City of Santa Rosa
March 10/2021
Planning & Economic
Development Department

March 8, 2021

Mr. Justin Hayman
Fountaingrove Inn
P.O. Box 12277
Santa Rosa, CA 95406-2277

Updated Focused Traffic Study for the Fountaingrove Inn Redevelopment Project

Dear Mr. Hayman;

As requested, W-Trans has updated the focused traffic study prepared for the proposed multifamily housing project to be developed at 101 Fountaingrove Parkway in the City of Santa Rosa. The purpose of the letter is to address possible traffic impacts associated with the redevelopment of the previous Fountaingrove Inn site into apartments, including addressing changes to the project proposal since the focused study was initially prepared and providing an assessment of Vehicle Miles Traveled (VMT).

Existing Conditions

The study area consists of Mendocino Avenue and Fountaingrove Parkway along the project frontages. Mendocino Avenue generally runs north-south while Fountaingrove Parkway is predominantly east-west; both are classified as arterial streets. The segment of Mendocino Avenue fronting the project site has a posted speed limit of 45 mph, with two lanes in each direction and bicycle lanes provided on each side of the street. Fountaingrove Parkway is posted at 40 mph and also has two lanes in each direction with a separate bike trail on the south side. Based on 2018 counts provided by the City of Santa Rosa, the segment of Mendocino Avenue north of Fountaingrove Parkway has an average daily vehicle traffic (ADT) of 28,600 vehicles; Fountaingrove Parkway carries 18,650 vehicles based on 2016 (pre-firestorm) counts.

Intersection Operation

The Levels of Service for the intersection of Mendocino Avenue/Fountaingrove Parkway were analyzed using the signalized methodology from the HCM, which is based on factors including traffic volumes, green time for each movement, phasing, whether the signals are coordinated or not, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using signal timing obtained from the City.

Existing Conditions

Under existing conditions, the intersection of Mendocino Avenue/Fountaingrove Parkway operates acceptably at LOS D during the both the morning and evening peak periods. Copies of the Level of Service calculations for all evaluated scenarios are enclosed.

Baseline Conditions

The Baseline (Existing plus Approved Development) scenario provides an evaluation of operation with traffic from approved projects in the vicinity of the study area added to existing peak hour traffic volumes. As directed by staff, the following projects are all expected to be constructed and generating traffic that would impact the study intersections, so were included in the analysis of this scenario.

- **Retail Center Project** – Construction of a 16-pump gas station with a convenience market and carwash and a 2,200 square-foot coffee shop with a drive-through located on the northeast corner of Mendocino Avenue and Bicentennial Way
- **Residence Inn** – 114 rooms to be located on the west side of Round Barn Circle
- **Solstice Sonoma Project** – Development of an event space with a 250-person capacity and on-site lodging consisting of 12 small cabins to be located at 3890 Old Redwood Highway

Under Baseline conditions, the study intersection is expected to continue operating acceptably at LOS D during both peak hours.

Project Description

The proposed project would include construction of 239 multifamily housing units in place of the Fountaingrove Inn and Equus Restaurant that were destroyed in the Tubbs firestorm of October 2017. The multifamily apartment complex would include 19 studio units, 123 one-bedroom units, and 97 two-bedroom units within four buildings up to five stories tall. As part of the project right-of-way along the Fountaingrove Parkway frontage would be dedicated for future use by the City to construct an additional westbound lane, as shown on the enclosed concept plan.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for Multifamily Housing (Mid-Rise) (ITE LU 221). Because the site was occupied by a hotel and restaurant before the firestorm, the trip generations of the hotel and restaurant were considered. "Hotel" rates (ITE LU 310) were applied to the previous hotel and "Quality Restaurant" (ITE LU 931) was used for the restaurant portion.

Internal Capture

Internal trips occur at mixed-use developments, and in the case of the Fountaingrove Inn consisted of hotel guests and employees patronizing the Equus Restaurant. It is expected that these trips were made by walking so would not affect the adjacent street network. There is no standard rate that would be applicable to the hotel/restaurant combination of uses, so a 25-percent reduction was used based on hotel industry standards; this deduction is applied to the use that has the lower trip generation of the two. Because internal capture eliminates both ends of one trip, the deduction is applied to the second use, or the one with the higher trip generation, by subtracting the opposite end of the trips estimated by applying the internal capture rate. In other words, the trips inbound to the restaurant shown as a negative are also subtracted from the outbound trips for the hotel to capture both ends of the trip between the hotel and the restaurant.

Total Project Trip Generation

The expected change in site-related trip generation is indicated in Table 1, with deductions taken for trips made to and from the previous hotel at the site, including internal capture between the hotel and restaurant. The proposed project is expected to generate an average of 1,300 trips per day, including 86 trips during the a.m. peak hour and 105 during the p.m. peak hour. Compared to the trips that the hotel and restaurant would have been expected to generate, the housing project would be expected to generate 78 fewer trips on a daily basis, including 27 more trips during the morning peak hour and 11 more trips during the evening peak hour.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Previous											
Hotel	124 rooms	8.36	1037	0.47	58	34	24	0.60	74	38	36
Internal Capture			*-92*		*-1*	*-0*	*-1*		*-10*	*-3*	*-7*
Quality Restaurant	142 seats	2.60	369	0.02	3	2	1	0.28	40	27	13
Internal Capture		*-25%*	*-92*	*-25%*	*-1*	*-1*	*-0*	*-25%*	*-10*	*-7*	*-3*
Previous Sub-Total			*-1,222*		*-59*	*-35*	*-24*		*-94*	*-55*	*-39*
Proposed											
Multifamily Housing	239 du	5.44	1,300	0.36	86	22	64	0.44	105	64	41
Net New Trip Total			**78**		**27**	**-13**	**40**		**11**	**9**	**2**

Note: du = dwelling unit

Under the City's policies, a project that generates fewer than 50 new peak hour trips requires only a focused traffic study. However, as requested by staff, the potential impact of adding project-generated traffic to both Existing and Baseline volumes was evaluated.

