SAN FRANCISCO
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Addendum to Environmental Impact Report

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Approval Date:	December 26, 2012
Case No.:	2007.0347E
Project Title:	Modified Project 7-3: Great Highway and Point Lobos Avenue Bicycle Lanes
EIR:	San Francisco Bicycle Plan SCL No. 2008032052, certified August 4, 2009
Zoning:	n/a, in public right-of-way
Block/Lot:	n/a, in public right-of-way
Lead Agency:	San Francisco Planning Department
Project Sponsor:	San Francisco Municipal Transportation Agency Kristiann Choy, Project Manager - 415.701.2493 - kristiann.choy@sfmta.com
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PROJECT DESCRIPTION

Background

The project sponsor, the San Francisco Municipal Transportation Agency (SFMTA), proposes to implement the Modified Project 7-3: Great Highway and Point Lobos Avenue Bicycle Lanes Project from the 2009 *San Francisco Bicycle Plan*. One "option" for the 7-3 project was studied in the *San Francisco Bicycle Plan Final Environmental Impact Report* (Bicycle Plan FEIR, Case No. 2007.0347E). This option was further refined during the Draft EIR public comment period, and was then referred to as "Modified Project 7-3" in the FEIR. Modified Project 7-3 was part of 60 near-term projects analyzed at a project-level in the FEIR. The San Francisco Planning Commission certified the Bicycle Plan FEIR on June 25, 2009. On June 26, 2009, the SFMTA Board approved 45 of the 60 near-term Bicycle Plan projects, including Modified Project 7-3.

The motion to certify the FEIR was appealed to the Board of Supervisors. On August 4, 2009, the Board of Supervisors reaffirmed the Planning Commission's certification of the FEIR. Subsequently, the Board of Supervisors passed an ordinance adopting the 2009 San Francisco Bicycle Plan, which also amended the *San Francisco General Plan* in connection with the San Francisco Bicycle Plan; adopted environmental findings and findings that the General Plan amendment is consistent with the *General Plan* and eight priority policies of *Planning Code* Section 101.1; as well as authorized other acts in connection thereto. Since adoption of the FEIR and approval of the Bicycle Plan, SFMTA has revised the design of Modified Project 7-3. This addendum addresses the environmental review of the revised proposal by SFMTA.

Great Highway is scheduled to be paved in December 2012 as part of the Department of Public Works (DPW) Great Highway and Point Lobos Avenue Pavement Renovation Work (Contract 1936J). As part of this paving project, DPW would install raised landscaped central medians with 29 feet available on either side of the median for travel lanes and bicycle lanes.

Original Project Description

Modified Project 7-3 is located along Great Highway and Point Lobos Avenue right-of-way between the intersections of Fulton Street to the south and El Camino Del Mar to the north. Please refer to **Figure 1: Project Location - Modified Project 7-3 Extension.**

As previously discussed, Modified Project 7-3 was part of the 60 near-term projects analyzed at a project-level in Bicycle Plan FEIR and was one of the 45 projects approved by the SFMTA Board. Please refer to **Appendix A** of this EIR addendum for graphics depicting the original design.[1]

Modified Project 7-3 would provide a Class II[2] bicycle lane on Great Highway and Point Lobos Avenue, in the northbound and eastbound directions, respectively, from Fulton Street to 48th Avenue, by removing one travel lane in each direction on Point Lobos Avenue and Great Highway from 48th Avenue to Balboa Street.

The Modified Project 7-3 would provide a Class II bicycle lane on Point Lobos Avenue in the westbound direction from El Camino Del Mar to approximately 725 feet westerly at the entrance to Sutro Heights parking lot. The Modified Project 7-3 would provide a Class II bicycle lane on Great Highway in the southbound direction from approximately 575 feet north of Balboa Street at the entrance to the parking lot on the west side of the street and a Class II bicycle lane would be extended from this point to Balboa Street. The Modified Project 7-3 would also provide a Class III bicycle route on Balboa Street in both directions between Great Highway and La Playa Street, and on La Playa Street in both direction between Balboa Street and Cabrillo Street.

As part of Modified Project 7-3, approximately 10 on-street parking spaces would be removed on the north side of Point Lobos Avenue, from the 48th Avenue intersection westward, by approximately 200 feet. The removal would provide space for a new southbound right-turn only lane into a new parking lot proposed by the National Park Service (NPS). As part the NPS project, the existing parking lot located on the north side of Point Lobos Avenue would be expanded and relocated eastward by approximately 200 feet to accommodate approximately 135 parking spaces.

Proposed Revisions to Project

Subsequent to the certification of the Bicycle Plan FEIR, the SFMTA further revised the proposed project design to extend the bicycle lane southward (hereafter "Modified Project 7-3 Extension"). The Modified Project 7-3 Extension differs from that analyzed in the FEIR. See **Appendix B** of this addendum for graphics depicting the Modified Project 7-3 Extension.

