7	84.5	84.5	82.4	79.7

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2514	2502	2473	2511
Vehs Exited	2433	2400	2378	2399
Starting Vehs	467	484	455	451
Ending Vehs	548	586	550	564
Travel Distance (mi)	1784	1766	1748	1778
Travel Time (hr)	127.4	135.9	127.1	129.2
Total Delay (hr)	72.4	81.4	73.1	74.4
Total Stops	4966	5273	5093	5098
Fuel Used (gal)	82.5	83.9	81.8	82.8

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2360	2354	2270	2272	2361	2330	2311
Vehs Exited	2334	2371	2316	2314	2437	2338	2276
Starting Vehs	563	564	552	587	663	558	483
Ending Vehs	589	547	506	545	587	550	518
Travel Distance (mi)	1689	1743	1669	1681	1743	1693	1662
Travel Time (hr)	146.5	143.7	130.2	135.2	158.8	136.8	112.7
Total Delay (hr)	94.2	90.0	78.7	83.6	105.1	84.5	61.4
Total Stops	5233	5327	4628	4865	5687	5017	4505
Fuel Used (gal)	83.8	85.3	80.1	81.7	89.3	81.9	75.5

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2321	2257	2367	2321
Vehs Exited	2313	2372	2406	2345
Starting Vehs	548	586	550	564
Ending Vehs	556	471	511	535
Travel Distance (mi)	1686	1685	1746	1700
Travel Time (hr)	132.6	132.4	132.9	136.2
Total Delay (hr)	80.4	80.1	78.8	83.7
Total Stops	4837	4844	5234	5016
Fuel Used (gal)	80.8	81.8	83.3	82.4

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2351	2338	2381	2289	2255	2385	2266
Vehs Exited	2424	2373	2281	2305	2296	2322	2293
Starting Vehs	589	547	506	545	587	550	518
Ending Vehs	516	512	606	529	546	613	491
Travel Distance (mi)	1710	1719	1698	1676	1671	1706	1674
Travel Time (hr)	141.2	135.4	143.3	132.8	143.0	149.5	122.4
Total Delay (hr)	88.3	82.5	90.9	81.2	91.4	97.1	70.8
Total Stops	4900	5021	4873	4755	5180	4777	4844
Fuel Used (gal)	83.6	82.9	84.5	80.7	82.8	85.1	78.0

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2300	2288	2256	2309
Vehs Exited	2311	2262	2321	2315
Starting Vehs	556	471	511	535
Ending Vehs	545	497	446	524
Travel Distance (mi)	1679	1655	1673	1686
Travel Time (hr)	144.3	126.1	118.9	135.7
Total Delay (hr)	92.2	75.0	67.2	83.7
Total Stops	4978	4656	4525	4851
Fuel Used (gal)	83.5	78.4	77.6	81.7

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	1.3	0.5	1.4	0.0	0.0	0.0	1.4	0.4	1.2
Total Delay (hr)	1.1	1.2	1.3	1.6	1.6	0.4	18.8	3.5	0.0	4.4	14.0	0.5
Total Del/Veh (s)	36.9	37.4	17.1	33.7	29.0	8.6	276.8	17.4	7.5	79.8	33.4	9.8
Stop Delay (hr)	1.1	1.0	1.2	1.4	1.3	0.3	18.8	2.4	0.0	3.8	8.5	0.2
Stop Del/Veh (s)	34.0	32.2	15.8	29.4	23.9	6.7	276.7	12.1	6.0	67.9	20.4	4.3

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	0.5
Denied Del/Veh (s)	0.4
Total Delay (hr)	48.4
Total Del/Veh (s)	45.0
Stop Delay (hr)	40.0
Stop Del/Veh (s)	37.1

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	2.2	1.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	7.2	4.6	0.2	2.1	4.8	1.4	12.7	6.9	0.3	0.2	14.3	0.5
Total Del/Veh (s)	199.1	119.0	3.9	67.7	81.9	117.9	83.0	30.0	5.4	52.8	34.6	4.3
Stop Delay (hr)	7.1	4.4	0.0	2.0	4.4	1.4	11.4	5.2	0.1	0.2	10.9	0.3
Stop Del/Veh (s)	196.2	114.1	0.0	62.3	75.3	113.6	74.6	22.9	1.4	49.2	26.5	2.3

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	55.2
Total Del/Veh (s)	46.1
Stop Delay (hr)	47.3
Stop Del/Veh (s)	39.6

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.9	0.0	0.0	0.0	0.0	0.0	0.9
Denied Del/Veh (s)	2.6	0.3	0.0	0.0	0.0	0.0	0.7
Total Delay (hr)	7.4	0.0	3.8	0.6	1.5	4.1	17.3
Total Del/Veh (s)	22.1	0.6	10.7	5.6	16.9	10.0	12.7
Stop Delay (hr)	4.4	0.0	1.5	0.0	0.9	0.8	7.6
Stop Del/Veh (s)	13.2	0.0	4.2	0.3	9.9	2.0	5.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.3	0.1	0.1	3.3	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.4	0.1	0.0	1.9	0.5	2.7	0.6	10.4	0.2	4.7	9.3	1.1
Total Del/Veh (s)	30.0	33.2	10.8	53.9	49.9	23.1	41.1	31.6	6.8	29.4	20.1	9.1
Stop Delay (hr)	0.4	0.1	0.0	1.7	0.5	2.4	0.5	6.6	0.1	3.8	5.6	0.6
Stop Del/Veh (s)	28.1	30.2	10.9	49.1	44.6	20.2	33.3	20.2	5.4	23.7	12.1	5.1

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	31.9
Total Del/Veh (s)	24.7
Stop Delay (hr)	22.3
Stop Del/Veh (s)	17.3

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	6.2	2.1	0.7	8.0	8.2	0.5	11.5	6.3	0.2	2.4	11.4	16.6
Total Del/Veh (s)	67.1	51.3	27.0	56.7	50.8	11.5	203.4	27.5	4.2	68.4	41.5	88.2
Stop Delay (hr)	5.8	1.9	0.7	7.0	6.7	0.4	11.2	5.5	0.2	2.1	7.8	13.8
Stop Del/Veh (s)	63.0	45.6	25.0	49.7	41.7	9.2	198.6	24.0	4.1	60.5	28.5	73.1

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	74.2
Total Del/Veh (s)	55.5
Stop Delay (hr)	63.2
Stop Del/Veh (s)	47.3

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.7	0.5	0.3	0.1	0.1	0.1	3.8	0.4	0.3
Total Delay (hr)	1.7	0.7	0.0	1.4	20.6	1.9	0.6	0.0	0.0	0.4	0.1	0.8
Total Del/Veh (s)	43.6	9.4	3.1	117.4	69.2	33.7	54.0	32.0	4.5	38.6	29.6	18.9
Stop Delay (hr)	1.5	0.4	0.0	1.2	15.1	1.2	0.5	0.0	0.0	0.4	0.1	0.7
Stop Del/Veh (s)	39.4	5.5	1.4	100.5	50.9	22.0	51.8	29.5	4.6	35.2	25.3	17.4

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.4
Total Delay (hr)	28.1
Total Del/Veh (s)	50.9
Stop Delay (hr)	21.2
Stop Del/Veh (s)	38.5

Total Zone Performance

Denied Delay (hr)	2.0
Denied Del/Veh (s)	1.1
Total Delay (hr)	255.6
Total Del/Veh (s)	405.4
Stop Delay (hr)	201.6
Stop Del/Veh (s)	319.8

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	89	102	163	196	182	186	122	275	566	314	187	18
Average Queue (ft)	30	51	71	95	93	91	42	268	450	99	96	1
95th Queue (ft)	70	90	132	163	151	159	84	308	732	225	163	13
Link Distance (ft)			309	309		1449			469	469	469	
Upstream Blk Time (%)			0						69	0		
Queuing Penalty (veh)			0						225	0		
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)			1		0	0	0	85	1			
Queuing Penalty (veh)			1		1	1	0	203	3			

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	B46	B46	B46	SB	SB	SB	SB	SB
Directions Served	T	T	T	L	T	T	T	R
Maximum Queue (ft)	313	233	90	125	560	513	440	211
Average Queue (ft)	151	36	5	118	324	245	208	65
95th Queue (ft)	352	173	59	145	549	456	382	166
Link Distance (ft)	229	229	229		1017	1017	1017	
Upstream Blk Time (%)	30	0	0		0	0		
Queuing Penalty (veh)	73	1	0		0	0		
Storage Bay Dist (ft)				100				200
Storage Blk Time (%)				35	33		4	0
Queuing Penalty (veh)				173	64		7	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	370	391	100	86	174	603	175	391	436	440	331	295
Average Queue (ft)	155	190	4	29	81	227	59	233	247	206	100	94
95th Queue (ft)	392	404	80	66	180	650	157	436	480	516	303	272
Link Distance (ft)	1070	1070	1070			1644			626	626	626	626
Upstream Blk Time (%)						1			3	3	0	
Queuing Penalty (veh)						0			8	10	0	
Storage Bay Dist (ft)				150	150		150	550				
Storage Blk Time (%)				0	0	21	5	1	3			
Queuing Penalty (veh)				0	0	32	15	4	7			

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	NB	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	TR	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	210	202	321	290	301	235	229	177	144	29
Average Queue (ft)	39	17	234	172	186	74	53	23	14	2
95th Queue (ft)	159	107	355	299	303	196	222	139	88	27
Link Distance (ft)	626		229	229	229	229	469	469	469	469
Upstream Blk Time (%)		0	26	4	5	0	0			
Queuing Penalty (veh)		0	122	19	25	2	0			
Storage Bay Dist (ft)		200								
Storage Blk Time (%)			31							
Queuing Penalty (veh)			4							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	274	313	184	265	205	183	48	120	110	133	92	239
Average Queue (ft)	168	185	67	69	41	58	3	46	44	29	15	39
95th Queue (ft)	245	283	151	198	141	134	38	95	86	88	55	139
Link Distance (ft)	1203			569	569	569	569			626	626	626
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				1	0							
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)			2	2								
Queuing Penalty (veh)			6	5								

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	153
Average Queue (ft)	26
95th Queue (ft)	90
Link Distance (ft)	626
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	L	T	T	T
Maximum Queue (ft)	59	66	34	27	125	396	346	56	228	341	312	327
Average Queue (ft)	16	23	8	3	89	155	94	15	36	180	163	186
95th Queue (ft)	46	55	28	17	146	315	255	42	131	303	278	299
Link Distance (ft)			778	778		520	520			837	837	837
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					11	25				5		
Queuing Penalty (veh)					26	34				2		

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	104	211	219	248	397	475	434
Average Queue (ft)	25	117	135	105	155	239	142
95th Queue (ft)	70	184	196	196	324	455	411
Link Distance (ft)	837			569	569	569	569
Upstream Blk Time (%)					0	0	1
Queuing Penalty (veh)					0	3	4
Storage Bay Dist (ft)		325	325				
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	244	262	162	181	187	200	334	321	130	278	357	274
Average Queue (ft)	123	147	72	94	146	190	281	177	57	246	277	130
95th Queue (ft)	209	233	133	163	218	230	390	295	105	325	443	261
Link Distance (ft)			355	355			312	312	312		278	278
Upstream Blk Time (%)							12	1		23	39	0
Queuing Penalty (veh)							50	2		0	0	0
Storage Bay Dist (ft)	325	325			175	175				270		
Storage Blk Time (%)	0	0			2	12	23			36	37	
Queuing Penalty (veh)	0	0			5	33	119			74	76	

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB	SB	SB
Directions Served	T	T	R	T	T	T	T	T	T	L	L	T
Maximum Queue (ft)	152	143	54	267	225	162	179	153	65	102	208	317
Average Queue (ft)	85	46	32	101	59	20	40	34	5	32	44	173
95th Queue (ft)	140	116	59	300	213	115	232	213	74	79	136	267
Link Distance (ft)	278	278		242	242	242	496	496	496			837
Upstream Blk Time (%)				13	1	0	2	0	0			
Queuing Penalty (veh)				0	0	0	0	0	0			
Storage Bay Dist (ft)			25							225	225	
Storage Blk Time (%)		7	1								0	2
Queuing Penalty (veh)		11	3								0	3

Intersection: 5: Latrobe Road & White Rock Road

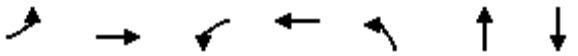
Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	373	775	275
Average Queue (ft)	184	520	260
95th Queue (ft)	298	958	324
Link Distance (ft)	837	837	
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		8	
Storage Bay Dist (ft)			250
Storage Blk Time (%)		1	49
Queuing Penalty (veh)		6	161

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	104	182	117	30	145	946	760	92	38	74	167
Average Queue (ft)	77	43	46	4	58	544	384	32	11	30	72
95th Queue (ft)	114	132	95	21	147	1102	891	72	30	67	134
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)						0	0				
Queuing Penalty (veh)						0	0				
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	15	0	0		0	51				6	22
Queuing Penalty (veh)	20	0	0		1	20				10	8

Zone Summary

Zone wide Queuing Penalty: 1690



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	631	757	767	92	158	44
v/c Ratio	0.52	0.87	0.85	0.32	0.77	0.42	0.30
Control Delay	80.2	60.8	39.7	11.2	97.2	13.4	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	60.8	39.7	11.2	97.2	13.4	30.9
Queue Length 50th (ft)	37	243	489	119	72	16	12
Queue Length 95th (ft)	93	#469	#1040	281	#208	72	47
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	137	722	889	2400	119	608	468
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.87	0.85	0.32	0.77	0.26	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	435	145	696	706	0	85	21	124	0	15	26
Future Volume (veh/h)	44	435	145	696	706	0	85	21	124	0	15	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	473	158	757	767	0	92	23	135	0	16	28
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	623	207	781	2314	0	116	38	221	2	31	53
Arrive On Green	0.03	0.24	0.24	0.44	0.65	0.00	0.07	0.16	0.16	0.00	0.05	0.05
Sat Flow, veh/h	1774	2613	867	1774	3632	0	1774	236	1383	1774	609	1066
Grp Volume(v), veh/h	48	319	312	757	767	0	92	0	158	0	0	44
Grp Sat Flow(s),veh/h/ln	1774	1770	1710	1774	1770	0	1774	0	1619	1774	0	1675
Q Serve(g_s), s	2.7	16.8	17.0	41.7	9.6	0.0	5.1	0.0	9.1	0.0	0.0	2.6
Cycle Q Clear(g_c), s	2.7	16.8	17.0	41.7	9.6	0.0	5.1	0.0	9.1	0.0	0.0	2.6
Prop In Lane	1.00		0.51	1.00		0.00	1.00		0.85	1.00		0.64
Lane Grp Cap(c), veh/h	61	422	407	781	2314	0	116	0	259	2	0	84
V/C Ratio(X)	0.78	0.76	0.77	0.97	0.33	0.00	0.79	0.00	0.61	0.00	0.00	0.52
Avail Cap(c_a), veh/h	170	453	437	1106	2808	0	149	0	618	53	0	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	35.4	35.5	27.4	7.7	0.0	46.1	0.0	39.1	0.0	0.0	46.4
Incr Delay (d2), s/veh	7.9	7.1	7.8	14.8	0.1	0.0	14.9	0.0	0.9	0.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.0	8.9	23.6	4.7	0.0	3.0	0.0	4.1	0.0	0.0	1.2
LnGrp Delay(d),s/veh	55.8	42.5	43.3	42.1	7.8	0.0	61.0	0.0	40.0	0.0	0.0	48.2
LnGrp LOS	E	D	D	D	A		E		D			D
Approach Vol, veh/h		679			1524			250			44	
Approach Delay, s/veh		43.8			24.8			47.7			48.2	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.6	29.8	11.0	9.6	8.1	71.4	0.0	20.6
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	62.4	25.6	8.4	33.0	9.6	79.4	3.0	38.2
Max Q Clear Time (g_c+I1), s	43.7	19.0	7.1	4.6	4.7	11.6	0.0	11.1
Green Ext Time (p_c), s	0.3	4.9	0.0	0.5	0.0	18.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	4	0	0	5	3	466	0	3	557	74
Future Vol, veh/h	0	0	4	0	0	5	3	466	0	3	557	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	5	3	507	0	3	605	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	343	-	-	253	686	0	-	507	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	653	0	0	746	904	-	0	1054	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	653	-	-	746	904	-	-	1054	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	9.9	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	904	-	653	746	1054	-	-
HCM Lane V/C Ratio	0.004	-	0.007	0.007	0.003	-	-
HCM Control Delay (s)	9	-	10.6	9.9	8.4	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	80	389	4	89	472
Future Vol, veh/h	8	80	389	4	89	472
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	87	423	4	97	513