It is noted that the analysis that follows was based on the initial proposal of 224 units, so reflects 5 fewer trips during the morning peak hour and 7 during the peak hour. This change in the trip generation would reasonably be expected to result in a nominal change to the analysis presented below.

Trip Distribution

The pattern used to allocate new project trips to the street network was determined based on familiarity of the surround area. The distribution assumptions shown in Table 2 were applied for the analysis.

Table 2 – Trip Distribution Assumptions

Route	Percent
To/from US 101 north of Mendocino Overcrossing	20
To/from US 101 south of Mendocino Overcrossing	40
To/from the south via Mendocino Ave	20
To/from the east via Fountaingrove Pkwy	20
TOTAL	**100**

Capacity Analysis

Intersection Operation

With the addition of project-generated traffic to Existing and Baseline conditions, the intersection of Mendocino Avenue/Fountaingrove Parkway would be expected to continue operating acceptably at LOS D during both peak periods, as indicated in the enclosed copies of the calculation output. Operation would be improved through the

increase in capacity associated with the additional westbound through lane that the City plans to install in the Future using the right-of-way being dedicated by the project.

Construction Conditions

The project would temporarily result in an increase in truck trips through the study area due to typical construction activities associated with the multifamily dwellings. Per the City's general notes, construction hours are limited from 7:00 a.m., the start of the morning peak period, to 7:00 p.m., after the end of the evening peak period for traffic. Generally, construction workers arrive at the site before the morning peak period starts to start work promptly at 7:00 a.m. and leave at around 3:30 p.m., before the evening peak period starts. If work hours were extended to 7:00 p.m. workers would be arriving and leaving after the morning and evening peak periods, respectively. Therefore, the vehicles into and out of the site during the peak traffic periods would generally be limited to trucks delivering materials, though it is expected that most truck trips would occur outside of the morning and evening peak periods.

It is understood that the highest frequency of trucks into and out of the site would be during the grading process. It is anticipated that during any one morning peak hour, there could be as many as four truck trips, split between inbound and outbound. Assuming a vehicle equivalency of three passenger vehicles per truck, the resulting 12 trips is substantially fewer trips than either the prior or proposed use would generate during either peak hour. In order for the number of construction trucks to warrant a full traffic study, there would need to be approximately 17 construction trucks (equivalent to 51 passenger vehicle trips) in and out of the site during one peak hour, which is unreasonably high given that construction work is usually outside of the typical peak hour and the size of the project lot. The potential impacts associated with construction traffic can therefore be assumed to have a less-than-significant impact on the Mendocino Avenue/Fountaingrove Parkway intersection, as the estimated number of hourly truck trips is less than the estimated number of trips associated with either the prior or proposed future use.

CEQA Initial Study Checklist

The California Environmental Quality Act (CEQA) provide a checklist that defines the four areas in which a project can potentially have a significant traffic impact. Following are discussion of those four area and the project's identified impact.

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than significant. The proposed project is consistent with adopted policies and plans regarding roadway, public transit, bicycle, and pedestrian facilities.

The study segment of Mendocino Avenue would continue to operate at an acceptable LOS with the completion of the project and is therefore consistent with General Plan Policy T-D-1, which calls for the maintenance of LOS D along all major corridors.

There are several bicycle facilities in the vicinity of the project. Bike lanes are present on Mendocino Avenue, connecting to Downtown Santa Rosa and to Windsor. Multi-use paths are present along Fountaingrove Parkway and Round Barn Boulevard near the project site. The *City of Santa Rosa Bicycle and Pedestrian Master Plan Update 2018* includes proposed bike lanes on Bicentennial Way from Fountaingrove Parkway to Mendocino Avenue, which would connect to existing bike lanes and provide access to the west side of US 101. Existing bicycle facilities together with shared use of minor streets provide adequate access for bicyclists. The project is therefore consistent with General Plan Policy T-L, which calls for the development of "a citywide system of designated

bikeways that serves both experienced and casual bicyclists, and which maximizes bicycle use for commuting, recreation, and local transport."

The project is consistent with General Plan Policy T-H-3, which calls for the provision of "[d]irect and paved pedestrian access to transit stops." Several bus routes are accessible from the project site. Bus stops located on Mendocino Avenue just south of Fountaingrove Parkway provide access to Santa Rosa CityBus Route 10 as well as Sonoma County Transit Routes 60 and 62. Route 10 serves North Santa Rosa and provides connections to destinations including Coddingtown Mall and Downtown Santa Rosa. This service operates seven days a week, with weekday service every 30 minutes from 6 a.m. until 8 p.m. and more limited weekend service. Sonoma County Transit Route 60 provides service between Santa Rosa and Cloverdale, with nine buses per day, seven days a week. Route 62 provides service with 11 daily buses between Downtown Santa Rosa and Windsor, including a connection to the Sonoma County Airport.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. CityBus paratransit is contracted out to MV Transportation and is designed to serve the needs of individuals with disabilities within three-quarters of a mile from existing CityBus routes.