The Modified Project 7-3 Extension would expand the limits of Modified Project 7-3 by extending the Great Highway southbound Class II bicycle lane from Balboa Street to Lincoln Way. The Modified Project 7-3 Extension would add a raised landscaped median on Great Highway between Lincoln Way and Balboa Street. Twenty-nine feet would be generally available on either side of the median for travel lanes and bicycle lanes. Within the 29-foot width, SFMTA proposes, in each direction, two narrower travel lanes, one 10-foot and one 11-foot (existing travel lanes are one 12-foot and one 16-foot in width in each direction), a 2-foot painted buffer area and a 6-foot Class II bicycle lane. In areas where 29 feet are not available, no buffer area is proposed. The revised project would add a northbound Class II bike lane from Lincoln Way to Fulton Street and would connect to the existing bike facility on Great Highway that runs from Lincoln Way to Sloat Boulevard.

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[1] One option/alternative was analyzed for Project 7-3 in the San Francisco Bicycle Plan EIR. The project design was refined by SFMTA prior to the EIR certification and referred to as Modified Project 7-3 in the Bicycle Plan FEIR.

[2] Bikeways are typically classified as Class I, II or III facilities. "Class II bikeways are bicycle lanes striped with the paved areas of roadways, and established for the preferential use of bicycles, while Class III bikeways are signed bicycle routes that allow bicycles to share streets or sidewalks with vehicles or pedestrians." *San Francisco Bicycle Plan FEIR*, Volume 1, p. V.A.1-14. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA.

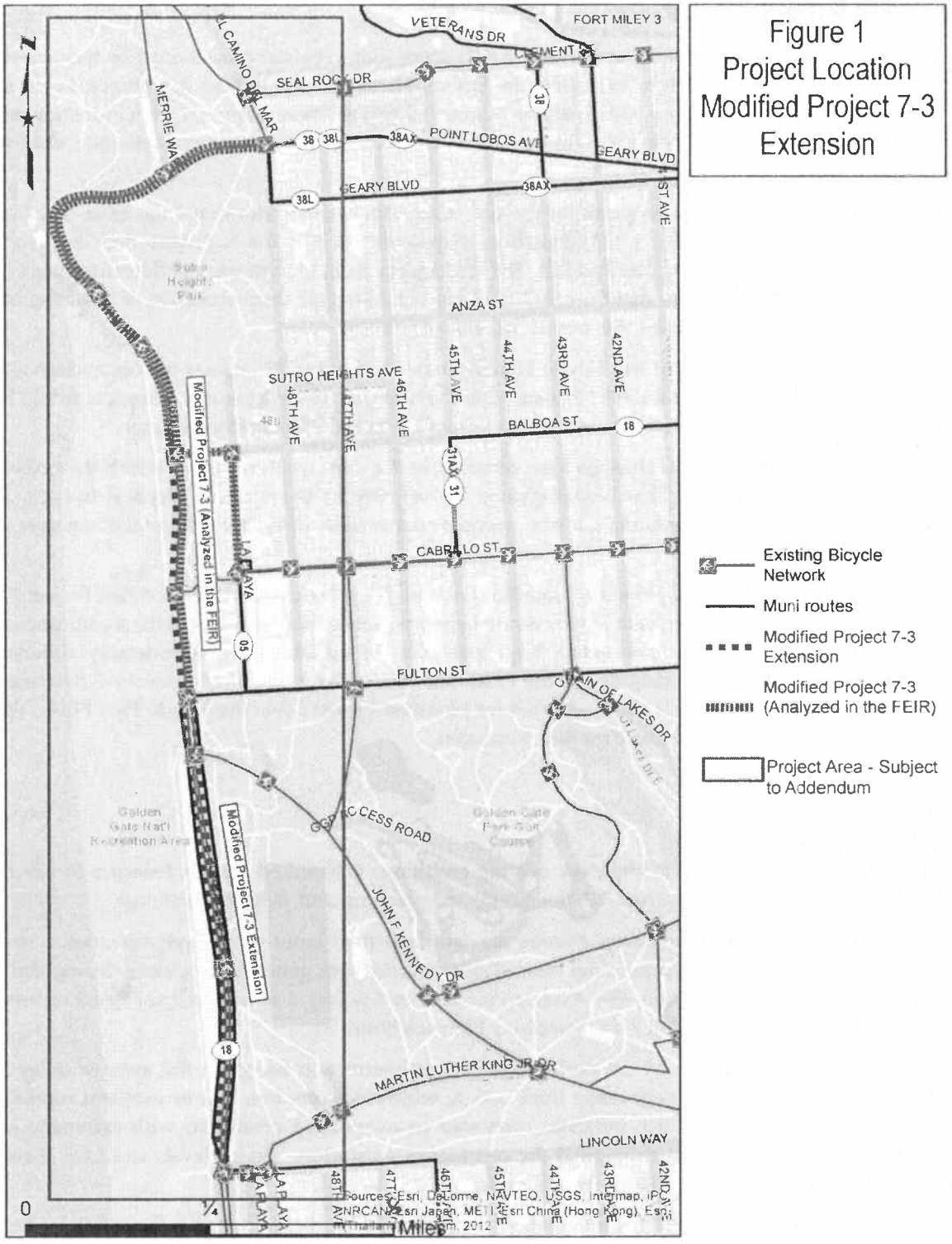
Figure 1
Project Location
Modified Project 7-3
Extension
VETERANS DR
FORT MILEY 3
CLEMENT ST
SEAL ROCK DR
EL CAMINO DEL MAR
MERRIE WAY
POINT LOBOS AVE
GEARY BLVD
ANZA ST
SUTRO HEIGHTS AVE
45TH AVE
44TH AVE
43RD AVE
42ND AVE
48TH AVE
47TH AVE
46TH AVE
BALBOA ST
CABRILLO ST
LA PLAYA
FULTON ST
GOLDEN GATE ACCESS ROAD
JOHN F KENNEDY DR
MARTIN LUTHER KING JR DR
LINCOLN WAY
Modified Project 7-3 (Analyzed in the FEIR)
Modified Project 7-3 Extension
Existing Bicycle Network
Muni routes
Modified Project 7-3 Extension
Modified Project 7-3 (Analyzed in the FEIR)
Project Area - Subject to Addendum
0
1/4
Miles
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri Thailand, TomTom, 2012