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	875	214	0	0	427	0
Stage 1	425	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	289	791	-	-	1129	-
Stage 1	627	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	264	791	-	-	1129	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	264	791	1129	-
HCM Lane V/C Ratio	-	-	0.033	0.11	0.086	-
HCM Control Delay (s)	-	-	19.1	10.1	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.4	0.3	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	0	0	242	407	4
Future Vol, veh/h	94	0	0	242	407	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	0	0	263	442	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	577	223	447	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	447	780	1110	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	447	780	1110	-	-	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1110	-	447	-	-
HCM Lane V/C Ratio	-	-	0.229	-	-
HCM Control Delay (s)	0	-	15.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Summary of All Intervals

Run Number	1	11	12	14	15	19	3
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	10175	10093	9995	10148	10260	10176	10015
Vehs Exited	9555	9415	9382	9551	9670	9688	9398
Starting Vehs	553	540	534	580	587	564	548
Ending Vehs	1173	1218	1147	1177	1177	1052	1165
Travel Distance (mi)	7001	6949	6906	6889	7097	7083	6859
Travel Time (hr)	1362.0	1351.1	1354.4	1358.2	1336.4	1285.1	1375.2
Total Delay (hr)	1144.7	1136.0	1140.1	1145.0	1116.7	1065.8	1162.8
Total Stops	26568	27280	27471	26841	27585	26335	27831
Fuel Used (gal)	528.0	522.1	522.2	522.7	525.3	512.3	525.4

Summary of All Intervals

Run Number	5	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	10060	10233	10329	10146
Vehs Exited	9602	9693	9788	9573
Starting Vehs	601	597	599	563
Ending Vehs	1059	1137	1140	1138
Travel Distance (mi)	6995	7058	7106	6994
Travel Time (hr)	1332.5	1372.5	1343.4	1347.1
Total Delay (hr)	1116.4	1154.0	1123.3	1130.5
Total Stops	27908	27553	29007	27445
Fuel Used (gal)	521.8	532.7	525.7	523.8

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	11	12	14	15	19	3
Vehs Entered	2663	2695	2636	2688	2680	2695	2697
Vehs Exited	2458	2431	2416	2484	2473	2428	2444
Starting Vehs	553	540	534	580	587	564	548
Ending Vehs	758	804	754	784	794	831	801
Travel Distance (mi)	1824	1821	1820	1832	1844	1826	1806
Travel Time (hr)	175.2	166.0	157.7	180.6	181.9	176.6	178.7
Total Delay (hr)	118.5	109.6	101.3	123.9	124.9	120.0	122.9
Total Stops	5760	5987	5879	6090	6327	6229	6298
Fuel Used (gal)	96.1	94.5	92.1	97.5	98.8	96.8	96.4

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	5	8	9	Avg
Vehs Entered	2691	2710	2763	2695
Vehs Exited	2497	2553	2556	2475
Starting Vehs	601	597	599	563
Ending Vehs	795	754	806	786
Travel Distance (mi)	1846	1877	1873	1837
Travel Time (hr)	181.3	179.2	192.2	176.9
Total Delay (hr)	124.6	121.2	133.8	120.1
Total Stops	5991	6107	6535	6115
Fuel Used (gal)	98.1	98.7	101.4	97.1

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	11	12	14	15	19	3
Vehs Entered	2680	2638	2625	2596	2739	2716	2669
Vehs Exited	2425	2366	2357	2442	2507	2497	2442
Starting Vehs	758	804	754	784	794	831	801
Ending Vehs	1013	1076	1022	938	1026	1050	1028
Travel Distance (mi)	1806	1753	1777	1788	1842	1858	1818
Travel Time (hr)	283.8	273.4	264.2	274.0	271.2	280.5	293.8
Total Delay (hr)	227.9	218.9	209.1	218.6	214.0	223.2	237.5
Total Stops	6854	6945	6977	6767	7005	7391	7085
Fuel Used (gal)	120.8	116.0	114.7	117.3	118.3	121.5	122.3

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	5	8	9	Avg
Vehs Entered	2618	2673	2775	2670
Vehs Exited	2368	2388	2422	2422
Starting Vehs	795	754	806	786
Ending Vehs	1045	1039	1159	1037
Travel Distance (mi)	1760	1757	1841	1800
Travel Time (hr)	294.1	281.0	289.9	280.6
Total Delay (hr)	239.6	226.5	232.8	224.8
Total Stops	7162	6744	7781	7075
Fuel Used (gal)	121.3	118.4	122.5	119.3

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	11	12	14	15	19	3
Vehs Entered	2493	2414	2411	2457	2378	2378	2409
Vehs Exited	2408	2342	2347	2249	2352	2415	2316
Starting Vehs	1013	1076	1022	938	1026	1050	1028
Ending Vehs	1098	1148	1086	1146	1052	1013	1121
Travel Distance (mi)	1726	1697	1676	1618	1712	1710	1653
Travel Time (hr)	397.2	412.1	405.9	398.4	394.3	362.6	392.9
Total Delay (hr)	343.8	359.7	353.8	348.5	341.3	309.5	341.4
Total Stops	7129	7219	7168	7037	7127	6487	7375
Fuel Used (gal)	144.7	146.0	144.6	141.2	143.9	135.5	140.7

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	5	8	9	Avg
Vehs Entered	2343	2371	2408	2404
Vehs Exited	2336	2364	2476	2360
Starting Vehs	1045	1039	1159	1037
Ending Vehs	1052	1046	1091	1081
Travel Distance (mi)	1674	1717	1740	1692
Travel Time (hr)	391.2	403.3	376.7	393.4
Total Delay (hr)	339.4	350.3	323.0	341.1
Total Stops	7322	7318	7541	7174
Fuel Used (gal)	141.7	145.2	139.8	142.3

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	11	12	14	15	19	3
Vehs Entered	2339	2346	2323	2407	2463	2387	2240
Vehs Exited	2264	2276	2262	2376	2338	2348	2196
Starting Vehs	1098	1148	1086	1146	1052	1013	1121
Ending Vehs	1173	1218	1147	1177	1177	1052	1165
Travel Distance (mi)	1646	1678	1634	1651	1699	1689	1582
Travel Time (hr)	505.7	499.6	526.6	505.1	489.1	465.5	509.8
Total Delay (hr)	454.5	447.8	475.9	454.1	436.5	413.1	460.9
Total Stops	6825	7129	7447	6947	7126	6228	7073
Fuel Used (gal)	166.3	165.5	170.8	166.6	164.2	158.6	165.9

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	5	8	9	Avg
Vehs Entered	2408	2479	2383	2377
Vehs Exited	2401	2388	2334	2315
Starting Vehs	1052	1046	1091	1081
Ending Vehs	1059	1137	1140	1138
Travel Distance (mi)	1715	1707	1652	1665
Travel Time (hr)	466.0	509.0	484.6	496.1
Total Delay (hr)	412.8	456.0	433.7	444.5
Total Stops	7433	7384	7150	7073
Fuel Used (gal)	160.8	170.4	162.1	165.1

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	4.1	1.4	5.7	0.0	0.0	0.0	30.2	117.8	12.2
Denied Del/Veh (s)	0.0	0.0	0.0	58.2	58.6	60.9	0.0	0.0	0.0	455.0	455.2	467.5
Total Delay (hr)	4.9	7.4	4.8	14.8	3.3	11.6	6.8	9.1	0.1	16.9	28.1	0.2
Total Del/Veh (s)	59.8	82.6	44.9	215.6	143.3	127.7	124.5	31.4	10.1	354.1	151.4	10.2
Stop Delay (hr)	4.3	6.5	4.6	13.9	2.9	10.4	6.5	6.7	0.0	16.6	25.8	0.1
Stop Del/Veh (s)	52.0	72.4	43.3	201.3	128.6	114.9	118.2	23.2	7.7	347.0	139.0	5.5

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	171.4
Denied Del/Veh (s)	148.3
Total Delay (hr)	108.0
Total Del/Veh (s)	101.8
Stop Delay (hr)	98.3
Stop Del/Veh (s)	92.8

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	9.9	6.7	6.4	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay (hr)	4.6	14.9	0.0	12.7	19.7	1.7	44.6	6.0	0.6	0.1	17.8	0.1
Total Del/Veh (s)	151.3	393.4	3.9	256.2	292.3	270.5	157.6	19.4	7.2	87.3	57.5	1.9
Stop Delay (hr)	4.5	14.8	0.0	12.4	19.3	1.6	39.9	3.6	0.1	0.1	15.3	0.0
Stop Del/Veh (s)	147.0	392.1	0.0	249.8	285.2	265.7	141.2	11.6	1.6	82.8	49.3	1.0

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	1.0
Denied Del/Veh (s)	0.8
Total Delay (hr)	122.8
Total Del/Veh (s)	100.5
Stop Delay (hr)	111.6
Stop Del/Veh (s)	91.4

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.1	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	1.2	0.1	16.5	1.1	1.7	2.2	22.7
Total Del/Veh (s)	11.0	0.8	28.9	6.2	30.0	7.3	17.3
Stop Delay (hr)	0.8	0.0	10.1	0.1	1.3	0.4	12.6
Stop Del/Veh (s)	7.1	0.0	17.8	0.4	23.5	1.2	9.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.0	0.0	8.7	1.6	94.7	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.8	0.3	0.3	414.5	418.7	419.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	6.9	0.6	0.3	3.9	0.7	26.6	0.1	44.3	0.7	9.1	3.7	0.0
Total Del/Veh (s)	58.9	48.8	15.9	227.5	250.1	153.9	195.3	92.8	16.4	60.4	15.1	2.3
Stop Delay (hr)	6.4	0.5	0.2	3.9	0.7	25.9	0.0	34.9	0.5	7.9	2.4	0.0
Stop Del/Veh (s)	54.4	45.4	14.9	227.5	250.3	149.9	169.0	73.1	12.2	52.8	10.0	1.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	105.4
Denied Del/Veh (s)	80.4
Total Delay (hr)	96.7
Total Del/Veh (s)	76.1
Stop Delay (hr)	83.4
Stop Del/Veh (s)	65.7

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	28.1	6.9	0.9	15.5	3.9	0.8	9.3	13.8	3.3	8.6	4.5	0.6
Total Del/Veh (s)	236.9	45.8	34.6	131.4	40.1	15.2	337.6	39.4	27.0	136.0	28.8	9.8
Stop Delay (hr)	27.3	5.6	0.8	14.7	3.1	0.7	9.3	11.8	3.1	8.2	3.1	0.4
Stop Del/Veh (s)	230.3	37.0	30.2	123.8	32.5	12.7	337.7	33.8	24.8	129.0	20.1	7.0

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	96.2
Total Del/Veh (s)	71.7
Stop Delay (hr)	88.0
Stop Del/Veh (s)	65.6

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.7	13.6	3.0	0.2	0.0	0.1	5.3	0.4	7.5
Denied Del/Veh (s)	0.0	0.0	0.0	62.2	61.8	63.0	14.6	12.5	13.5	106.9	110.2	107.8
Total Delay (hr)	4.6	5.6	0.1	4.3	54.1	5.8	2.6	0.1	0.1	6.1	0.4	6.2
Total Del/Veh (s)	66.7	21.7	9.3	375.6	262.0	130.2	161.8	27.1	8.8	128.6	107.3	95.3
Stop Delay (hr)	4.1	3.6	0.0	4.2	50.1	4.8	2.5	0.1	0.1	5.8	0.3	6.0
Stop Del/Veh (s)	60.1	13.9	4.8	365.8	242.5	109.5	159.9	24.2	8.7	123.1	100.7	91.3

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	30.9
Denied Del/Veh (s)	40.5
Total Delay (hr)	89.8
Total Del/Veh (s)	121.2
Stop Delay (hr)	81.7
Stop Del/Veh (s)	110.2

Total Zone Performance

Denied Delay (hr)	308.9
Denied Del/Veh (s)	175.0
Total Delay (hr)	537.4
Total Del/Veh (s)	658.5
Stop Delay (hr)	475.6
Stop Del/Veh (s)	582.8

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	162	175	304	299	225	1440	224	275	442	363	319	63
Average Queue (ft)	99	167	282	207	196	783	101	203	211	180	174	11
95th Queue (ft)	166	206	341	335	269	1800	221	313	390	288	266	46
Link Distance (ft)			288	288		1441			468	468	468	
Upstream Blk Time (%)			40	10		27			0	0	0	
Queuing Penalty (veh)			218	53		0			2	0	0	
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)	1	4	59		51	0	3	23	1		1	
Queuing Penalty (veh)	4	13	193		219	2	11	89	2		0	

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	125	1064	1035	1015	176
Average Queue (ft)	119	933	778	452	33
95th Queue (ft)	151	1299	1340	1060	101
Link Distance (ft)		1017	1017	1017	
Upstream Blk Time (%)		77	9	1	
Queuing Penalty (veh)		0	0	0	
Storage Bay Dist (ft)	100				200
Storage Blk Time (%)	39	64		2	0
Queuing Penalty (veh)	121	152		2	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	494	565	24	142	175	1445	175	575	708	708	661	646
Average Queue (ft)	238	363	1	70	153	850	56	535	602	585	281	223
95th Queue (ft)	560	682	24	122	236	1682	176	681	806	868	661	569
Link Distance (ft)	1240	1240	1240			1644			628	628	628	628
Upstream Blk Time (%)						10			29	35	2	0
Queuing Penalty (veh)						0			162	194	9	1
Storage Bay Dist (ft)				150	150		150	550				
Storage Blk Time (%)				0	1	75	0	22	44			
Queuing Penalty (veh)				1	2	148	0	131	259			

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	NB	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	TR	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	369	180	331	301	306	137	501	489	410	160
Average Queue (ft)	57	17	304	214	151	14	458	367	79	5
95th Queue (ft)	191	112	319	339	291	77	551	602	292	73
Link Distance (ft)	628		229	229	229	229	468	468	468	468
Upstream Blk Time (%)		0	80	18	4	0	22	3	0	0
Queuing Penalty (veh)		0	325	72	15	0	89	11	0	0
Storage Bay Dist (ft)		200								
Storage Blk Time (%)		0	79							
Queuing Penalty (veh)		0	5							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	129	72	200	600	585	550	267	92	81	217	52	61
Average Queue (ft)	58	27	166	353	244	154	15	34	25	73	6	10
95th Queue (ft)	100	55	251	712	595	411	136	73	61	166	29	38
Link Distance (ft)	1203			569	569	569	569			628	628	628
Upstream Blk Time (%)				6	1	0	0					
Queuing Penalty (veh)				49	11	2	0					
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)			27	20								
Queuing Penalty (veh)			164	122								

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	44
Average Queue (ft)	4
95th Queue (ft)	23
Link Distance (ft)	628
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	TR	R	L	T	T	T	R
Maximum Queue (ft)	282	290	77	108	125	566	549	69	783	782	802	651
Average Queue (ft)	159	178	18	40	92	528	496	3	534	533	539	239
95th Queue (ft)	245	261	55	82	173	612	626	39	855	849	843	707
Link Distance (ft)			778	778		520	520		837	837	837	837
Upstream Blk Time (%)						88	24		4	2	3	1
Queuing Penalty (veh)						0	0		18	13	15	3
Storage Bay Dist (ft)	350	350			100			225				
Storage Blk Time (%)		0			4	89			55			
Queuing Penalty (veh)		0			17	70			1			

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	308	314	319	186	203	48
Average Queue (ft)	201	212	126	87	100	15
95th Queue (ft)	281	291	256	159	180	38
Link Distance (ft)			569	569	569	569
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)	325	325				
Storage Blk Time (%)	0	0	0			
Queuing Penalty (veh)	0	0	2			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	B40	B40	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	TR	T	T	L	L	T	T	R	L
Maximum Queue (ft)	337	350	441	387	581	508	187	200	337	299	180	269
Average Queue (ft)	329	345	409	203	509	57	182	198	312	113	71	201
95th Queue (ft)	364	375	474	335	758	318	200	206	371	219	140	335
Link Distance (ft)			355	355	548	548			312	312	312	
Upstream Blk Time (%)	0	25	67	1	38	1			30	0		12
Queuing Penalty (veh)	0	0	456	8	259	4			111	1		0
Storage Bay Dist (ft)	325	325					175	175				270
Storage Blk Time (%)	17	74	3				15	55	0			29
Queuing Penalty (veh)	58	255	19				29	104	2			93