There are medical facilities, shopping, and other destinations within one-half mile of the project, so it is reasonable to assume that some residents of the project would want to walk to these destinations. Sidewalks are present throughout the area, including along the project frontages on Fountaingrove Parkway, Mendocino Avenue, and Round Barn Boulevard. Multi-use paths are located along the south side of Fountaingrove Parkway and east side of Round Barn Boulevard. Crosswalks with pedestrian countdown signals are present on the south and east legs of the Mendocino Avenue/Fountaingrove Parkway intersection.

It is noted that the curb ramps at the intersections of Fountaingrove Parkway/Mendocino Avenue and Fountaingrove Parkway/Round Barn Boulevard do not include detectable warnings and are therefore not in compliance with Americans with Disabilities Act (ADA) requirements. With the improvement of these ramps to conform to ADA requirements, General Plan policy T-K, which calls for the development of a "safe, convenient, continuous network of pedestrian sidewalks and pathways that link neighborhoods with schools, parks, shopping areas, and employment centers" would be fully achieved. It is anticipated that this improvement would be made by the City at such time as the additional westbound lane using project-dedicated land is constructed.

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Less than significant. The California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, identifies several criteria that may be used by jurisdictions to identify certain types of projects that are unlikely to have a VMT impact and can be "screened" from further VMT analysis. The City of Santa Rosa's draft guidelines for determining significant VMT impacts of residential development projects include screening criteria consistent with the OPR guidance, including proximity to high quality transit service and locations where per capita VMT is more than 15 percent below the countywide average. The City has developed screening maps to identify locations where proposed residential projects can be pre-screened as they can be assumed to have a less than significant VMT impact. The proposed project's location is identified on the City's screening map as meeting these criteria and can therefore be assumed to have a less-than-significant impact.

The potential VMT impact was also considered in terms of other relevant factors. The publication *Quantifying Greenhouse Gas Mitigation Measures*, California Air Pollution Control Officers Association (CAPCOA), 2010, includes a methodology to estimate reductions in project-related VMT based on characteristics including residential density, using conventional single-family home development as a baseline. With 239 units proposed on 9.6 acres, the proposed density of the Fountaingrove Inn redevelopment project is 24.9 units per acre, compared to the typical residential density of 7.6 units per acre estimated by the Institute of Transportation Engineers (ITE). As a

result, the VMT for the project is projected to be 15.9 percent lower than what would otherwise be expected based on the project location.

The project-related VMT was also compared to the hotel use that previously occupied the site. Since there is limited data available for estimated average trip lengths for such visitor-serving uses, a quantitative comparison could not be conducted. However, it can reasonably be assumed that the hotel would have had a higher average trip length than the proposed residential use. Hotel guests would most likely have traveled to the site from outside of Sonoma County, and would likely travel greater distances in one day compared to the typical home-to-work trip length for the proposed project's location.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than significant with Mitigation. The project must be designed to meet applicable Federal, State and City codes and regulations, and as a result, would not be expected to introduce any new hazards in terms of its design. Access to and from the project driveways on Fountaingrove Parkway would be restricted to right turns only by the existing median island. While no such physical barrier exists on Mendocino Avenue, vehicles exiting the Mendocino Avenue driveway should also be restricted to right turns to avoid the complex intersection of Mendocino Avenue/Fountaingrove Parkway, where they may be required to cross multiple lanes of traffic, including dual left-turn lanes. As the parking areas on-site are all connected, drivers could use the Fountaingrove Parkway driveway if wishing to travel south or west; trips to the east would require a U-turn movement or else diversion to Bicentennial Way to get back to Fountaingrove Parkway. With the recommended access restriction, the project would be expected to have a less-than-significant impact regarding geometric design features or incompatible uses.

Recommendation: The driveway on Mendocino Avenue should be restricted to right turns in and out only.

d. Would the project result in inadequate emergency access?

Less than significant. Drive aisles would be provided around all sides of the three buildings on the western portion of the site. The fourth building could be accessed directly from Round Barn Boulevard. The site would need to be designed to meet all applicable city and state standards and would therefore provide adequate emergency vehicle access.

Conclusions and Recommendations

- The project includes construction of 239 multifamily dwelling units, which would replace the Fountaingrove Inn and Equus Restaurant which were destroyed in the Tubbs Fire in October 2017. As part of the project right-of-way would be dedicated along the Fountaingrove Parkway frontage for the future construction by the City of an additional westbound lane.

- The project as proposed would be expected to generate 1,300 trips daily, with 86 trips during the a.m. peak hour and 105 trips during the p.m. peak hour. Compared to the estimated trips associated with the previous hotel and restaurant, the proposed project would generate 78 additional trips daily, and 27 more trips during the morning peak hour and 11 more trips during the evening peak hour.

- Based on other residential projects in Santa Rosa, up to four construction truck trips are anticipated to occur during the morning peak hour, which is the equivalent of 12 passenger vehicle trips. Even if there were seven truck trips during the morning peak hour, construction conditions would be approximately equivalent to conditions with the proposed apartment project. It would take 17 construction vehicle trips in one peak hour, equivalent to 51 passenger vehicle trips, to trigger a full traffic study; however, it is unlikely and overly conservative to assume that many truck trips would be generated during one hour.

- Under Existing and Baseline conditions, Mendocino Avenue/Fountaingrove Parkway operates acceptably at LOS D during the morning and evening peak hours and is expected to continue doing so with the addition of project-generated volumes.

- Based on future projected volumes, with the existing road configuration, the segment of Mendocino Avenue between US 101 North and Administration Drive-Chanate Road is anticipated to be operating acceptably during both the morning and evening peak periods without any additional capacity.

- The project would be consistent with City policies regarding the circulation system, including transit, roadway, bicycle and pedestrian facilities, and its impact would be less than significant.

- The project is located within the residential pre-screen area identified by the City of Santa Rosa with respect to VMT impacts. The project is therefore consistent with CEQA Guidelines § 15064.3, subdivision (b) and its impact is considered to be less than significant.

- With the recommended access restrictions at the Mendocino Avenue driveway, the project would not substantially increase hazards due to a geometric design feature or incompatible uses, and its impacts is therefore less than significant with mitigation.

- The project would provide adequate emergency access on-site, and its impact is therefore less than significant.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

Barry Bergman, AICP
Senior Planner

Dalene J. Whitlock, PE, PTOE
Senior Principal

DJW/bdb/SRO534.L1

Enclosures: Intersection LOS Calculations, Turn Lane Concept Plan

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/03/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	402	312	92	323	542	109	535	125	313	544	422
Future Volume (veh/h)	381	402	312	92	323	542	109	535	125	313	544	422
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	2	10	2	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	381	402	176	92	323	500	109	535	0	313	544	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	560	242	267	367	490	231	1169	0	388	1181	549
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.13	0.33	0.00	0.11	0.33	0.00
Sat Flow, veh/h	3442	2397	1036	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	381	295	283	92	323	500	109	535	0	313	544	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1663	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	10.3	14.3	14.7	2.4	16.0	16.9	5.4	11.3	0.0	8.4	11.5	0.0
Cycle Q Clear(g_c), s	10.3	14.3	14.7	2.4	16.0	16.9	5.4	11.3	0.0	8.4	11.5	0.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	453	413	388	267	367	490	231	1169	0	388	1181	549
V/C Ratio(X)	0.84	0.71	0.73	0.35	0.88	1.02	0.47	0.46	0.00	0.81	0.46	0.00
Avail Cap(c_a), veh/h	551	460	432	333	367	490	231	1169	0	569	1181	549
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	1.00	1.00	1.00	0.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	40.3	33.5	33.6	41.6	38.1	13.1	38.3	25.1	0.0	41.1	24.9	0.0
Incr Delay (d2), s/veh	8.1	3.6	4.3	0.3	20.5	45.7	0.6	1.3	0.0	2.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	45.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	7.6	7.3	1.3	16.1	15.5	2.7	5.7	0.0	4.1	5.8	0.0
LnGrp Delay(d),s/veh	48.4	37.1	38.0	42.5	103.5	73.1	38.8	26.4	0.0	43.7	25.9	0.0
LnGrp LOS	D	D	D	D	F	F	D	C		D	C	
Approach Vol, veh/h		959			915			644			857	
Approach Delay, s/veh		41.9			80.8			28.5			32.4	
Approach LOS		D			F			C			C	