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB
Directions Served	T	T	T	T	R	T	T	T	T	T	T	L
Maximum Queue (ft)	351	324	312	352	70	240	217	237	90	110	120	207
Average Queue (ft)	260	200	184	208	50	66	59	47	11	10	9	116
95th Queue (ft)	398	315	288	340	60	244	230	210	82	84	83	216
Link Distance (ft)	278	278	278	278		242	242	242	496	496	496	
Upstream Blk Time (%)	30	3	3	5		6	4	3				
Queuing Penalty (veh)	0	0	0	0		0	0	0				
Storage Bay Dist (ft)					25							225
Storage Blk Time (%)	27			17	40							3
Queuing Penalty (veh)	27			76	129							7

Intersection: 5: Latrobe Road & White Rock Road

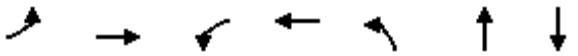
Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	216	342	284	162	115
Average Queue (ft)	119	91	79	48	19
95th Queue (ft)	223	235	170	124	70
Link Distance (ft)		837	837	837	
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	225				250
Storage Blk Time (%)	5	0			
Queuing Penalty (veh)	10	1			

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	105	350	368	134	145	1541	1538	185	76	75	456
Average Queue (ft)	101	247	227	18	64	1114	1004	78	22	73	362
95th Queue (ft)	116	372	367	81	162	1871	1893	179	78	79	541
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)		4	3			37	19	4	2		55
Queuing Penalty (veh)		30	19			0	0	0	0		0
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	51	11	20	0	0	79				62	36
Queuing Penalty (veh)	275	32	6	0	2	33				161	64

Zone Summary

Zone wide Queuing Penalty: 5265



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	33	1116	175	597	337	502	85
v/c Ratio	0.41	0.83	0.81	0.33	0.83	0.69	0.45
Control Delay	72.2	39.2	78.0	20.5	62.1	20.0	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	39.2	78.0	20.5	62.1	20.0	26.6
Queue Length 50th (ft)	24	365	124	134	229	157	19
Queue Length 95th (ft)	67	#690	#311	266	#511	269	65
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	105	1352	223	1786	413	929	518
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.83	0.78	0.33	0.82	0.54	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	900	127	161	549	0	310	21	441	0	25	53
Future Volume (veh/h)	30	900	127	161	549	0	310	21	441	0	25	53
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	978	138	175	597	0	337	23	479	0	27	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	1223	173	205	1749	0	366	25	515	2	48	103
Arrive On Green	0.02	0.39	0.39	0.12	0.49	0.00	0.21	0.34	0.34	0.00	0.09	0.09
Sat Flow, veh/h	1774	3115	439	1774	3632	0	1774	73	1521	1774	528	1134
Grp Volume(v), veh/h	33	555	561	175	597	0	337	0	502	0	0	85
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	0	1774	0	1594	1774	0	1663
Q Serve(g_s), s	2.0	29.3	29.3	10.2	10.8	0.0	19.6	0.0	32.0	0.0	0.0	5.2
Cycle Q Clear(g_c), s	2.0	29.3	29.3	10.2	10.8	0.0	19.6	0.0	32.0	0.0	0.0	5.2
Prop In Lane	1.00		0.25	1.00		0.00	1.00		0.95	1.00		0.68
Lane Grp Cap(c), veh/h	41	695	701	205	1749	0	366	0	539	2	0	150
V/C Ratio(X)	0.80	0.80	0.80	0.86	0.34	0.00	0.92	0.00	0.93	0.00	0.00	0.57
Avail Cap(c_a), veh/h	116	752	759	246	1797	0	455	0	859	51	0	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	51.2	28.3	28.3	45.7	16.2	0.0	41.0	0.0	33.7	0.0	0.0	45.9
Incr Delay (d2), s/veh	12.3	6.0	6.0	19.0	0.1	0.0	19.6	0.0	8.3	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	15.3	15.5	6.1	5.3	0.0	11.6	0.0	15.3	0.0	0.0	2.4
LnGrp Delay(d),s/veh	63.6	34.3	34.3	64.7	16.4	0.0	60.6	0.0	42.0	0.0	0.0	47.2
LnGrp LOS	E	C	C	E	B		E		D			D
Approach Vol, veh/h		1149			772			839			85	
Approach Delay, s/veh		35.1			27.3			49.4			47.2	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	47.4	26.1	14.1	7.0	58.1	0.0	40.2
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	14.6	44.8	27.0	33.0	6.9	53.5	3.0	56.8
Max Q Clear Time (g_c+I1), s	12.2	31.3	21.6	7.2	4.0	12.8	0.0	34.0
Green Ext Time (p_c), s	0.0	10.1	0.1	1.6	0.0	21.3	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	6	0	0	32	4	1024	0	16	306	69
Future Vol, veh/h	0	0	6	0	0	32	4	1024	0	16	306	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	0	0	35	4	1113	0	17	333	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	204	-	-	557	408	0	0	1113	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	803	0	0	474	1147	-	-	623	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	803	-	-	474	1147	-	-	623	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	13.2	0	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1147	-	-	803	474	623	-	-
HCM Lane V/C Ratio	0.004	-	-	0.008	0.073	0.028	-	-
HCM Control Delay (s)	8.2	-	-	9.5	13.2	10.9	-	-
HCM Lane LOS	A	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	79	949	13	97	215
Future Vol, veh/h	13	79	949	13	97	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	86	1032	14	105	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1367	523	0	0	1046	0
Stage 1	1039	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	138	499	-	-	661	-
Stage 1	302	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	499	-	-	661	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	3.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	116	499	661	-
HCM Lane V/C Ratio	-	-	0.122	0.172	0.16	-
HCM Control Delay (s)	-	-	40.3	13.7	11.5	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.6	-

Intersection	
Int Delay, s/veh	1.7

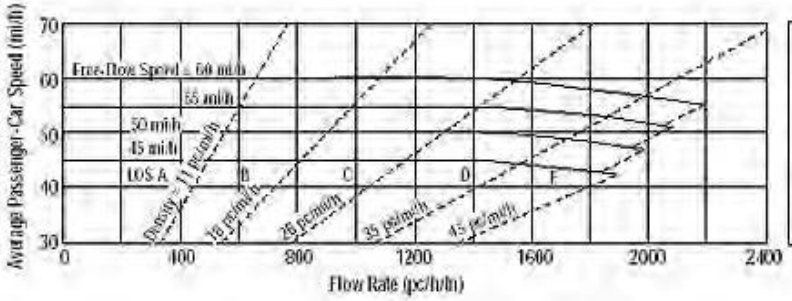
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	107	1	0	805	158	13
Future Vol, veh/h	107	1	0	805	158	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1	0	875	172	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	617	93	186	0	-	0
Stage 1	179	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	422	946	1386	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	946	1386	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1386	-	424	-	-
HCM Lane V/C Ratio	-	-	0.277	-	-
HCM Control Delay (s)	0	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	AM NB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035) plus Project

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	471	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	263
Speed, S (mi/h)	45.0
D (pc/mi/ln)	5.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*256.0*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.06*
Bicycle level of service (Exhibit 15-4)	*B*

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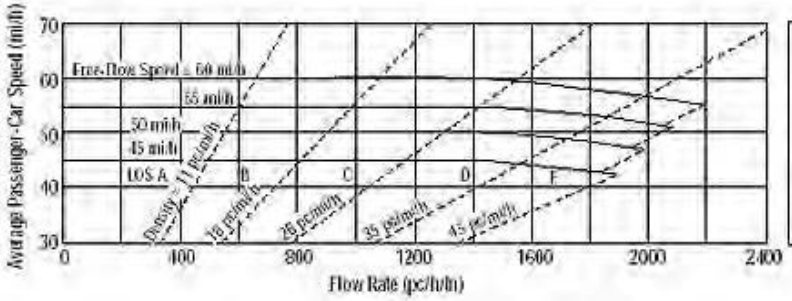
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	AM SB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035) plus Project

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	634	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	354
Speed, S (mi/h)	45.0
D (pc/mi/ln)	7.9
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*344.6*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.21*
Bicycle level of service (Exhibit 15-4)	*B*

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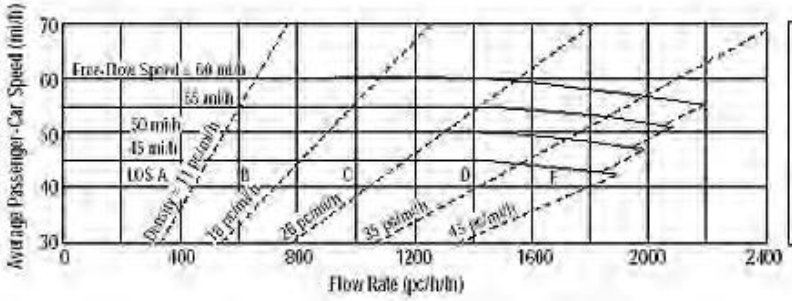
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	PM NB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035) plus Project

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	1056	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	591
Speed, S (mi/h)	45.0
D (pc/mi/ln)	13.1
LOS	B

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*573.9*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*2.47*
Bicycle level of service (Exhibit 15-4)	*B*

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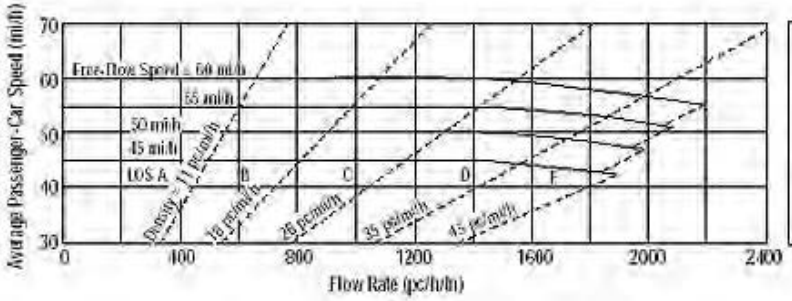
MULTILANE HIGHWAYS WORKSHEET(Direction 1)



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	
Agency or Company	Kimley-Horn
Date Performed	3/14/2017
Analysis Time Period	PM SB

Site Information

Highway/Direction to Travel	Saratoga Way
From/To	W of El Dorado Hills Blvd
Jurisdiction	EDC
Analysis Year	Cumulative (2035) plus Project

Project Description Saratoga Retail Phase 2

☐ Oper.(LOS) ☐ Des. (N) ☐ Plan. (vp)

Flow Inputs

Volume, V (veh/h)	391	Peak-Hour Factor, PHF	0.92
AADT(veh/h)		%Trucks and Buses, P_T	2
Peak-Hour Prop of AADT (veh/d)		%RVs, P_R	0
Peak-Hour Direction Prop, D		General Terrain:	Rolling
DDHV (veh/h)		Grade Length (mi)	0.00
Driver Type Adjustment	1.00	Up/Down %	0.00
		Number of Lanes	2

Calculate Flow Adjustments

f_p	1.00	E_R	2.0
E_T	2.5	f_{HV}	0.971

Speed Inputs

Lane Width, LW (ft)	12.0
Total Lateral Clearance, LC (ft)	12.0
Access Points, A (A/mi)	1
Median Type, M	Divided
FFS (measured)	
Base Free-Flow Speed, BFFS	45.0

Calc Speed Adj and FFS

f_{LW} (mi/h)	0.0
f_{LC} (mi/h)	0.0
f_A (mi/h)	0.3
f_M (mi/h)	0.0
FFS (mi/h)	44.8

Operations

Operational (LOS)

Flow Rate, v_p (pc/h/ln)	218
Speed, S (mi/h)	45.0
D (pc/mi/ln)	4.8
LOS	A

Design

Design (N)

Required Number of Lanes, N	
Flow Rate, v_p (pc/h)	
Max Service Flow Rate (pc/h/ln)	
Design LOS	

Bicycle Level of Service

Directional demand flow rate in outside lane, v_{OL} (Eq. 15-24) veh/h	*212.5*

Effective width, W_v (Eq. 15-29) ft	*24.00*
Effective speed factor, S_t (Eq. 15-30)	*4.42*
Bicycle level of service score, BLOS (Eq. 15-31)	*1.97*
Bicycle level of service (Exhibit 15-4)	*B*

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Segment Inputs				Cumulative plus Project Conditions													
				Flow Inputs		AM LOS Performance Measures						PM LOS Performance Measures					
		Length	Number of Lanes	Interchange Density	AM Peak	PM Peak	V_p	FFS		S	D	LOS	V_p	FFS		S	D	LOS
		(ft)	(N)	(I/mi)	(veh/h)	(veh/h)	(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)		(pc/h/ln)	(mi/h)		(mi/h)	(pc/mi/ln)	
Westt Eastb	West of Latrobe Rd SB Off Ramp	6690	3	0.33	3,076	3,814	1147.93	74.12	75	74.7578	15.355	B	1423.341	74.12	75	73.0161	19.5	C
	Latrobe Rd NB Off Ramp to Latrobe Rd On Ramp	1990	3	0.50	1,669	3,066	622.851	73.6	75	73.4254	8.4828	A	1144.196	73.6	75	74.7698	15.303	B
	El Dorado Hills Blvd Off Ramp to El Dorado Hills Blvd On Ramp	3565	3	0.50	3,710	4,027	1384.53	73.6	75	73.3632	18.872	C	1502.83	73.6	75	72.2011	20.815	C
	West of El Dorado Hills Blvd On Ramp	5890	3	0.33	4,849	5,562	1809.59	74.12	75	67.7443	26.712	D	2075.674	74.12	75	62.1912	33.376	D

Univeral Inputs:

PHF 0.92

(P_T) 6%

f_{HV} 0.970873786

Cumulative plus Project Conditions

Segment Inputs				AM Flow Inputs			AM LOS Performance Measures												PM Flow Inputs			PM LOS Performance Measures											
	Number of Lanes	Number of Ramp Lanes	Length of Acceleration Lane (L_a)	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	v_F/S_{FR}	P_{FM}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/h)	(pc/h)			(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h)	(pc/hr)	(pc/h)			(pc/h/ln)						(pc/mi/ln)	
NB ⇔ El Dorado Hills Blvd On Ramp	3	1	795	4849	3710	1139	5429	4154	1275	119	0.5998	2491.2	7200	831	1868	2491	0.754	29.281	D	5562	4027	1535	6227	4508	1719	129	0.5998	2704	7200	902	2028	2704	0.8649	34.196	D

Univeral Inputs:

Length	1500	(ft)
S_{FF}	70	(mi/h)
S_{FR}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

Cumulative plus Project Conditions

	Segment Inputs				AM Flow Inputs														PM Flow Inputs			PM LOS Performance Measures											
	Number of Lanes	Number of Ramp Lanes	L_{EQ}	Length of Deceleration Lane (L_D)	Downstream Volume	Upstream Volume	Ramp Volume	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS	Downstream Volume (D)	Upstream Volume (F)	Ramp Volume (R)	v_D	v_F	v_R	P_{FD}	v_{12}	Capacity	v_3		v_{12a}	v/c	D	LOS
	(N)		(ft)	(ft)	(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)		(veh/h)	(veh/h)	(veh/h)	(pc/h/ln)	(pc/h/ln)	(pc/h/ln)		(pc/h/ln)						(pc/mi/ln)	
EB Latrobe SB Off Ramp	3	1	739	140	1930	3076	1146	292.207	3443.8	1283	0.436	2225.1	7200	609	1669	2225	0.4783	22.128	C	5188	5562	374	418.717	6227	418.72	0.436	2951.1	7200	1638	2213	2951	0.8649	28.372	D
Latrobe NB Off Ramp	3	1	-	140	1669	1930	261	-	2160.8	292.21	0.6925	1586.3	7200	575	1190	1586	0.3001	16.634	B	4814	5188	374	-	5808.3	418.72	0.5955	3628.4	7200	2180	2721	3628	0.8067	34.196	D

Universal Inputs:

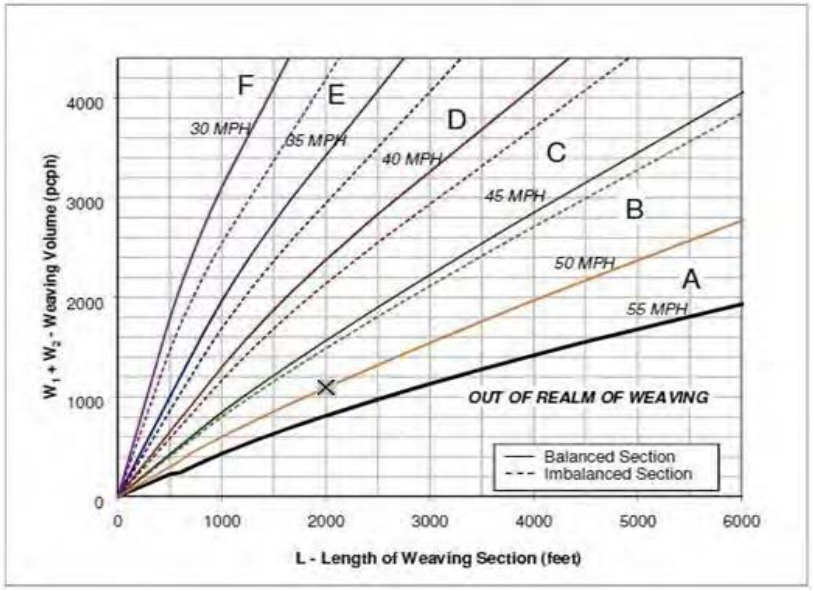
Lengt	1500	(ft)
S_{cr}	70	(mi/h)
S_{FO}	35	(mi/h)
PHF	0.92	
(P_T)	6%	
f_{HV}	0.970873786	

EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) plus Project Conditons (AM)

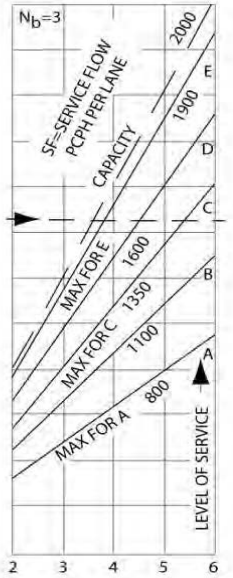
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	2,350	Volume (vph)	681	Volume (vph)	290
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,397	Volume (pcph)	688	Volume (pcph)	293

W1 + W2	981
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	50.0
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	599
Level of Service (LOS)	A



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

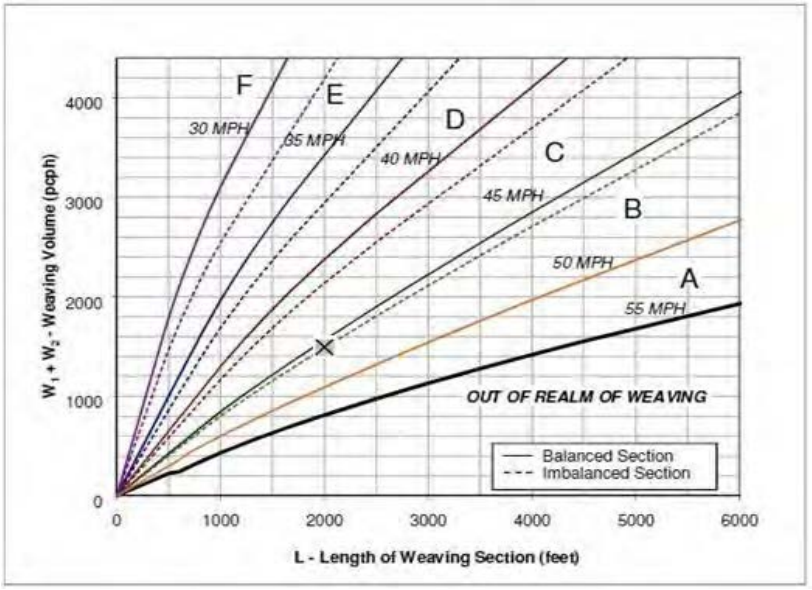


EB US-50, East of Latrobe Rd On Ramp, Cumulative (2035) plus Project Conditons (PM)

Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2000

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,036	Volume (vph)	970	Volume (vph)	670
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,117	Volume (pcph)	980	Volume (pcph)	677

W1 + W2	1,656
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	45.4
Weaving Intensity Factor (k)	1.60
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,131
Level of Service (LOS)	C



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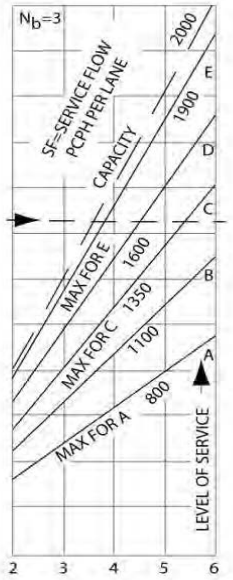
SEE CHART FOR DEFINITION OF OTHER TERMS

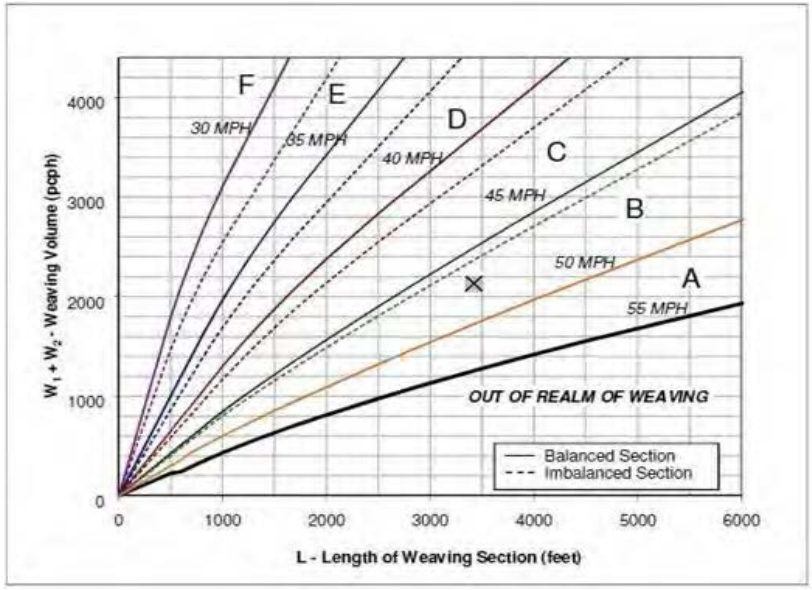


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) plus Project Conditons (AM)

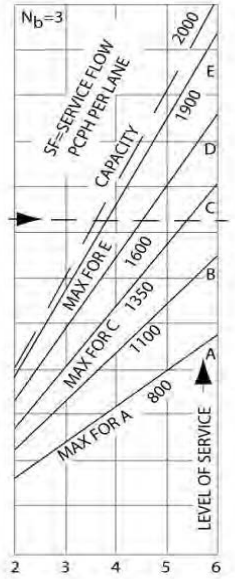
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,159	Volume (vph)	1,180	Volume (vph)	449
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,201	Volume (pcph)	1,192	Volume (pcph)	453

W1 + W2	1,645
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.8
Weaving Intensity Factor (k)	1.40
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,095
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

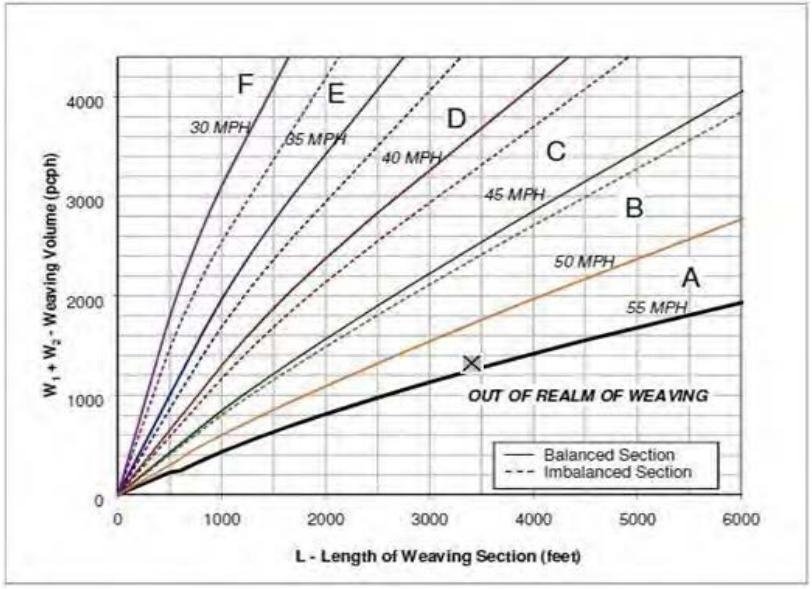


WB US-50, East of El Dorado Hills Blvd Off Ramp, Cumulative (2035) plus Project Conditons (PM)

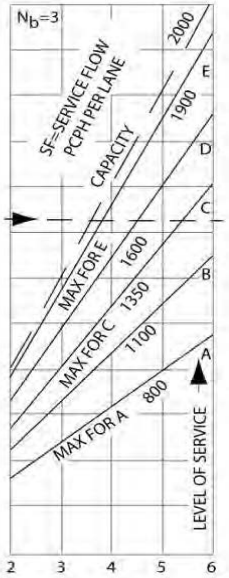
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3425

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,292	Volume (vph)	500	Volume (vph)	265
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,335	Volume (pcph)	505	Volume (pcph)	268

W1 + W2	773
In between	
Speed 1	50
Speed 2	55
Interpolated Weaving Speed (Sw, mph)	54.8
Weaving Intensity Factor (k)	1.00
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,084
Level of Service (LOS)	B



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

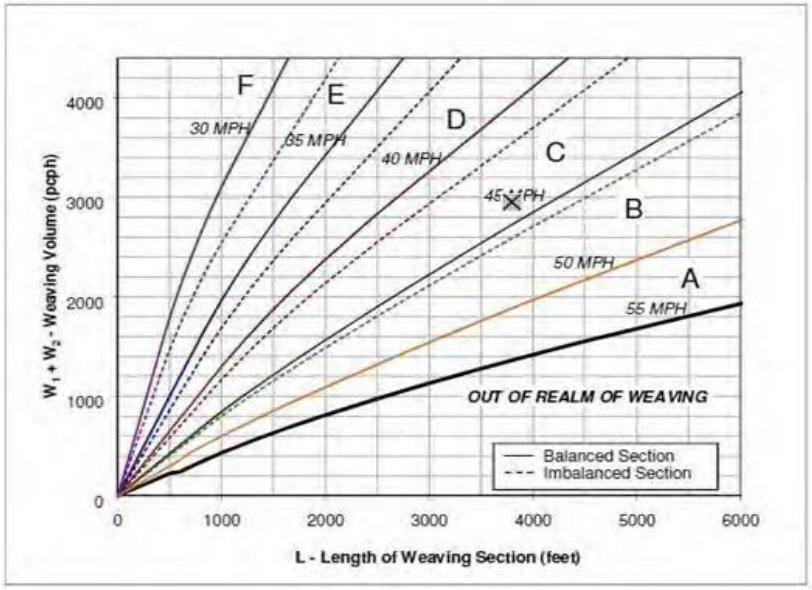


WB US-50, West of El Dorado Hills On Ramp, Cumulative (2035) plus Project Conditons (AM)

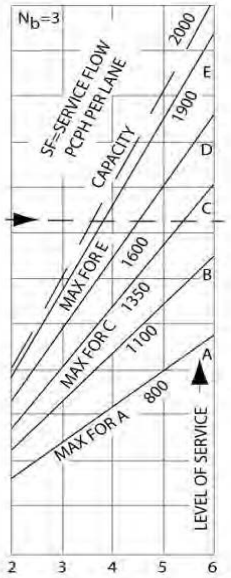
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3775

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	4,849	Volume (vph)	1,139	Volume (vph)	1,340
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,897	Volume (pcph)	1,150	Volume (pcph)	1,353

W1 + W2	2,504
In between	
Speed 1	40
Speed 2	45
Interpolated Weaving Speed (Sw, mph)	43.8
Weaving Intensity Factor (k)	1.65
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,411
Level of Service (LOS)	D



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS

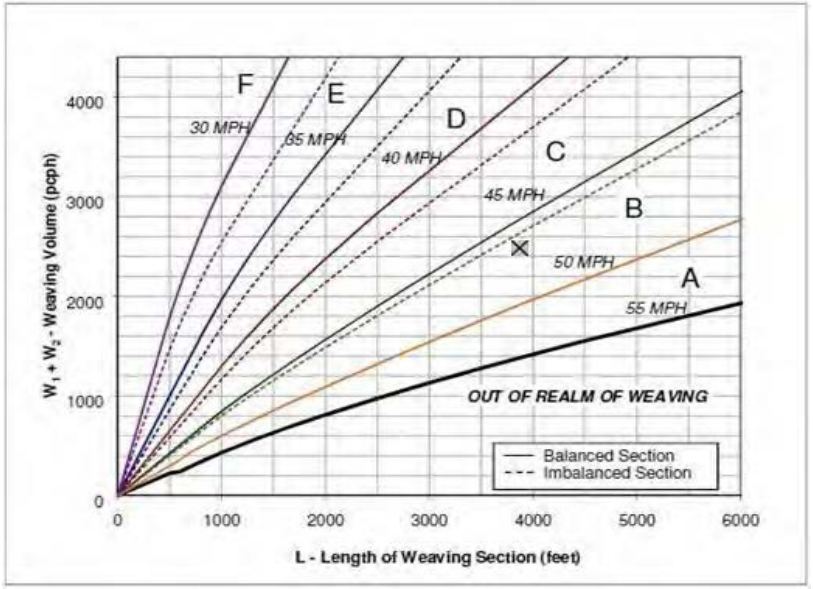


WB US-50, West of El Dorado Hills On Ramp, Cumulative (2035) plus Project Conditons (PM)

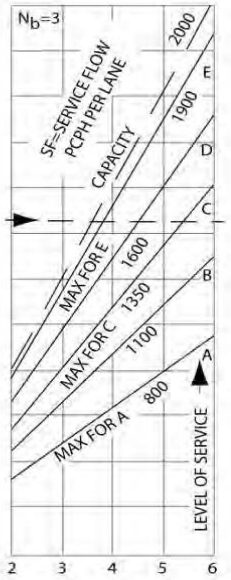
Number of Entering Mainline Lanes	Nb	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3775

Total Weaving Section (V)		On ramp to Mainline (W1)		Mainline to Off ramp (W2)	
Volume (vph)	5,562	Volume (vph)	1,535	Volume (vph)	1,100
Truck Percentage	2%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,618	Volume (pcph)	1,550	Volume (pcph)	1,111

W1 + W2	2,661
In between	
Speed 1	45
Speed 2	50
Interpolated Weaving Speed (Sw, mph)	46.0
Weaving Intensity Factor (k)	1.20
Service Volume ((SV, pcph)	
SV = (1/N)*[V+(k-1)*min(W1,W2)]	1,460
Level of Service (LOS)	D



Nb=NUMBER OF BASIC LANES ON APPROACH
SEE CHART FOR DEFINITION OF OTHER TERMS



Appendix F

Analysis Worksheets for Mitigated Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9527	9372	9202	9375	9563	9419	9449
Vehs Exited	9434	9343	9192	9342	9388	9366	9364
Starting Vehs	429	434	402	424	379	364	432
Ending Vehs	522	463	412	457	554	417	517
Travel Distance (mi)	6890	6780	6676	6738	6888	6771	6757
Travel Time (hr)	565.3	462.9	447.0	508.9	518.7	485.1	536.2
Total Delay (hr)	352.2	253.2	240.2	300.0	306.1	275.6	326.4
Total Stops	20397	19051	18387	20047	21164	20089	20225
Fuel Used (gal)	338.2	310.8	303.5	321.3	326.2	314.1	329.8

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	9555	9194	9381	9398
Vehs Exited	9463	9132	9300	9330
Starting Vehs	381	384	438	403
Ending Vehs	473	446	519	473
Travel Distance (mi)	6886	6684	6763	6783
Travel Time (hr)	501.7	453.6	488.0	496.7
Total Delay (hr)	289.6	247.6	278.7	287.0
Total Stops	20518	18910	20000	19877
Fuel Used (gal)	324.0	307.1	316.7	319.2

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2334	2287	2302	2303	2320	2325	2365
Vehs Exited	2282	2288	2253	2272	2211	2208	2351
Starting Vehs	429	434	402	424	379	364	432
Ending Vehs	481	433	451	455	488	481	446
Travel Distance (mi)	1679	1653	1650	1663	1635	1630	1703
Travel Time (hr)	117.3	103.5	109.8	110.9	108.4	104.9	112.7
Total Delay (hr)	65.4	52.4	58.9	59.3	57.9	54.4	59.8
Total Stops	4702	4367	4546	4623	4741	4479	4708
Fuel Used (gal)	77.5	73.3	75.8	75.7	74.2	72.3	77.4