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	12.1	28.2	18.7	36.0	17.3	23.0	17.0	37.7
Change Period (Y+Rc), s	4.8	* 4.8	6.3	4.3	4.8	4.3	6.3	* 6.3
Max Green Setting (Gmax), s	9.2	* 25	9.7	31.7	15.2	18.7	15.7	* 26
Max Q Clear Time (g_c+I1), s	4.4	16.7	7.4	13.5	12.3	18.9	10.4	13.3
Green Ext Time (p_c), s	0.0	1.4	0.0	2.0	0.2	0.0	0.3	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	47.5
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/03/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	444	336	291	150	424	324	153	762	111	236	511	565
Future Volume (veh/h)	444	336	291	150	424	324	153	762	111	236	511	565
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	6	0	0	4	11	3	2	14	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	444	336	154	150	424	293	153	762	0	236	511	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	520	721	324	292	455	553	322	1054	0	362	790	367
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.18	0.30	0.00	0.11	0.22	0.00
Sat Flow, veh/h	3442	2374	1068	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	444	249	241	150	424	293	153	762	0	236	511	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1672	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	12.0	10.7	11.0	4.0	21.2	14.0	7.3	18.2	0.0	6.3	12.5	0.0
Cycle Q Clear(g_c), s	12.0	10.7	11.0	4.0	21.2	14.0	7.3	18.2	0.0	6.3	12.5	0.0
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	520	537	508	292	455	553	322	1054	0	362	790	367
V/C Ratio(X)	0.85	0.46	0.47	0.51	0.93	0.53	0.48	0.72	0.00	0.65	0.65	0.00
Avail Cap(c_a), veh/h	551	549	518	406	455	553	323	1062	0	431	790	367
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	1.00	1.00	1.00	0.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.6	26.8	26.9	41.8	35.9	25.0	35.0	30.5	0.0	40.8	33.5	0.0
Incr Delay (d2), s/veh	11.1	0.2	0.3	0.5	25.8	0.5	0.4	4.3	0.0	1.0	2.6	0.0
Initial Q Delay(d3),s/veh	6.5	0.0	0.0	2.8	56.5	0.5	0.5	4.6	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	5.3	5.2	2.2	22.3	6.6	3.9	11.2	0.0	3.0	6.4	0.0
LnGrp Delay(d),s/veh	57.2	27.0	27.2	45.1	118.2	25.9	36.0	39.4	0.0	41.8	36.1	0.0
LnGrp LOS	E	C	C	D	F	C	D	D		D	D	
Approach Vol, veh/h		934			867			915			747	
Approach Delay, s/veh		41.4			74.4			38.9			37.9	
Approach LOS		D			E			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	12.6	34.3	22.1	26.0	18.9	28.0	14.8	33.3
Change Period (Y+Rc), s	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Max Green Setting (Gmax), s	11.2	27.2	16.2	21.2	15.2	23.2	11.9	25.5
Max Q Clear Time (g_c+I1), s	6.0	13.0	9.3	14.5	14.0	23.2	8.3	20.2
Green Ext Time (p_c), s	0.1	1.5	0.1	1.2	0.1	0.0	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	48.2
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy 01/03/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	382	422	312	92	343	554	109	562	125	326	572	422
Future Volume (veh/h)	382	422	312	92	343	554	109	562	125	326	572	422
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	2	10	2	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	382	422	176	92	343	512	109	562	0	326	572	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	454	568	234	267	367	496	231	1154	0	401	1181	549
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.13	0.33	0.00	0.12	0.33	0.00
Sat Flow, veh/h	3442	2435	1004	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	382	305	293	92	343	512	109	562	0	326	572	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1669	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	10.3	14.9	15.2	2.4	17.2	17.0	5.4	12.1	0.0	8.8	12.2	0.0
Cycle Q Clear(g_c), s	10.3	14.9	15.2	2.4	17.2	17.0	5.4	12.1	0.0	8.8	12.2	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	413	389	267	367	496	231	1154	0	401	1181	549
V/C Ratio(X)	0.84	0.74	0.75	0.35	0.94	1.03	0.47	0.49	0.00	0.81	0.48	0.00
Avail Cap(c_a), veh/h	551	460	434	333	367	496	231	1154	0	569	1181	549
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	1.00	1.00	1.00	0.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	40.3	33.8	33.9	41.6	38.2	13.0	38.3	25.6	0.0	41.0	25.2	0.0
Incr Delay (d2), s/veh	8.2	4.6	5.4	0.3	30.6	48.8	0.6	1.5	0.0	3.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	69.1	13.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	7.9	7.7	1.3	19.7	16.1	2.7	6.2	0.0	4.3	6.1	0.0
LnGrp Delay(d),s/veh	48.4	38.3	39.2	42.5	137.8	75.8	38.9	27.1	0.0	44.2	26.3	0.0
LnGrp LOS	D	D	D	D	F	F	D	C		D	C	
Approach Vol, veh/h		980			947			671			898	
Approach Delay, s/veh		42.5			95.0			29.0			32.8	
Approach LOS		D			F			C			C	