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2390	2246	2354	2318
Vehs Exited	2299	2190	2331	2265
Starting Vehs	381	384	438	403
Ending Vehs	472	440	461	450
Travel Distance (mi)	1693	1620	1694	1662
Travel Time (hr)	110.7	100.6	114.2	109.3
Total Delay (hr)	58.2	50.7	61.5	57.8
Total Stops	4647	4237	4750	4577
Fuel Used (gal)	76.4	72.2	77.4	75.2

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2437	2508	2413	2562	2604	2496	2498
Vehs Exited	2399	2410	2346	2435	2471	2437	2385
Starting Vehs	481	433	451	455	488	481	446
Ending Vehs	519	531	518	582	621	540	559
Travel Distance (mi)	1768	1785	1733	1784	1826	1779	1745
Travel Time (hr)	145.5	117.3	116.2	131.4	134.3	135.1	128.5
Total Delay (hr)	90.9	62.2	62.3	76.4	78.3	80.3	74.4
Total Stops	5383	4923	4668	5411	5494	5553	5219
Fuel Used (gal)	86.1	80.9	78.0	83.9	85.4	84.4	81.8

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2489	2461	2390	2486
Vehs Exited	2421	2408	2327	2403
Starting Vehs	472	440	461	450
Ending Vehs	540	493	524	538
Travel Distance (mi)	1780	1772	1715	1769
Travel Time (hr)	127.6	121.5	121.3	127.9
Total Delay (hr)	73.0	67.1	68.2	73.3
Total Stops	5398	5226	5063	5236
Fuel Used (gal)	83.0	81.5	79.5	82.4

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2374	2319	2239	2355	2326	2353	2290
Vehs Exited	2362	2373	2333	2397	2444	2352	2303
Starting Vehs	519	531	518	582	621	540	559
Ending Vehs	531	477	424	540	503	541	546
Travel Distance (mi)	1702	1698	1663	1688	1729	1699	1661
Travel Time (hr)	155.2	121.8	115.7	134.2	131.8	130.0	148.5
Total Delay (hr)	102.6	69.1	64.3	81.7	78.4	77.5	97.0
Total Stops	5195	4893	4715	5263	5344	5397	5180
Fuel Used (gal)	87.5	78.9	76.6	82.0	82.4	80.9	85.4

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2311	2295	2323	2319
Vehs Exited	2313	2304	2376	2351
Starting Vehs	540	493	524	538
Ending Vehs	538	484	471	502
Travel Distance (mi)	1684	1682	1679	1688
Travel Time (hr)	134.0	120.4	124.3	131.6
Total Delay (hr)	82.1	68.5	72.3	79.3
Total Stops	5197	4942	5040	5117
Fuel Used (gal)	82.0	79.2	79.6	81.5

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2382	2258	2248	2155	2313	2245	2296
Vehs Exited	2391	2272	2260	2238	2262	2369	2325
Starting Vehs	531	477	424	540	503	541	546
Ending Vehs	522	463	412	457	554	417	517
Travel Distance (mi)	1740	1644	1630	1603	1698	1663	1648
Travel Time (hr)	147.2	120.3	105.3	132.4	144.1	115.1	146.5
Total Delay (hr)	93.3	69.5	54.7	82.6	91.6	63.4	95.2
Total Stops	5117	4868	4458	4750	5585	4660	5118
Fuel Used (gal)	87.0	77.8	73.1	79.6	84.2	76.5	85.1

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2365	2192	2314	2276
Vehs Exited	2430	2230	2266	2304
Starting Vehs	538	484	471	502
Ending Vehs	473	446	519	473
Travel Distance (mi)	1730	1610	1675	1664
Travel Time (hr)	129.5	111.1	128.2	128.0
Total Delay (hr)	76.3	61.3	76.7	76.5
Total Stops	5276	4505	5147	4948
Fuel Used (gal)	82.7	74.1	80.2	80.0

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.8	4.7	0.7
Denied Del/Veh (s)	0.0	0.0	0.0	1.4	0.6	1.4	0.0	0.0	0.0	14.1	11.5	13.1
Total Delay (hr)	1.2	1.2	1.1	1.6	1.6	0.4	3.6	3.6	0.0	5.7	21.7	0.8
Total Del/Veh (s)	36.0	36.2	15.2	34.8	29.0	8.8	49.9	17.8	4.6	104.8	52.2	15.0
Stop Delay (hr)	1.1	1.0	1.0	1.4	1.3	0.3	3.2	2.5	0.0	5.0	15.2	0.4
Stop Del/Veh (s)	33.2	31.2	14.2	30.6	23.8	6.8	44.3	12.1	2.9	92.0	36.8	6.8

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	6.4
Denied Del/Veh (s)	6.0
Total Delay (hr)	42.4
Total Del/Veh (s)	39.4
Stop Delay (hr)	32.4
Stop Del/Veh (s)	30.1

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.1	1.8	0.2	1.7	5.1	0.7	8.3	2.3	0.2	0.2	19.1	0.6
Total Del/Veh (s)	30.0	47.2	3.7	53.5	90.2	54.0	55.7	10.0	5.3	62.9	47.6	4.8
Stop Delay (hr)	1.0	1.6	0.0	1.5	4.8	0.6	7.3	0.7	0.1	0.1	15.7	0.3
Stop Del/Veh (s)	27.3	42.4	0.0	47.8	84.1	49.5	48.7	3.2	1.3	59.2	39.1	2.5

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	41.2
Total Del/Veh (s)	35.2
Stop Delay (hr)	33.7
Stop Del/Veh (s)	28.8

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Denied Del/Veh (s)	2.6	0.2	0.0	0.0	0.0	0.0	0.6
Total Delay (hr)	5.7	0.0	3.4	0.6	2.0	5.2	17.0
Total Del/Veh (s)	17.7	0.6	9.9	5.8	23.7	12.8	12.7
Stop Delay (hr)	3.2	0.0	1.1	0.0	1.4	1.7	7.5
Stop Del/Veh (s)	9.8	0.0	3.3	0.3	16.9	4.3	5.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.4	0.1	0.1	3.2	3.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	0.1	0.0	1.5	0.4	1.5	0.6	11.1	0.2	5.0	8.5	0.8
Total Del/Veh (s)	34.4	35.3	12.3	40.3	40.0	13.3	46.6	33.6	7.5	31.2	18.7	6.9
Stop Delay (hr)	0.4	0.1	0.0	1.3	0.4	1.2	0.5	7.2	0.2	4.1	4.9	0.4
Stop Del/Veh (s)	32.6	32.3	12.2	35.9	34.3	11.0	38.4	22.0	5.8	25.4	10.8	3.6

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.2
Total Delay (hr)	30.1
Total Del/Veh (s)	23.7
Stop Delay (hr)	20.8
Stop Del/Veh (s)	16.3

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	6.5	2.1	0.9	8.0	8.1	0.5	11.7	6.7	0.2	2.4	11.8	13.2
Total Del/Veh (s)	71.6	51.3	30.9	56.5	50.1	10.2	207.1	28.7	5.0	68.4	43.0	72.4
Stop Delay (hr)	6.2	1.9	0.8	7.0	6.6	0.4	11.5	5.9	0.2	2.1	8.1	10.7
Stop Del/Veh (s)	67.4	45.6	28.7	49.5	41.0	8.1	202.2	25.1	4.9	60.3	29.6	58.6

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	72.1
Total Del/Veh (s)	54.2
Stop Delay (hr)	61.3
Stop Del/Veh (s)	46.1

6: Windfield Way/Town Center Blvd & White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	3.8	0.5	0.4	0.1	0.1	0.2
Total Delay (hr)	0.6	4.2	1.0	5.8	1.3	1.0	0.2	0.4	0.2	0.1	14.8
Total Del/Veh (s)	45.2	33.8	23.3	29.0	6.9	43.1	36.9	11.1	52.8	13.0	22.8
Stop Delay (hr)	0.5	3.6	0.9	4.2	0.8	1.0	0.2	0.4	0.2	0.1	11.9
Stop Del/Veh (s)	41.8	28.7	21.0	21.3	4.3	40.4	33.2	10.4	49.2	12.8	18.3

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	2.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	13.6	9.2	9.1	0.1	0.1	0.1	3.8	0.4	0.3
Total Delay (hr)	1.7	0.7	0.0	1.4	22.1	1.8	0.5	0.0	0.0	0.5	0.1	1.0
Total Del/Veh (s)	44.1	9.4	3.6	122.8	75.7	33.4	50.3	30.7	3.8	44.0	32.0	21.6
Stop Delay (hr)	1.6	0.4	0.0	1.2	16.8	1.2	0.5	0.0	0.0	0.4	0.1	0.9
Stop Del/Veh (s)	39.9	5.4	1.9	107.1	57.4	21.1	48.2	27.9	3.9	40.6	27.9	20.0

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	3.4
Denied Del/Veh (s)	6.2
Total Delay (hr)	29.8
Total Del/Veh (s)	54.4
Stop Delay (hr)	23.0
Stop Del/Veh (s)	42.0

8: Saratoga Way & Mammouth Way/Walgreens Dwy Performance by movement

Movement	EBR	WBR	NBL	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.3
Total Del/Veh (s)	3.5	3.5	4.3	0.5	5.3	1.3	1.1	1.0
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	3.4	3.8	3.1	0.1	2.9	0.2	0.2	0.2

9: Saratoga Way & Project Main Dwy Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	9.4	3.4	0.3	0.1	3.6	0.3	0.9
Stop Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	9.2	3.6	0.1	0.1	1.5	0.0	0.5

10: Saratoga Way & Arrowhead Dr Performance by movement

Movement	EBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1
Total Delay (hr)	0.3	0.0	0.0	0.0	0.3
Total Del/Veh (s)	11.0	0.3	0.1	0.0	1.5
Stop Delay (hr)	0.2	0.0	0.0	0.0	0.2
Stop Del/Veh (s)	9.3	0.0	0.0	0.0	1.1

11: Saratoga Way & Project 2nd Dwy Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	7.1	3.2	0.3	0.1	3.2	0.2	0.7
Stop Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Stop Del/Veh (s)	6.9	3.5	0.0	0.0	1.3	0.0	0.4

12: Saratoga Way & Project R Out Dwy Performance by movement

Movement	WBR	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1
Total Del/Veh (s)	3.0	0.3	0.1	0.2
Stop Delay (hr)	0.0	0.0	0.0	0.0
Stop Del/Veh (s)	3.3	0.1	0.0	0.1

Total Network Performance

Denied Delay (hr)	11.2
Denied Del/Veh (s)	4.3
Total Delay (hr)	275.8
Total Del/Veh (s)	101.3
Stop Delay (hr)	203.8
Stop Del/Veh (s)	74.9

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	79	93	136	184	183	196	100	265	268	176	190	18
Average Queue (ft)	29	51	68	86	88	93	40	161	88	91	98	1
95th Queue (ft)	64	79	120	149	149	157	78	263	215	160	166	9
Link Distance (ft)			309	309		1449			469	469	469	
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)			0		0	0		4	0		0	
Queuing Penalty (veh)			0		0	0		10	0		0	

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	B46	SB	SB	SB	SB	SB
Directions Served	T	L	T	T	T	R
Maximum Queue (ft)	4	125	774	727	669	225
Average Queue (ft)	0	117	453	379	324	107
95th Queue (ft)	4	149	864	811	685	247
Link Distance (ft)	229		1017	1017	1017	
Upstream Blk Time (%)			9	1	0	
Queuing Penalty (veh)			0	0	0	
Storage Bay Dist (ft)		100				200
Storage Blk Time (%)		25	50		12	0
Queuing Penalty (veh)		125	96		23	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	134	180	4	78	166	474	175	300	304	274	168	119
Average Queue (ft)	52	96	0	29	85	209	62	178	179	84	32	49
95th Queue (ft)	104	167	3	64	194	510	168	293	299	251	110	93
Link Distance (ft)	1070	1070	1070			1644			626	626	626	626
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				150	150		150	550				
Storage Blk Time (%)					0	27	0					
Queuing Penalty (veh)					0	42	0					

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	NB	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	TR	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	77	224	333	301	303	266	484	442	299	178
Average Queue (ft)	28	35	284	206	202	96	237	154	60	13
95th Queue (ft)	62	167	365	319	313	242	538	428	228	108
Link Distance (ft)	626		229	229	229	229	469	469	469	469
Upstream Blk Time (%)		0	65	9	7	1	2	0		
Queuing Penalty (veh)		0	309	41	35	5	9	1		
Storage Bay Dist (ft)		200								
Storage Blk Time (%)			67							
Queuing Penalty (veh)			9							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	220	259	179	192	145	160	14	93	96	292	224	295
Average Queue (ft)	132	143	64	67	42	62	1	37	36	58	35	66
95th Queue (ft)	197	227	143	149	112	130	15	75	75	180	127	176
Link Distance (ft)	1203			558	558	558	558			626	626	626
Upstream Blk Time (%)										0		
Queuing Penalty (veh)										0		
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)			0	0								
Queuing Penalty (veh)			1	1								

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	217
Average Queue (ft)	54
95th Queue (ft)	138
Link Distance (ft)	626
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	LT	R	R	L	L	T	T	T
Maximum Queue (ft)	48	61	30	29	124	248	191	56	248	402	348	361
Average Queue (ft)	15	24	8	5	94	109	57	15	41	190	173	195
95th Queue (ft)	41	55	27	22	139	210	141	42	143	322	296	310
Link Distance (ft)			778	778		521	521			837	837	837
Upstream Blk Time (%)										0		
Queuing Penalty (veh)										0		
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					13	6			0	5		
Queuing Penalty (veh)					26	10			0	2		

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	146	210	218	232	319	428	386
Average Queue (ft)	28	121	136	105	137	209	92
95th Queue (ft)	81	186	196	189	259	387	290
Link Distance (ft)	837			558	558	558	558
Upstream Blk Time (%)						0	0
Queuing Penalty (veh)						2	1
Storage Bay Dist (ft)		325	325				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	T	R	L	T	T
Maximum Queue (ft)	247	261	160	184	187	200	338	324	116	278	361	278
Average Queue (ft)	127	146	70	95	146	191	287	176	52	246	280	130
95th Queue (ft)	222	233	135	165	215	229	387	297	93	327	447	264
Link Distance (ft)			355	355			312	312	312		278	278
Upstream Blk Time (%)							13	1		29	43	0
Queuing Penalty (veh)							53	5		0	0	0
Storage Bay Dist (ft)	325	325			175	175				270		
Storage Blk Time (%)	0	0			2	12	25			41	41	
Queuing Penalty (veh)	0	0			6	34	127			86	85	

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB	SB	SB
Directions Served	T	T	R	T	T	T	T	T	T	L	L	T
Maximum Queue (ft)	191	162	56	269	209	159	171	127	54	120	241	339
Average Queue (ft)	91	59	33	118	67	13	35	23	3	32	49	183
95th Queue (ft)	155	133	59	329	230	89	189	162	56	80	150	290
Link Distance (ft)	278	278		242	242	242	496	496	496			837
Upstream Blk Time (%)				15	1	0	1	0				
Queuing Penalty (veh)				0	0	0	0	0				
Storage Bay Dist (ft)			25							225	225	
Storage Blk Time (%)		10	1							0	0	3
Queuing Penalty (veh)		14	3							0	0	3

Intersection: 5: Latrobe Road & White Rock Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	424	706	275
Average Queue (ft)	195	429	251
95th Queue (ft)	328	834	340
Link Distance (ft)	837	837	
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		3	
Storage Bay Dist (ft)			250
Storage Blk Time (%)		1	39
Queuing Penalty (veh)		6	129

Intersection: 6: Windfield Way/Town Center Blvd & White Rock Rd

Movement	EB	EB	EB	WB	WB	WB	B40	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	T	L	TR	TR
Maximum Queue (ft)	219	317	258	215	530	232	12	128	160	62
Average Queue (ft)	46	171	135	207	287	84	1	57	51	20
95th Queue (ft)	139	283	229	238	526	167	16	108	113	49
Link Distance (ft)		329	329		548	548	355		234	299
Upstream Blk Time (%)		0			0				0	
Queuing Penalty (veh)		0			3				0	
Storage Bay Dist (ft)	195			190				155		
Storage Blk Time (%)	0	7		24	0			0	0	
Queuing Penalty (veh)	0	3		87	1			0	0	

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	104	170	112	37	145	1101	895	80	31	74	186
Average Queue (ft)	77	42	42	6	54	584	417	29	10	33	84
95th Queue (ft)	117	135	90	26	140	1208	1023	65	28	70	155
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)						5	3				
Queuing Penalty (veh)						0	0				
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	17	1	0		0	53				8	26
Queuing Penalty (veh)	22	1	0		0	21				12	10