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	12.1	28.2	18.7	36.0	17.3	23.0	17.4	37.3
Change Period (Y+Rc), s	4.8	* 4.8	6.3	4.3	4.8	4.3	6.3	* 6.3
Max Green Setting (Gmax), s	9.2	* 25	9.7	31.7	15.2	18.7	15.7	* 26
Max Q Clear Time (g_c+I1), s	4.4	17.2	7.4	14.2	12.3	19.2	10.8	14.1
Green Ext Time (p_c), s	0.0	1.4	0.0	2.1	0.2	0.0	0.3	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	51.6
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy 01/03/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	364	291	150	454	342	153	786	111	255	536	565
Future Volume (veh/h)	447	364	291	150	454	342	153	786	111	255	536	565
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	6	0	0	4	11	3	2	14	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	447	364	154	150	454	311	153	786	0	255	536	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	741	309	292	455	553	320	1050	0	362	790	367
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.18	0.30	0.00	0.11	0.22	0.00
Sat Flow, veh/h	3442	2436	1015	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	447	263	255	150	454	311	153	786	0	255	536	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1681	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	12.1	11.4	11.7	4.0	23.1	15.1	7.3	19.0	0.0	6.8	13.2	0.0
Cycle Q Clear(g_c), s	12.1	11.4	11.7	4.0	23.1	15.1	7.3	19.0	0.0	6.8	13.2	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	539	512	292	455	553	320	1050	0	362	790	367
V/C Ratio(X)	0.86	0.49	0.50	0.51	1.00	0.56	0.48	0.75	0.00	0.70	0.68	0.00
Avail Cap(c_a), veh/h	551	550	523	406	455	553	321	1059	0	431	790	367
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	1.00	1.00	1.00	0.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.6	27.0	27.1	41.8	35.9	25.3	35.1	30.9	0.0	41.1	33.8	0.0
Incr Delay (d2), s/veh	11.3	0.3	0.3	0.5	41.6	0.8	0.4	4.9	0.0	1.9	3.0	0.0
Initial Q Delay(d3),s/veh	6.5	0.0	0.0	2.8	86.2	0.5	0.5	5.1	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.6	5.5	2.2	28.0	7.1	3.9	11.7	0.0	3.3	6.7	0.0
LnGrp Delay(d),s/veh	57.4	27.3	27.4	45.1	163.7	26.6	36.1	40.9	0.0	42.9	36.8	0.0
LnGrp LOS	E	C	C	D	F	C	D	D		D	D	
Approach Vol, veh/h		965			915			939			791	
Approach Delay, s/veh		41.3			97.7			40.1			38.8	
Approach LOS		D			F			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	12.6	34.4	22.0	26.0	19.0	28.0	14.8	33.2
Change Period (Y+Rc), s	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Max Green Setting (Gmax), s	11.2	27.2	16.2	21.2	15.2	23.2	11.9	25.5
Max Q Clear Time (g_c+I1), s	6.0	13.7	9.3	15.2	14.1	25.1	8.8	21.0
Green Ext Time (p_c), s	0.1	1.6	0.1	1.2	0.1	0.0	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	54.7
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	402	312	99	338	543	109	535	125	313	544	422
Future Volume (veh/h)	381	402	312	99	338	543	109	535	125	313	544	422
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	2	10	2	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	381	402	176	99	338	501	109	535	0	313	544	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	557	241	271	367	490	231	1169	0	388	1181	549
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.13	0.33	0.00	0.11	0.33	0.00
Sat Flow, veh/h	3442	2397	1036	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	381	295	283	99	338	501	109	535	0	313	544	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1663	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	10.3	14.4	14.7	2.6	16.9	16.9	5.4	11.3	0.0	8.4	11.5	0.0
Cycle Q Clear(g_c), s	10.3	14.4	14.7	2.6	16.9	16.9	5.4	11.3	0.0	8.4	11.5	0.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	453	412	387	271	367	490	231	1169	0	388	1181	549
V/C Ratio(X)	0.84	0.72	0.73	0.37	0.92	1.02	0.47	0.46	0.00	0.81	0.46	0.00
Avail Cap(c_a), veh/h	551	460	432	333	367	490	231	1169	0	569	1181	549
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	1.00	1.00	1.00	0.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	40.3	33.6	33.7	41.6	38.2	13.1	38.3	25.1	0.0	41.1	24.9	0.0
Incr Delay (d2), s/veh	8.1	3.7	4.4	0.3	27.7	46.3	0.6	1.3	0.0	2.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	63.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	7.6	7.3	1.4	18.8	15.6	2.7	5.7	0.0	4.1	5.8	0.0
LnGrp Delay(d),s/veh	48.4	37.3	38.1	42.5	128.9	73.7	38.8	26.4	0.0	43.7	25.9	0.0
LnGrp LOS	D	D	D	D	F	F	D	C		D	C	
Approach Vol, veh/h		959			938			644			857	
Approach Delay, s/veh		41.9			90.3			28.5			32.4	
Approach LOS		D			F			C			C	

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	12.2	28.1	18.7	36.0	17.3	23.0	17.0	37.7
Change Period (Y+Rc), s	4.8	* 4.8	6.3	4.3	4.8	4.3	6.3	* 6.3
Max Green Setting (Gmax), s	9.2	* 25	9.7	31.7	15.2	18.7	15.7	* 26
Max Q Clear Time (g_c+I1), s	4.6	16.7	7.4	13.5	12.3	18.9	10.4	13.3
Green Ext Time (p_c), s	0.0	1.4	0.0	2.0	0.2	0.0	0.3	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	444	337	291	150	424	324	153	763	111	238	511	565
Future Volume (veh/h)	444	337	291	150	424	324	153	763	111	238	511	565
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	6	0	0	4	11	3	2	14	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	444	337	154	150	424	293	153	763	0	238	511	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	520	722	324	292	455	553	322	1054	0	362	790	367
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.18	0.30	0.00	0.11	0.22	0.00
Sat Flow, veh/h	3442	2376	1066	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	444	249	242	150	424	293	153	763	0	238	511	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1672	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	12.0	10.7	11.1	4.0	21.2	14.0	7.3	18.3	0.0	6.3	12.5	0.0
Cycle Q Clear(g_c), s	12.0	10.7	11.1	4.0	21.2	14.0	7.3	18.3	0.0	6.3	12.5	0.0
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	520	537	508	292	455	553	322	1054	0	362	790	367
V/C Ratio(X)	0.85	0.46	0.48	0.51	0.93	0.53	0.48	0.72	0.00	0.66	0.65	0.00
Avail Cap(c_a), veh/h	551	549	518	406	455	553	323	1062	0	431	790	367
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	1.00	1.00	1.00	0.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.6	26.8	26.9	41.8	35.9	25.0	35.0	30.6	0.0	40.9	33.5	0.0
Incr Delay (d2), s/veh	11.1	0.2	0.3	0.5	25.8	0.5	0.4	4.3	0.0	1.1	2.6	0.0
Initial Q Delay(d3),s/veh	6.5	0.0	0.0	2.8	56.5	0.5	0.5	4.6	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	5.3	5.2	2.2	22.3	6.6	3.9	11.2	0.0	3.1	6.4	0.0
LnGrp Delay(d),s/veh	57.2	27.0	27.2	45.1	118.2	25.9	36.0	39.5	0.0	41.9	36.1	0.0
LnGrp LOS	E	C	C	D	F	C	D	D		D	D	
Approach Vol, veh/h		935			867			916			749	
Approach Delay, s/veh		41.4			74.4			38.9			38.0	
Approach LOS		D			E			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	12.6	34.3	22.1	26.0	18.9	28.0	14.8	33.3
Change Period (Y+Rc), s	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Max Green Setting (Gmax), s	11.2	27.2	16.2	21.2	15.2	23.2	11.9	25.5
Max Q Clear Time (g_c+I1), s	6.0	13.1	9.3	14.5	14.0	23.2	8.3	20.3
Green Ext Time (p_c), s	0.1	1.5	0.1	1.2	0.1	0.0	0.1	1.6