Intersection: 8: Saratoga Way & Mammouth Way/Walgreens Dwy

Movement	EB	WB	NB	SB	SB	SB
Directions Served	R	R	L	L	T	TR
Maximum Queue (ft)	28	35	24	19	4	3
Average Queue (ft)	3	4	1	2	0	0
95th Queue (ft)	17	21	11	11	4	2
Link Distance (ft)	171	125			309	309
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Saratoga Way & Project Main Dwy

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	31	73	3	59
Average Queue (ft)	6	35	0	23
95th Queue (ft)	26	58	3	52
Link Distance (ft)	133	133	145	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Saratoga Way & Arrowhead Dr

Movement	EB	SB
Directions Served	LR	T
Maximum Queue (ft)	81	5
Average Queue (ft)	40	0
95th Queue (ft)	69	5
Link Distance (ft)	270	110
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Saratoga Way & Project 2nd Dwy

Movement	WB	NB	SB
Directions Served	LR	TR	L
Maximum Queue (ft)	69	2	60
Average Queue (ft)	34	0	19
95th Queue (ft)	58	2	50
Link Distance (ft)	107	145	
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			50
Storage Blk Time (%)			0
Queuing Penalty (veh)			1

Intersection: 12: Saratoga Way & Project R Out Dwy

Movement	WB
Directions Served	R
Maximum Queue (ft)	34
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	102
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Bend

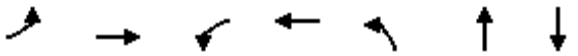
Movement	SB	SB	B80	B80	B80
Directions Served	T		T	T	T
Maximum Queue (ft)	18	10	114	87	57
Average Queue (ft)	1	0	4	4	2
95th Queue (ft)	12	10	52	56	38
Link Distance (ft)	242	242	278	278	278
Upstream Blk Time (%)			0	0	0
Queuing Penalty (veh)			0	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 80: Bend

Movement	SB	SB	SB
Directions Served	T	T	T
Maximum Queue (ft)	114	87	57
Average Queue (ft)	4	4	2
95th Queue (ft)	52	56	38
Link Distance (ft)	278	278	278
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 1467



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	48	631	757	767	92	158	44
v/c Ratio	0.52	0.87	0.85	0.32	0.77	0.42	0.30
Control Delay	80.2	60.8	39.7	11.2	97.2	13.4	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.2	60.8	39.7	11.2	97.2	13.4	30.9
Queue Length 50th (ft)	37	243	489	119	72	16	12
Queue Length 95th (ft)	93	#469	#1040	281	#208	72	47
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	137	722	889	2400	119	608	468
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.87	0.85	0.32	0.77	0.26	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	435	145	696	706	0	85	21	124	0	15	26
Future Volume (veh/h)	44	435	145	696	706	0	85	21	124	0	15	26
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	48	473	158	757	767	0	92	23	135	0	16	28
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	623	207	781	2314	0	116	38	221	2	31	53
Arrive On Green	0.03	0.24	0.24	0.44	0.65	0.00	0.07	0.16	0.16	0.00	0.05	0.05
Sat Flow, veh/h	1774	2613	867	1774	3632	0	1774	236	1383	1774	609	1066
Grp Volume(v), veh/h	48	319	312	757	767	0	92	0	158	0	0	44
Grp Sat Flow(s),veh/h/ln	1774	1770	1710	1774	1770	0	1774	0	1619	1774	0	1675
Q Serve(g_s), s	2.7	16.8	17.0	41.7	9.6	0.0	5.1	0.0	9.1	0.0	0.0	2.6
Cycle Q Clear(g_c), s	2.7	16.8	17.0	41.7	9.6	0.0	5.1	0.0	9.1	0.0	0.0	2.6
Prop In Lane	1.00		0.51	1.00		0.00	1.00		0.85	1.00		0.64
Lane Grp Cap(c), veh/h	61	422	407	781	2314	0	116	0	259	2	0	84
V/C Ratio(X)	0.78	0.76	0.77	0.97	0.33	0.00	0.79	0.00	0.61	0.00	0.00	0.52
Avail Cap(c_a), veh/h	170	453	437	1106	2808	0	149	0	618	53	0	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	35.4	35.5	27.4	7.7	0.0	46.1	0.0	39.1	0.0	0.0	46.4
Incr Delay (d2), s/veh	7.9	7.1	7.8	14.8	0.1	0.0	14.9	0.0	0.9	0.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	9.0	8.9	23.6	4.7	0.0	3.0	0.0	4.1	0.0	0.0	1.2
LnGrp Delay(d),s/veh	55.8	42.5	43.3	42.1	7.8	0.0	61.0	0.0	40.0	0.0	0.0	48.2
LnGrp LOS	E	D	D	D	A		E		D			D
Approach Vol, veh/h		679			1524			250			44	
Approach Delay, s/veh		43.8			24.8			47.7			48.2	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.6	29.8	11.0	9.6	8.1	71.4	0.0	20.6
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	62.4	25.6	8.4	33.0	9.6	79.4	3.0	38.2
Max Q Clear Time (g_c+I1), s	43.7	19.0	7.1	4.6	4.7	11.6	0.0	11.1
Green Ext Time (p_c), s	0.3	4.9	0.0	0.5	0.0	18.4	0.0	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	4	0	0	5	3	466	0	3	557	74
Future Vol, veh/h	0	0	4	0	0	5	3	466	0	3	557	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	0	0	5	3	507	0	3	605	80

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	343	-	-	253	686	0	-	507	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	653	0	0	746	904	-	0	1054	-	-
Stage 1	0	0	-	0	0	-	-	-	0	-	-	-
Stage 2	0	0	-	0	0	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	-	-	653	-	-	746	904	-	-	1054	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	9.9	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	904	-	653	746	1054	-	-
HCM Lane V/C Ratio	0.004	-	0.007	0.007	0.003	-	-
HCM Control Delay (s)	9	-	10.6	9.9	8.4	-	-
HCM Lane LOS	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	80	389	4	89	472
Future Vol, veh/h	8	80	389	4	89	472
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	87	423	4	97	513

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	875	214	0	0	427	0
Stage 1	425	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	7.54	6.94	-	-	4.14	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	243	791	-	-	1129	-
Stage 1	578	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	227	791	-	-	1129	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	227	791	1129	-
HCM Lane V/C Ratio	-	-	0.038	0.11	0.086	-
HCM Control Delay (s)	-	-	21.5	10.1	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.4	0.3	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	94	0	0	242	407	4
Future Vol, veh/h	94	0	0	242	407	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	0	0	263	442	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	577	223	447	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	132	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	447	780	1110	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	447	780	1110	-	-	-
Mov Cap-2 Maneuver	447	-	-	-	-	-
Stage 1	613	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1110	-	447	-	-
HCM Lane V/C Ratio	-	-	0.229	-	-
HCM Control Delay (s)	0	-	15.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	6:50	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	10721	10806	10954	10560	10812	10564	10822
Vehs Exited	10219	10415	10598	10187	10464	10241	10538
Starting Vehs	519	604	605	634	647	690	618
Ending Vehs	1021	995	961	1007	995	1013	902
Travel Distance (mi)	7447	7639	7743	7404	7643	7411	7766
Travel Time (hr)	992.7	1108.3	954.5	1223.4	1065.3	1168.6	988.8
Total Delay (hr)	762.0	871.6	714.1	994.9	828.9	939.3	748.7
Total Stops	27272	28059	29029	28023	27127	27618	25913
Fuel Used (gal)	453.8	487.6	456.0	507.2	478.0	495.5	463.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	10746	10793	10704	10748
Vehs Exited	10430	10359	10348	10379
Starting Vehs	597	530	645	603
Ending Vehs	913	964	1001	968
Travel Distance (mi)	7578	7668	7516	7581
Travel Time (hr)	1006.6	939.2	1135.8	1058.3
Total Delay (hr)	772.5	701.6	903.3	823.7
Total Stops	26554	27173	28126	27489
Fuel Used (gal)	463.6	447.9	490.0	474.3

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2707	2820	2797	2856	2718	2686	2717
Vehs Exited	2533	2602	2673	2707	2606	2645	2637
Starting Vehs	519	604	605	634	647	690	618
Ending Vehs	693	822	729	783	759	731	698
Travel Distance (mi)	1883	1947	1931	2008	1901	1934	1928
Travel Time (hr)	153.3	177.4	165.6	172.3	174.0	186.2	165.2
Total Delay (hr)	94.8	117.1	105.6	110.1	115.1	126.2	105.6
Total Stops	5761	6278	5901	6667	5875	5999	5595
Fuel Used (gal)	92.1	101.0	97.8	101.2	99.1	102.2	96.6

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2774	2691	2832	2761
Vehs Exited	2706	2588	2695	2638
Starting Vehs	597	530	645	603
Ending Vehs	665	633	782	725
Travel Distance (mi)	1950	1893	1980	1936
Travel Time (hr)	170.1	159.8	183.8	170.8
Total Delay (hr)	109.8	101.0	122.8	110.8
Total Stops	5856	5787	6703	6038
Fuel Used (gal)	98.9	94.2	102.9	98.6

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2870	2882	2947	2832	2815	2881	2885
Vehs Exited	2691	2767	2656	2520	2690	2630	2719
Starting Vehs	693	822	729	783	759	731	698
Ending Vehs	872	937	1020	1095	884	982	864
Travel Distance (mi)	1977	2029	2015	1886	1969	1966	2031
Travel Time (hr)	207.3	253.1	228.9	257.1	249.8	255.0	217.0
Total Delay (hr)	146.2	190.0	166.3	199.0	188.7	194.3	154.2
Total Stops	6916	7569	7922	7550	6822	7346	6571
Fuel Used (gal)	107.9	120.1	113.4	115.6	116.7	118.6	111.8

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2941	2890	2838	2879
Vehs Exited	2706	2584	2618	2654
Starting Vehs	665	633	782	725
Ending Vehs	900	939	1002	944
Travel Distance (mi)	2028	1983	1922	1981
Travel Time (hr)	227.9	219.8	237.5	235.3
Total Delay (hr)	165.2	158.5	177.9	174.0
Total Stops	7203	6950	7194	7200
Fuel Used (gal)	114.5	110.8	112.8	114.2

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2623	2594	2548	2383	2614	2581	2724
Vehs Exited	2542	2597	2668	2461	2656	2555	2695
Starting Vehs	872	937	1020	1095	884	982	864
Ending Vehs	953	934	900	1017	842	1008	893
Travel Distance (mi)	1816	1867	1897	1706	1925	1848	1965
Travel Time (hr)	275.7	313.8	277.8	358.5	306.0	323.2	273.8
Total Delay (hr)	219.4	256.2	219.3	306.2	247.0	266.2	212.9
Total Stops	7062	7316	7540	6860	7183	7417	7155
Fuel Used (gal)	118.1	128.2	122.3	135.3	129.3	130.7	122.6

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2458	2676	2461	2566
Vehs Exited	2508	2691	2468	2582
Starting Vehs	900	939	1002	944
Ending Vehs	850	924	995	924
Travel Distance (mi)	1783	1945	1741	1849
Travel Time (hr)	279.5	263.8	318.8	299.1
Total Delay (hr)	224.7	203.6	265.1	242.1
Total Stops	6588	7379	6948	7138
Fuel Used (gal)	118.6	119.7	126.6	125.1

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2521	2510	2662	2489	2665	2416	2496
Vehs Exited	2453	2449	2601	2499	2512	2411	2487
Starting Vehs	953	934	900	1017	842	1008	893
Ending Vehs	1021	995	961	1007	995	1013	902
Travel Distance (mi)	1770	1795	1900	1803	1848	1663	1843
Travel Time (hr)	356.5	364.1	282.2	435.5	335.5	404.2	333.0
Total Delay (hr)	301.6	308.4	222.8	379.6	278.2	352.6	276.0
Total Stops	7533	6896	7666	6946	7247	6856	6592
Fuel Used (gal)	135.7	138.2	122.5	155.0	132.8	144.0	132.6

Interval #4 Information

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2573	2536	2573	2543
Vehs Exited	2510	2496	2567	2498
Starting Vehs	850	924	995	924
Ending Vehs	913	964	1001	968
Travel Distance (mi)	1817	1847	1873	1816
Travel Time (hr)	329.1	295.7	395.7	353.1
Total Delay (hr)	272.7	238.6	337.6	296.8
Total Stops	6907	7057	7281	7095
Fuel Used (gal)	131.6	123.2	147.7	136.3

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	13.3	51.2	5.1
Denied Del/Veh (s)	0.0	0.0	0.0	1.5	0.9	1.5	0.0	0.0	0.0	195.6	195.1	197.0
Total Delay (hr)	7.6	7.6	2.4	5.5	1.3	2.4	4.8	9.7	0.1	22.3	27.9	0.3
Total Del/Veh (s)	94.3	84.5	23.4	73.9	54.0	25.3	84.6	31.2	9.5	359.1	121.7	15.2
Stop Delay (hr)	7.0	6.7	2.2	5.0	1.2	1.9	4.4	7.3	0.0	21.7	23.7	0.1
Stop Del/Veh (s)	86.6	74.7	21.3	66.0	46.9	20.2	78.0	23.5	6.3	348.9	103.3	6.6

1: El Dorado Hills Blvd & Saratoga Way/Park Drive Performance by movement

Movement	All
Denied Delay (hr)	69.9
Denied Del/Veh (s)	59.1
Total Delay (hr)	92.0
Total Del/Veh (s)	79.6
Stop Delay (hr)	81.2
Stop Del/Veh (s)	70.3

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	1.1	0.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	2.4	7.4	0.0	9.1	13.8	1.0	38.3	4.4	0.5	0.2	20.1	0.0
Total Del/Veh (s)	75.5	189.3	3.2	180.2	194.7	167.9	127.6	13.0	6.2	114.6	55.5	1.3
Stop Delay (hr)	2.3	7.1	0.0	8.5	12.8	1.0	32.4	2.2	0.1	0.2	17.1	0.0
Stop Del/Veh (s)	71.7	182.5	0.0	167.2	180.5	156.8	108.1	6.6	1.4	109.8	47.1	0.5

2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	97.2
Total Del/Veh (s)	73.2
Stop Delay (hr)	83.6
Stop Del/Veh (s)	62.9

3: Latrobe Road & US 50 EB Ramps Performance by movement

Movement	EBR	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	1.0	0.3	0.0	0.0	0.0	0.0	0.1
Total Delay (hr)	1.8	0.1	14.0	1.1	2.7	3.9	23.7
Total Del/Veh (s)	17.1	0.8	22.9	6.2	41.3	11.2	16.7
Stop Delay (hr)	1.4	0.0	8.0	0.1	2.1	1.1	12.6
Stop Del/Veh (s)	12.8	0.0	13.0	0.6	32.8	3.0	8.9

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.3	0.0	0.0	3.0	0.5	33.5	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	2.8	0.2	0.3	137.1	156.8	148.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	7.2	0.6	0.2	4.2	0.7	23.3	0.0	50.3	0.8	12.7	4.1	0.0
Total Del/Veh (s)	62.1	48.2	16.4	198.1	210.5	112.2	164.4	100.5	19.3	72.7	15.5	1.7
Stop Delay (hr)	6.7	0.5	0.2	4.0	0.7	21.4	0.0	40.0	0.6	10.9	2.8	0.0
Stop Del/Veh (s)	57.5	44.9	15.5	190.8	202.8	103.0	152.2	79.9	13.7	62.8	10.7	1.0

4: Latrobe Road & Town Center Blvd Performance by movement

Movement	All
Denied Delay (hr)	37.3
Denied Del/Veh (s)	27.0
Total Delay (hr)	104.2
Total Del/Veh (s)	75.5
Stop Delay (hr)	87.9
Stop Del/Veh (s)	63.7

5: Latrobe Road & White Rock Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	22.0	13.5	1.8	9.8	5.0	1.4	3.0	19.4	4.7	20.3	7.3	0.6
Total Del/Veh (s)	171.3	80.1	69.8	70.0	47.8	23.1	107.0	54.1	38.4	288.9	42.6	9.1
Stop Delay (hr)	21.1	11.7	1.6	8.8	4.2	1.2	2.9	17.0	4.3	19.6	5.5	0.4
Stop Del/Veh (s)	164.5	69.3	63.6	62.9	39.8	20.3	103.1	47.5	35.3	279.0	32.0	6.7

5: Latrobe Road & White Rock Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	108.8
Total Del/Veh (s)	75.5
Stop Delay (hr)	98.4
Stop Del/Veh (s)	68.3