Intersection Summary	
HCM 2010 Ctrl Delay	48.2
HCM 2010 LOS	D

HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	382	422	312	99	358	555	109	562	125	326	572	422
Future Volume (veh/h)	382	422	312	99	358	555	109	562	125	326	572	422
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	2	10	2	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	382	422	176	99	358	513	109	562	0	326	572	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	454	567	234	271	367	496	231	1154	0	401	1181	549
Arrive On Green	0.13	0.25	0.25	0.08	0.20	0.20	0.13	0.33	0.00	0.12	0.33	0.00
Sat Flow, veh/h	3442	2435	1004	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	382	305	293	99	358	513	109	562	0	326	572	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1669	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	10.3	15.0	15.2	2.6	18.2	17.0	5.4	12.1	0.0	8.8	12.2	0.0
Cycle Q Clear(g_c), s	10.3	15.0	15.2	2.6	18.2	17.0	5.4	12.1	0.0	8.8	12.2	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	412	389	271	367	496	231	1154	0	401	1181	549
V/C Ratio(X)	0.84	0.74	0.75	0.37	0.98	1.03	0.47	0.49	0.00	0.81	0.48	0.00
Avail Cap(c_a), veh/h	551	460	434	333	367	496	231	1154	0	569	1181	549
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	1.00	1.00	1.00	0.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	40.3	33.8	33.9	41.6	38.2	13.0	38.3	25.6	0.0	41.0	25.2	0.0
Incr Delay (d2), s/veh	8.2	4.6	5.4	0.3	40.4	49.4	0.6	1.5	0.0	3.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	87.5	13.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	7.9	7.7	1.4	22.6	16.2	2.7	6.2	0.0	4.3	6.1	0.0
LnGrp Delay(d),s/veh	48.4	38.4	39.3	42.5	166.1	76.3	38.9	27.1	0.0	44.2	26.3	0.0
LnGrp LOS	D	D	D	D	F	F	D	C		D	C	
Approach Vol, veh/h		980			970			671			898	
Approach Delay, s/veh		42.6			106.0			29.0			32.8	
Approach LOS		D			F			C			C	

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	12.2	28.1	18.7	36.0	17.3	23.0	17.4	37.3
Change Period (Y+Rc), s	4.8	* 4.8	6.3	4.3	4.8	4.3	6.3	* 6.3
Max Green Setting (Gmax), s	9.2	* 25	9.7	31.7	15.2	18.7	15.7	* 26
Max Q Clear Time (g_c+I1), s	4.6	17.2	7.4	14.2	12.3	20.2	10.8	14.1
Green Ext Time (p_c), s	0.0	1.4	0.0	2.1	0.2	0.0	0.3	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	55.0
HCM 2010 LOS	D

Notes

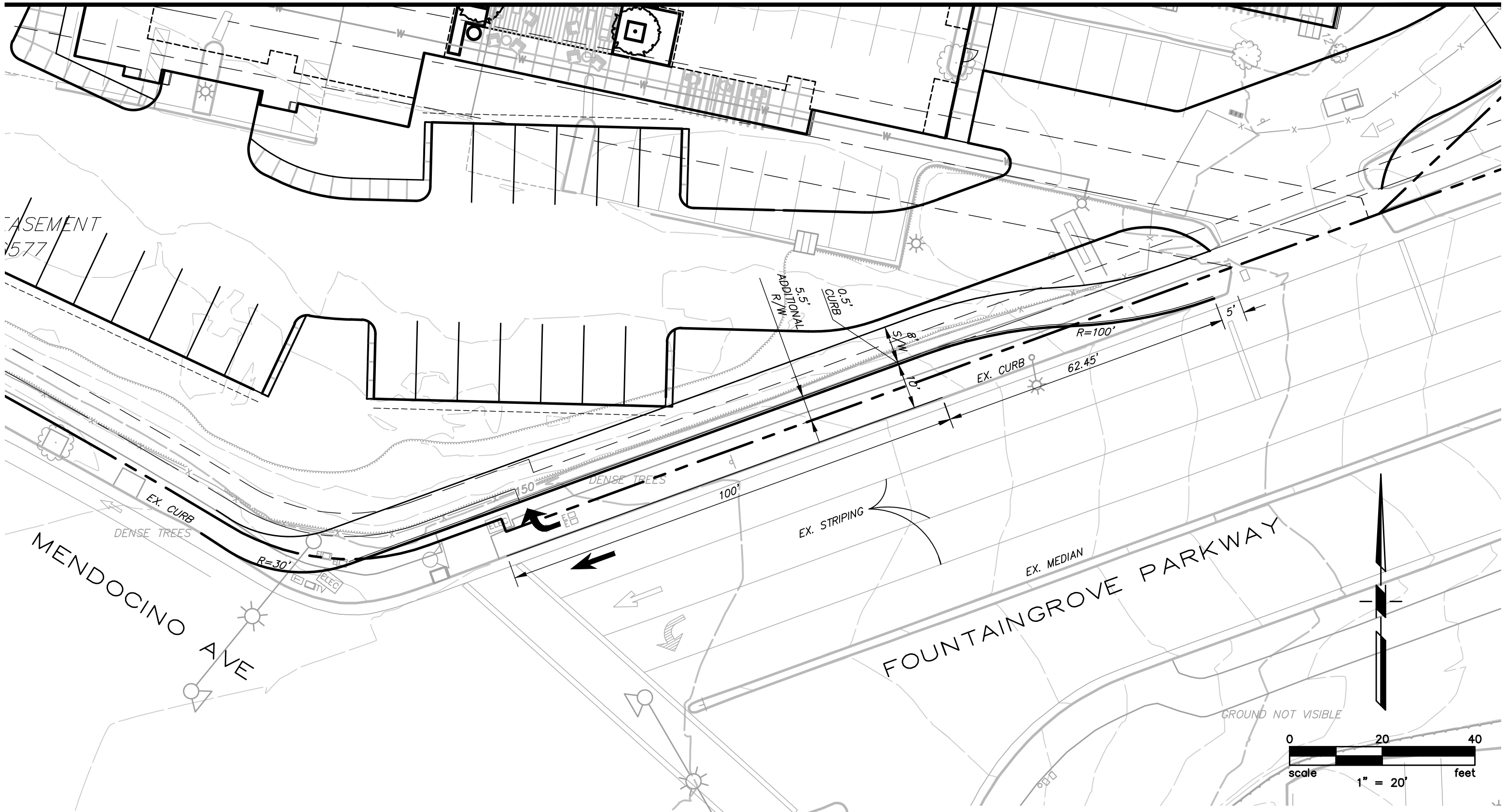
HCM 2010 Signalized Intersection Summary
1: Mendocino Ave & Mendocino O/C/Fountaingrove Pkwy

01/09/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	447	365	291	150	454	342	153	787	111	257	536	565
Future Volume (veh/h)	447	365	291	150	454	342	153	787	111	257	536	565
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	6	0	0	4	11	3	2	14	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	1863	1863	1863	1900	1863	1863	1937
Adj Flow Rate, veh/h	447	365	154	150	454	311	153	787	0	257	536	0
Adj No. of Lanes	2	2	0	2	1	1	1	2	0	2	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	742	308	292	455	553	320	1050	0	362	790	367
Arrive On Green	0.15	0.31	0.31	0.08	0.24	0.24	0.18	0.30	0.00	0.11	0.22	0.00
Sat Flow, veh/h	3442	2438	1013	3442	1863	1583	1774	3632	0	3442	3539	1647
Grp Volume(v), veh/h	447	263	256	150	454	311	153	787	0	257	536	0
Grp Sat Flow(s),veh/h/ln	1721	1770	1682	1721	1863	1583	1774	1770	0	1721	1770	1647
Q Serve(g_s), s	12.1	11.4	11.7	4.0	23.1	15.1	7.3	19.0	0.0	6.9	13.2	0.0
Cycle Q Clear(g_c), s	12.1	11.4	11.7	4.0	23.1	15.1	7.3	19.0	0.0	6.9	13.2	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	539	512	292	455	553	320	1050	0	362	790	367
V/C Ratio(X)	0.86	0.49	0.50	0.51	1.00	0.56	0.48	0.75	0.00	0.71	0.68	0.00
Avail Cap(c_a), veh/h	551	550	523	406	455	553	321	1059	0	431	790	367
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	1.00	1.00	1.00	0.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	39.6	27.0	27.1	41.8	35.9	25.3	35.1	30.9	0.0	41.1	33.8	0.0
Incr Delay (d2), s/veh	11.3	0.3	0.3	0.5	41.6	0.8	0.4	4.9	0.0	2.0	3.0	0.0
Initial Q Delay(d3),s/veh	6.5	0.0	0.0	2.8	86.2	0.5	0.5	5.1	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	5.7	5.5	2.2	28.0	7.1	3.9	11.7	0.0	3.3	6.7	0.0
LnGrp Delay(d),s/veh	57.4	27.3	27.4	45.1	163.7	26.6	36.1	41.0	0.0	43.1	36.8	0.0
LnGrp LOS	E	C	C	D	F	C	D	D		D	D	
Approach Vol, veh/h		966			915			940			793	
Approach Delay, s/veh		41.3			97.7			40.2			38.8	
Approach LOS		D			F			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	12.6	34.4	22.0	26.0	19.0	28.0	14.8	33.2
Change Period (Y+Rc), s	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Max Green Setting (Gmax), s	11.2	27.2	16.2	21.2	15.2	23.2	11.9	25.5
Max Q Clear Time (g_c+I1), s	6.0	13.7	9.3	15.2	14.1	25.1	8.9	21.0
Green Ext Time (p_c), s	0.1	1.6	0.1	1.2	0.1	0.0	0.1	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	54.7
HCM 2010 LOS	D



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15 THIRD STREET, SANTA ROSA, CA 95401
TEL (707) 542-6451 FAX (707) 542-5212

RIGHT TURN LANE EXPANSION

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SANTA ROSA, CALIFORNIA

JANUARY 2021

PROJECT No. 20190028.00