6: Windfield Way/Town Center Blvd & White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	15.7	0.9	21.5	0.0	0.0	38.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	177.3	150.4	171.0	0.2	0.2	54.6
Total Delay (hr)	0.6	14.4	1.2	2.7	2.7	4.2	0.2	4.9	0.3	0.3	31.7
Total Del/Veh (s)	82.5	64.5	37.4	60.6	18.3	55.5	51.6	47.0	46.6	16.5	47.5
Stop Delay (hr)	0.6	12.8	1.1	2.5	2.2	3.8	0.2	4.7	0.3	0.2	28.5
Stop Del/Veh (s)	77.5	57.5	32.2	56.4	14.7	51.1	45.8	44.7	42.7	15.9	42.8

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.3	0.1	1.6
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	0.4	0.2	0.1	0.1	0.1	26.3	26.0	24.0
Total Delay (hr)	4.8	6.0	0.1	1.1	15.6	2.6	1.3	0.1	0.1	5.2	0.2	4.4
Total Del/Veh (s)	67.0	22.2	10.8	94.1	70.8	52.3	70.9	28.2	10.4	102.9	73.7	63.8
Stop Delay (hr)	4.3	3.7	0.0	1.0	12.1	2.1	1.2	0.1	0.1	4.8	0.2	4.1
Stop Del/Veh (s)	60.2	13.8	5.5	81.5	55.2	41.5	68.4	25.2	10.4	96.2	65.4	58.4

7: Driveway/Post St & White Rock Road/White Rock Rd Performance by movement

Movement	All
Denied Delay (hr)	3.1
Denied Del/Veh (s)	4.0
Total Delay (hr)	41.6
Total Del/Veh (s)	52.9
Stop Delay (hr)	33.8
Stop Del/Veh (s)	43.1

8: Saratoga Way & Mammouth Way/Walgreens Dwy Performance by movement

Movement	EBR	WBR	NBL	NBT	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	6.4	0.0	0.0	0.0	0.0	0.0	6.4
Denied Del/Veh (s)	0.1	725.0	0.0	0.0	0.0	0.0	0.0	17.0
Total Delay (hr)	0.0	4.3	0.0	11.8	0.1	0.1	0.0	16.4
Total Del/Veh (s)	3.9	917.5	26.2	44.3	17.8	1.2	1.0	43.5
Stop Delay (hr)	0.0	4.3	0.0	9.7	0.1	0.0	0.0	14.1
Stop Del/Veh (s)	3.8	920.4	18.5	36.2	15.6	0.2	0.2	37.5

9: Saratoga Way & Project Main Dwy Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	3.6	24.5	0.0	0.0	0.0	0.0	28.1
Denied Del/Veh (s)	991.2	1051.2	0.0	0.0	0.0	0.0	76.0
Total Delay (hr)	0.2	6.2	5.7	0.0	0.9	0.0	13.0
Total Del/Veh (s)	114.9	679.8	21.8	10.2	35.0	0.8	36.6
Stop Delay (hr)	0.2	6.3	4.6	0.0	0.8	0.0	11.9
Stop Del/Veh (s)	115.0	683.0	17.8	9.1	33.5	0.3	33.6

10: Saratoga Way & Arrowhead Dr Performance by movement

Movement	EBL	EBR	NBT	SBT	SBR	All
Denied Delay (hr)	3.1	0.1	1.0	0.0	0.0	4.1
Denied Del/Veh (s)	103.1	147.7	4.3	0.0	0.0	13.8
Total Delay (hr)	3.7	0.1	2.7	0.0	0.0	6.5
Total Del/Veh (s)	123.4	158.3	11.8	0.2	0.1	21.5
Stop Delay (hr)	3.7	0.1	2.1	0.0	0.0	5.9
Stop Del/Veh (s)	124.1	160.8	9.0	0.0	0.0	19.5

11: Saratoga Way & Project 2nd Dwy Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.9	9.8	0.0	0.0	0.0	0.0	10.7
Denied Del/Veh (s)	458.1	560.2	0.0	0.0	0.0	0.0	32.1
Total Delay (hr)	0.4	4.0	3.7	0.0	0.3	0.0	8.4
Total Del/Veh (s)	277.9	332.2	14.8	4.7	17.1	0.2	25.7
Stop Delay (hr)	0.4	4.0	3.0	0.0	0.3	0.0	7.7
Stop Del/Veh (s)	281.0	335.6	11.9	4.2	15.6	0.0	23.5

12: Saratoga Way & Project R Out Dwy Performance by movement

Movement	WBR	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	11.5	0.0	0.0	0.1
Total Delay (hr)	0.3	3.8	0.0	4.1
Total Del/Veh (s)	205.3	14.8	0.1	13.8
Stop Delay (hr)	0.3	2.9	0.0	3.2
Stop Del/Veh (s)	206.1	11.3	0.0	10.8

Total Network Performance

Denied Delay (hr)	206.6
Denied Del/Veh (s)	65.8
Total Delay (hr)	617.1
Total Del/Veh (s)	195.8
Stop Delay (hr)	520.1
Stop Del/Veh (s)	165.0

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	T	T	T	R
Maximum Queue (ft)	162	175	306	288	224	719	225	274	336	312	308	181
Average Queue (ft)	122	165	293	157	189	224	110	176	188	204	219	19
95th Queue (ft)	190	207	304	283	256	608	214	281	289	288	303	106
Link Distance (ft)			288	288		1441			468	468	468	
Upstream Blk Time (%)			51	1								
Queuing Penalty (veh)			277	5								
Storage Bay Dist (ft)	150	150			200		200	250				250
Storage Blk Time (%)	4	15	62		22	0	1	6	1		3	0
Queuing Penalty (veh)	15	53	201		95	0	5	24	1		1	0

Intersection: 1: El Dorado Hills Blvd & Saratoga Way/Park Drive

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	125	1059	1050	1033	208
Average Queue (ft)	123	961	930	737	39
95th Queue (ft)	136	1250	1286	1293	123
Link Distance (ft)		1017	1017	1017	
Upstream Blk Time (%)		71	29	3	
Queuing Penalty (veh)		0	0	0	
Storage Bay Dist (ft)	100				200
Storage Blk Time (%)	67	22		3	0
Queuing Penalty (veh)	212	53		3	0

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB	NB
Directions Served	L	LT	L	L	T	R	L	L	T	T	T	TR
Maximum Queue (ft)	284	370	154	175	1062	175	575	703	703	487	469	233
Average Queue (ft)	104	233	72	146	630	42	541	607	541	129	125	48
95th Queue (ft)	229	422	129	231	1197	141	651	782	882	339	289	149
Link Distance (ft)	1240	1240			1644			628	628	628	628	628
Upstream Blk Time (%)					0			27	18	0		
Queuing Penalty (veh)					0			150	103	0		
Storage Bay Dist (ft)			150	150		150	550					
Storage Blk Time (%)			1	1	67	0	15	36				
Queuing Penalty (veh)			2	4	133	0	90	215				

Intersection: 2: El Dorado Hills Blvd & US-50 WB Ramps/Saratoga Way

Movement	SB	SB	SB	SB	SB	B46	B46	B46	B46
Directions Served	L	T	T	TR	R	T	T	T	T
Maximum Queue (ft)	203	326	311	297	94	468	446	377	219
Average Queue (ft)	13	283	227	193	5	230	188	83	12
95th Queue (ft)	99	355	334	314	43	527	488	301	99
Link Distance (ft)		229	229	229	229	468	468	468	468
Upstream Blk Time (%)	0	57	17	9	0	2	0	0	
Queuing Penalty (veh)	0	230	70	36	0	7	1	0	
Storage Bay Dist (ft)	200								
Storage Blk Time (%)		62							
Queuing Penalty (veh)		4							

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	202	127	200	584	550	515	258	125	191	430	215	144
Average Queue (ft)	71	40	185	354	167	130	29	56	42	137	28	23
95th Queue (ft)	170	123	236	681	467	344	153	107	130	316	139	95
Link Distance (ft)	1203			558	558	558	558			628	628	628
Upstream Blk Time (%)				5	0	0	0			0	0	0
Queuing Penalty (veh)				37	3	1	1			0	0	0
Storage Bay Dist (ft)		450	175					575	575			
Storage Blk Time (%)	1	0	31	7						0		
Queuing Penalty (veh)	2	0	189	40						0		

Intersection: 3: Latrobe Road & US 50 EB Ramps

Movement	SB
Directions Served	T
Maximum Queue (ft)	76
Average Queue (ft)	8
95th Queue (ft)	39
Link Distance (ft)	628
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	TR	LT	R	R	L	T	T	T	R
Maximum Queue (ft)	289	302	219	141	125	570	551	82	864	866	856	776
Average Queue (ft)	164	175	30	42	106	515	489	4	637	629	624	325
95th Queue (ft)	260	271	123	102	158	624	617	46	1023	1019	1001	826
Link Distance (ft)			778	778		521	521		837	837	837	837
Upstream Blk Time (%)						67	18		9	6	5	1
Queuing Penalty (veh)						0	0		44	30	27	3
Storage Bay Dist (ft)	350	350			100			225				
Storage Blk Time (%)	0	1	0		21	69			62			
Queuing Penalty (veh)	0	0	0		83	63			1			

Intersection: 4: Latrobe Road & Town Center Blvd

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	318	334	502	203	184	36
Average Queue (ft)	218	235	197	79	72	6
95th Queue (ft)	325	342	456	196	149	21
Link Distance (ft)			558	558	558	558
Upstream Blk Time (%)			2	0		
Queuing Penalty (veh)			10	0		
Storage Bay Dist (ft)	325	325				
Storage Blk Time (%)	0	3	4			
Queuing Penalty (veh)	2	10	24			

Intersection: 5: Latrobe Road & White Rock Road

Movement	EB	EB	EB	EB	B40	B40	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	TR	T	T	L	L	T	T	R	L
Maximum Queue (ft)	337	350	436	422	584	558	187	200	333	316	214	278
Average Queue (ft)	293	330	387	295	361	113	173	189	240	139	96	128
95th Queue (ft)	398	407	488	478	769	431	213	220	394	247	181	269
Link Distance (ft)			355	355	548	548			312	312	312	
Upstream Blk Time (%)	0	14	49	17	27	1			7	0	0	0
Queuing Penalty (veh)	0	0	332	119	183	10			27	1	0	0
Storage Bay Dist (ft)	325	325					175	175				270
Storage Blk Time (%)	18	45	16				6	25	2			0
Queuing Penalty (veh)	60	155	91				10	47	10			0

Intersection: 5: Latrobe Road & White Rock Road

Movement	NB	NB	NB	NB	NB	B80	B80	B80	B25	B25	B25	SB
Directions Served	T	T	T	T	R	T	T	T	T	T	T	L
Maximum Queue (ft)	357	343	340	359	62	158	220	274	65	100	130	237
Average Queue (ft)	251	245	238	265	50	22	29	52	6	14	18	180
95th Queue (ft)	358	353	343	384	58	128	158	213	74	138	158	282
Link Distance (ft)	278	278	278	278		242	242	242	496	496	496	
Upstream Blk Time (%)	10	8	7	14		2	1	4	0	0	1	
Queuing Penalty (veh)	0	0	0	0		0	0	0	0	0	0	
Storage Bay Dist (ft)					25							225
Storage Blk Time (%)	11			26	45							16
Queuing Penalty (veh)	11			113	144							34

Intersection: 5: Latrobe Road & White Rock Road

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	249	635	408	268	90
Average Queue (ft)	192	338	154	93	17
95th Queue (ft)	303	778	293	188	59
Link Distance (ft)		837	837	837	
Upstream Blk Time (%)		5	0		
Queuing Penalty (veh)		20	0		
Storage Bay Dist (ft)	225				250
Storage Blk Time (%)	35	1		0	
Queuing Penalty (veh)	76	4		0	

Intersection: 6: Windfield Way/Town Center Blvd & White Rock Rd

Movement	EB	EB	EB	B28	B28	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	T	T	L	T	TR	L	TR	TR
Maximum Queue (ft)	220	420	421	1577	1575	207	243	254	180	270	103
Average Queue (ft)	44	325	269	506	470	118	105	115	164	238	39
95th Queue (ft)	162	480	461	1723	1701	203	217	218	231	300	84
Link Distance (ft)		329	329	2088	2088		548	548		234	299
Upstream Blk Time (%)		43	18	10	9					47	
Queuing Penalty (veh)		0	0	0	0					0	
Storage Bay Dist (ft)	195					190			155		
Storage Blk Time (%)	0	52				3	1		25	39	0
Queuing Penalty (veh)	0	16				9	2		118	122	0

Intersection: 7: Driveway/Post St & White Rock Road/White Rock Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	105	350	362	126	145	730	652	130	60	75	449
Average Queue (ft)	101	260	253	19	58	372	317	56	20	72	312
95th Queue (ft)	116	394	392	80	145	727	600	111	47	82	530
Link Distance (ft)		312	312			1505	1505	221	221		409
Upstream Blk Time (%)		6	4								31
Queuing Penalty (veh)		46	27								0
Storage Bay Dist (ft)	80			110	120					50	
Storage Blk Time (%)	51	11	21	0	0	52				66	21
Queuing Penalty (veh)	276	31	6	0	2	22				171	37

Intersection: 8: Saratoga Way & Mammouth Way/Walgreens Dwy

Movement	EB	WB	NB	NB	NB	SB	SB
Directions Served	R	R	L	T	TR	L	T
Maximum Queue (ft)	30	140	68	303	323	44	10
Average Queue (ft)	5	102	4	279	237	11	0
95th Queue (ft)	24	158	34	308	381	37	8
Link Distance (ft)	134	119		271	271		288
Upstream Blk Time (%)		74		53	22		
Queuing Penalty (veh)		0		276	114		
Storage Bay Dist (ft)			100			100	
Storage Blk Time (%)				69			
Queuing Penalty (veh)				3			

Intersection: 9: Saratoga Way & Project Main Dwy

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	132	167	159	184	119	150	27
Average Queue (ft)	34	135	131	110	58	11	1
95th Queue (ft)	130	193	174	205	114	84	28
Link Distance (ft)	147	147	124	124		271	271
Upstream Blk Time (%)	17	80	50	22		0	0
Queuing Penalty (veh)	0	0	245	106		0	0
Storage Bay Dist (ft)					100		
Storage Blk Time (%)					6		
Queuing Penalty (veh)					7		

Intersection: 10: Saratoga Way & Arrowhead Dr

Movement	EB	NB	NB
Directions Served	LR	T	T
Maximum Queue (ft)	205	237	218
Average Queue (ft)	115	101	70
95th Queue (ft)	251	272	228
Link Distance (ft)	218	227	227
Upstream Blk Time (%)	28	10	3
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)		21	
Queuing Penalty (veh)		0	

Intersection: 11: Saratoga Way & Project 2nd Dwy

Movement	WB	NB	NB	SB	SB	SB
Directions Served	LR	T	TR	L	T	T
Maximum Queue (ft)	150	131	137	72	76	22
Average Queue (ft)	110	106	66	34	6	0
95th Queue (ft)	180	162	151	69	47	10
Link Distance (ft)	133	105	105		124	124
Upstream Blk Time (%)	65	42	10		0	0
Queuing Penalty (veh)	0	197	48		0	0
Storage Bay Dist (ft)				50		
Storage Blk Time (%)				7		
Queuing Penalty (veh)				6		

Intersection: 12: Saratoga Way & Project R Out Dwy

Movement	WB	NB	NB
Directions Served	R	T	T
Maximum Queue (ft)	48	182	188
Average Queue (ft)	12	117	71
95th Queue (ft)	50	228	193
Link Distance (ft)	91	159	159
Upstream Blk Time (%)	4	22	4
Queuing Penalty (veh)	0	104	17
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Bend

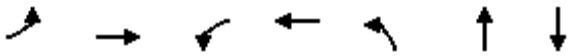
Movement	SB	SB	B80	B80
Directions Served	T	T	T	T
Maximum Queue (ft)	10	7	9	22
Average Queue (ft)	0	0	0	0
95th Queue (ft)	8	5	7	3
Link Distance (ft)	242	242	278	278
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 80: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	9	22
Average Queue (ft)	0	0
95th Queue (ft)	7	3
Link Distance (ft)	278	278
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 6015



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	33	1116	175	597	337	502	85
v/c Ratio	0.41	0.83	0.81	0.33	0.83	0.69	0.45
Control Delay	72.2	39.2	78.0	20.5	62.1	20.0	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.2	39.2	78.0	20.5	62.1	20.0	26.6
Queue Length 50th (ft)	24	365	124	134	229	157	19
Queue Length 95th (ft)	67	#690	#311	266	#511	269	65
Internal Link Dist (ft)		327		554		213	278
Turn Bay Length (ft)	195		190		155		
Base Capacity (vph)	105	1352	223	1786	413	929	518
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.83	0.78	0.33	0.82	0.54	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	900	127	161	549	0	310	21	441	0	25	53
Future Volume (veh/h)	30	900	127	161	549	0	310	21	441	0	25	53
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	978	138	175	597	0	337	23	479	0	27	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	1223	173	205	1749	0	366	25	515	2	48	103
Arrive On Green	0.02	0.39	0.39	0.12	0.49	0.00	0.21	0.34	0.34	0.00	0.09	0.09
Sat Flow, veh/h	1774	3115	439	1774	3632	0	1774	73	1521	1774	528	1134
Grp Volume(v), veh/h	33	555	561	175	597	0	337	0	502	0	0	85
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	0	1774	0	1594	1774	0	1663
Q Serve(g_s), s	2.0	29.3	29.3	10.2	10.8	0.0	19.6	0.0	32.0	0.0	0.0	5.2
Cycle Q Clear(g_c), s	2.0	29.3	29.3	10.2	10.8	0.0	19.6	0.0	32.0	0.0	0.0	5.2
Prop In Lane	1.00		0.25	1.00		0.00	1.00		0.95	1.00		0.68
Lane Grp Cap(c), veh/h	41	695	701	205	1749	0	366	0	539	2	0	150
V/C Ratio(X)	0.80	0.80	0.80	0.86	0.34	0.00	0.92	0.00	0.93	0.00	0.00	0.57
Avail Cap(c_a), veh/h	116	752	759	246	1797	0	455	0	859	51	0	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	51.2	28.3	28.3	45.7	16.2	0.0	41.0	0.0	33.7	0.0	0.0	45.9
Incr Delay (d2), s/veh	12.3	6.0	6.0	19.0	0.1	0.0	19.6	0.0	8.3	0.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	15.3	15.5	6.1	5.3	0.0	11.6	0.0	15.3	0.0	0.0	2.4
LnGrp Delay(d),s/veh	63.6	34.3	34.3	64.7	16.4	0.0	60.6	0.0	42.0	0.0	0.0	47.2
LnGrp LOS	E	C	C	E	B		E		D			D
Approach Vol, veh/h		1149			772			839			85	
Approach Delay, s/veh		35.1			27.3			49.4			47.2	
Approach LOS		D			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	47.4	26.1	14.1	7.0	58.1	0.0	40.2
Change Period (Y+Rc), s	5.6	6.0	4.4	4.6	4.6	6.0	4.6	4.6
Max Green Setting (Gmax), s	14.6	44.8	27.0	33.0	6.9	53.5	3.0	56.8
Max Q Clear Time (g_c+I1), s	12.2	31.3	21.6	7.2	4.0	12.8	0.0	34.0
Green Ext Time (p_c), s	0.0	10.1	0.1	1.6	0.0	21.3	0.0	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	6	0	0	32	4	1024	0	16	306	69
Future Vol, veh/h	0	0	6	0	0	32	4	1024	0	16	306	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	7	0	0	35	4	1113	0	17	333	75

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	204	-	-	557	408	0	0	1113	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	803	0	0	474	1147	-	-	623	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	803	-	-	474	1147	-	-	623	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	13.2	0	0.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1147	-	-	803	474	623	-	-
HCM Lane V/C Ratio	0.004	-	-	0.008	0.073	0.028	-	-
HCM Control Delay (s)	8.2	-	-	9.5	13.2	10.9	-	-
HCM Lane LOS	A	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	79	949	13	97	215
Future Vol, veh/h	13	79	949	13	97	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	86	1032	14	105	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1367	523	0	0	1046	0
Stage 1	1039	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	138	499	-	-	661	-
Stage 1	302	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	499	-	-	661	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	3.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	116	499	661	-
HCM Lane V/C Ratio	-	-	0.122	0.172	0.16	-
HCM Control Delay (s)	-	-	40.3	13.7	11.5	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.6	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	107	1	0	805	158	13
Future Vol, veh/h	107	1	0	805	158	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	1	0	875	172	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	617	93	186	0	-	0
Stage 1	179	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	422	946	1386	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	422	946	1386	-	-	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1386	-	424	-	-
HCM Lane V/C Ratio	-	-	0.277	-	-
HCM Control Delay (s)	0	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Appendix G

Traffic Signal Warrant Worksheets

Saratoga Retail Phase 2

Scenario Report

Scenario:	EX AM
Command:	Default Command
Volume:	EX AM
Geometry:	EX
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Lanes:	1	0	0	1	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	0	68		0	3	25	74	76		0	1		0	0	5
ApproachDel:	xxxxxx			xxxxxx			10.5				8.8				

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=77]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=252]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0	0 0	0 0	1
Initial Vol:	0	68	0	3	25	74	76	0	1	0	0	5

Major Street Volume: 170
Minor Approach Volume: 77
Minor Approach Volume Threshold: 895

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	0	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0	61	0	12	14	0	0	0	0	0	0	7
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=7]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=94]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	0	0	1 0 1	0	0	0 0 0	0	0	1 0 0	0	1
Initial Vol:	0	61	0	12	14	0	0	0	0	0	0	7

Major Street Volume: 87
Minor Approach Volume: 7
Minor Approach Volume Threshold: 1424

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	0	0	0 0	0	1 0	1 0	0	0	0 0	0	0
Initial Vol:	0	46	0	0	13	1	15	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			8.9			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=15]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=75]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	0	0	0 0	0	1 0	1 0	0	0	0 0	0	0
Initial Vol:	0	46	0	0	13	1	15	0	0	0	0	0

Major Street Volume: 60
Minor Approach Volume: 15
Minor Approach Volume Threshold: 1254

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	EX PM
Command:	Default Command
Volume:	EX PM
Geometry:	EX
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0	0 0	0 1	0
Initial Vol:	2	41	0	16	84	69	87	3	4	0	4	32
ApproachDel:	xxxxxx			xxxxxx			11.1			8.9		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=342]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=342]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0	0 0	0 1	0
Initial Vol:	2	41	0	16	84	69	87	3	4	0	4	32

Major Street Volume: 212
Minor Approach Volume: 94
Minor Approach Volume Threshold: 819

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	30	6	33	55	0	0	0	0	6	0	13
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.9		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=19]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=143]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	30	6	33	55	0	0	0	0	6	0	13

Major Street Volume: 124
Minor Approach Volume: 19
Minor Approach Volume Threshold: 1272

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Initial Vol:	0	21	0	0	50	11	15	0	1	0	0	0
ApproachDel:	xxxxxx			xxxxxx			9.0			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=98]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Initial Vol:	0	21	0	0	50	11	15	0	1	0	0	0

Major Street Volume: 82
Minor Approach Volume: 16
Minor Approach Volume Threshold: 1146

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	EXPP AM
Command:	Default Command
Volume:	EXPP AM
Geometry:	EX
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		0 0	1! 0		0 0	1! 0		0 0	0 0	1
Initial Vol:	3	224	0	3	192	74	76	0	4	0	0	5
ApproachDel:	xxxxxx			xxxxxx			18.6			10.0		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=80]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=581]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=581]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		0 0	1! 0		0 0	1! 0		0 0	0 0	1
Initial Vol:	3	224	0	3	192	74	76	0	4	0	0	5

Major Street Volume: 496
Minor Approach Volume: 80
Minor Approach Volume Threshold: 526

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	141	1	97	99	0	0	0	0	1	0	86
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.4		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=87]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=425]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	141	1	97	99	0	0	0	0	1	0	86

Major Street Volume: 338
Minor Approach Volume: 87
Minor Approach Volume Threshold: 841

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	0	0 0	0 1	0	1 0	0 0	0	0 0	0 0	0
Initial Vol:	0	47	0	0	14	4	18	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			9.0			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=83]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	0	0	0 0 0	1	0	1 0 0	0	0	0 0 0	0	0
Initial Vol:	0	47	0	0	14	4	18	0	0	0	0	0

Major Street Volume: 65
Minor Approach Volume: 18
Minor Approach Volume Threshold: 1227

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	EXPP PM
Command:	Default Command
Volume:	EXPP PM
Geometry:	EX
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		0 0 1!	0		0 0 1!	0		0 0 0	1	0
Initial Vol:	4	174	0	16	223	69	87	3	6	0	4	32
ApproachDel:	xxxxxx			xxxxxx			15.7			9.9		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=96]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=618]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=36]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=618]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0		0 0 0	1 0	
Initial Vol:	4	174	0	16	223	69	87	3	6	0	4	32

Major Street Volume: 486
Minor Approach Volume: 96
Minor Approach Volume Threshold: 533

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	98	7	103	126	0	0	0	0	7	0	80
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.5		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=87]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=421]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 0 1 0			1 0 1 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	98	7	103	126	0	0	0	0	7	0	80

Major Street Volume: 334
Minor Approach Volume: 87
Minor Approach Volume Threshold: 846

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Initial Vol:	0	23	0	0	51	13	17	0	1	0	0	0
ApproachDel:	xxxxxx			xxxxxx			9.0			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=105]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	0 0		0 0 0	1 0		0 0 1!	0 0		0 0 0	0 0	
Initial Vol:	0	23	0	0	51	13	17	0	1	0	0	0

Major Street Volume: 87
Minor Approach Volume: 18
Minor Approach Volume Threshold: 1126

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	CUM AM
Command:	Default Command
Volume:	CUM AM
Geometry:	CUM
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1			1 0 1			0 0 0			0 0 0		
Initial Vol:	0	325	0	3	406	74	0	0	1	0	0	5
ApproachDel:	xxxxxx			xxxxxx			9.8			9.3		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=1]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=814]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=814]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1			1 0 1			0 0 0			0 0 0		
Initial Vol:	0	325	0	3	406	74	0	0	1	0	0	5

Major Street Volume: 808
Minor Approach Volume: 5
Minor Approach Volume Threshold: 358

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0	318	0	12	395	0	0	0	0	0	0	7
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.3		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=7]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=732]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Initial Vol:	0	318	0	12	395	0	0	0	0	0	0	7

Major Street Volume: 725
Minor Approach Volume: 7
Minor Approach Volume Threshold: 512

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	0	0 0 0	0	0
Initial Vol:	0 227		0	0 394		1	91	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			14.7			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=91]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=713]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	0	0 0 0	0	0
Initial Vol:	0 227		0	0 394		1	91	0	0	0	0	0

Major Street Volume: 622
Minor Approach Volume: 91
Minor Approach Volume Threshold: 448

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	CUM PM
Command:	Default Command
Volume:	CUM PM
Geometry:	CUM
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1			1 0 1			0 0 0			0 0 0		
Initial Vol:	2	904	0	16	181	69	0	0	4	0	0	32
ApproachDel:	xxxxxx			xxxxxx			9.0			12.3		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1208]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1208]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 0 0	0 1		0 0 0	0 1	
Initial Vol:	2	904	0	16	181	69	0	0	4	0	0	32

Major Street Volume: 1172
Minor Approach Volume: 32
Minor Approach Volume Threshold: 230

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0	889	9	33	152	0	0	0	0	6	0	17
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			15.2		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=23]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1106]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0 889	9		33 152	0		0 0	0		6 0	17	

Major Street Volume: 1083
Minor Approach Volume: 23
Minor Approach Volume Threshold: 340

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Initial Vol:	0	793	0	0	147	11	105	0	1	0	0	0
ApproachDel:	xxxxxx			xxxxxx			16.0			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=106]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1057]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Initial Vol:	0	793	0	0	147	11	105	0	1	0	0	0

Major Street Volume: 951
Minor Approach Volume: 106
Minor Approach Volume Threshold: 302

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	CUMPP AM
Command:	Default Command
Volume:	CUMPP AM
Geometry:	CUM
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1			1 0 1			0 0 0			0 0 0		
Initial Vol:	3	466	0	3	557	74	0	0	4	0	0	5
ApproachDel:	xxxxxx			xxxxxx			10.5			9.8		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=4]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1112]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1112]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 0 0	0 1		0 0 0	0 1	
Initial Vol:	3	466	0	3	557	74	0	0	4	0	0	5

Major Street Volume: 1103
Minor Approach Volume: 5
Minor Approach Volume Threshold: 251

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0 389	4		89 472	0		0 0	0		8 0	80	
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.8		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=88]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1042]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0 389	4		89 472	0		0 0	0		8 0	80	

Major Street Volume: 954
Minor Approach Volume: 88
Minor Approach Volume Threshold: 394

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	0	0 0 0	0	0
Initial Vol:	0 242		0	0 407		4	94	0	0	0	0	0
ApproachDel:	xxxxxx			xxxxxx			15.3			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=94]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=747]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	1 0 0	0	0	0 0 0	0	0
Initial Vol:	0 242		0	0 407		4	94		0	0		0

Major Street Volume: 653
Minor Approach Volume: 94
Minor Approach Volume Threshold: 432

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Scenario Report

Scenario:	CUMPP PM
Command:	Default Command
Volume:	CUMPP PM
Geometry:	CUM
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Saratoga Retail Phase 2

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 8 INT 8	No / No	??? / ???
# 9 INT 9	No / No	??? / ???
# 10 INT 10	No / No	??? / ???

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1			1 0 1			0 0 0			0 0 0		
Initial Vol:	4	1024	0	16	306	69	0	0	6	0	0	32
ApproachDel:	xxxxxx			xxxxxx			9.5			13.1		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1457]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=32]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1457]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #8 INT 8

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 0 0	0 1		0 0 0	0 1	
Initial Vol:	4	1024	0	16	306	69	0	0	6	0	0	32

Major Street Volume: 1419
Minor Approach Volume: 32
Minor Approach Volume Threshold: 164

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0	949	13	97	215	0	0	0	0	13	0	79
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			17.0		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=92]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1366]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #9 INT 9

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0	0	1 0 2	0 0		0 0 0	0 0	0	1 0 0	0 1	
Initial Vol:	0 949	13		97 215	0		0	0	0	13	0	79

Major Street Volume: 1274
Minor Approach Volume: 92
Minor Approach Volume Threshold: 270

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Saratoga Retail Phase 2

Peak Hour Delay Signal Warrant Report

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 2	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Initial Vol:	0 805		0	0 158		13	107		0	1	0	0
ApproachDel:	xxxxxx			xxxxxx			16.5			xxxxxx		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=108]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1084]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Saratoga Retail Phase 2

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #10 INT 10

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	1! 0	0	0 0	0 0	0
Initial Vol:	0	805	0	0	158	13	107	0	1	0	0	0

Major Street Volume: 976
Minor Approach Volume: 108
Minor Approach Volume Threshold: 293

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix H

MRTD Calculations

MRTD Calculations for Cumulative (2035) plus Project Conditions

INT	Control	Movement	Peak Hour	Approach Volume	RT %	Major Street				Max Queue Calculations (ft)	Required Storage (ft)	Minimum Required Throat Depth (veh)
						Posted Speed (mph)	Lanes	Conflicting Volume for left-turns	Conflicting Volume for Right Turns			
All Access Secondary	SSSC	Minor-street shared Left/through/right (1)	AM	80	89%	45	2	2061	978	7.75	25	1
			PM	70	89%			2140	1247	7.69	25	1

Appendix I

Fast Food Restaurant Drive-Through Queuing

Time	120 Harding Blvd Drive Thru Queue (single)	3994 Foothills Blvd Drive Thru Queue (dual)	7850 Lichen Dr Drive Thru Queue (dual)
06:00 AM	1	1	1
06:15 AM	2	2	3
06:30 AM	3	1	6
06:45 AM	1	3	6
07:00 AM	5	4	3
07:15 AM	4	6	5
07:30 AM	1	7	3
07:45 AM	5	6	10
08:00 AM	3	1	7
08:15 AM	2	7	0
08:30 AM	4	9	11
08:45 AM	3	10	5
09:00 AM	0	6	3
09:15 AM	1	4	7
09:30 AM	2	3	4
09:45 AM	2	1	3
10:00 AM	3	2	9
10:15 AM	2	1	3
10:30 AM	2	5	2
10:45 AM	5	4	2
11:00 AM	6	1	2
11:15 AM	10	8	2
11:30 AM	10	4	3
11:45 AM	7	1	11
12:00 PM	7	2	10
12:15 PM	13	4	7
12:30 PM	8	10	3
12:45 PM	5	11	4
01:00 PM	7	5	12
01:15 PM	3	8	2
01:30 PM	2	11	9
01:45 PM	12	4	0

Source: Kimley-Horn and Associates, Inc. December 12, 2016