ANALYSIS OF POTENTIAL ENVIRONMENTAL EFFECTS

San Francisco Administrative Code Section 31.19(c) (1) states that a revised project must be reevaluated and that "If, on the basis of such reevaluation, the Environmental Review Officer determines, based on the requirements of CEQA, that no additional environmental review is necessary, this determination and the reasons therefore shall be noted in writing in the case record, and no further evaluation shall be required by this Chapter."

CEQA Guidelines Section 15164 provides for the use of an addendum to document the basis of a lead agency's decision not to require a Subsequent or Supplemental EIR for a project that is already adequately covered in an existing certified EIR. The lead agency's decision to use an addendum must be supported by substantial evidence that the conditions that would trigger the preparation of a Subsequent EIR, as provided in CEQA Guidelines Section 15162, are not present.

The Initial Study and the FEIR for the Bicycle Plan evaluated the potential impacts of construction and operation of Project 7-3 and the Modified Project 7-3 and found that all environmental impacts would be less than significant with mitigation incorporated as part of the overall Bicycle Plan program.

Since certification of the FEIR, no changes have occurred in the circumstances under which the revised project would be implemented, that would change the severity of the project's physical impacts as explained herein, and no new information has emerged that would materially change the analyses or conclusions set forth in the FEIR.

Further, as demonstrated below, proposed modifications and design refinements to Modified Project 7-3 would not result in any new significant environmental impacts, substantial increases in the significance of previously identified effects, or necessitate implementation of additional or considerably different mitigation measures than those identified in the FEIR. The effects of the Modified Project 7-3 Extension would be substantially the same as those reported for Modified Project 7-3 in the Bicycle Plan FEIR. The following discussion provides the basis for this conclusion.

Transportation

Existing Conditions

The following description of Great Highway existing conditions is based on the *San Francisco Bicycle Plan Update Transportation Impact Study*[3] (pp. 3.7-12 – 3.7-13) and planning staff field observations:

Traffic: Great Highway at Point Lobos Avenue are four-lane (two lanes each way) recreational streets between Cabrillo Street and El Camino del Mar. Traffic volumes are generally moderate during the PM peak period. One study intersection, 48th Avenue/Point Lobos Avenue, was analyzed for Level of Service (LOS) in the FEIR analysis of Project 7-3 for weekday PM peak hour.

LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. In San Francisco, LOS A through D are considered satisfactory service levels and LOS E and F conditions are considered unsatisfactory service levels.

48th Avenue/Point Lobos Avenue: This intersection is signalized. Eastbound and westbound Point Lobos Avenue have two through lanes. Parking is allowed on both sides of Point Lobos Avenue. 48th Avenue ends at Point Lobos Avenue. 48th Avenue is a two lane roadway. Parking is allowed on the eastern side of

[3] Wilbur Smith Associates, *San Francisco Bicycle Plan Transportation Study Report*, October 2008. This report is available for review in Case File No. 2007.0347E at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA.

the street. Parking is not allowed on the western side, between Geary Boulevard and Los Lobos Avenue, in order to accommodate the bus stop that functions as the terminus for 38 and 38L Muni Lines.

Transit: Muni route 18 operates along Point Lobos Avenue between the Great Highway and El Camino Del Mar, with approximately four buses per hour each way during the AM and PM peak periods. There are three westbound Muni bus stops, one of the far-side of 48th Avenue/El Camino Del Mar, one located in front of the Golden Gate National Recreation Area (GGNRA) west of Merrie Way and one south of the JFK Drive intersection. There are three eastbound bus stops, one on the nearside of the Sutro Heights Park parking lot entrance, one on the nearside of 48th Avenue/El Camino Del Mar and one south of the JFK Drive intersection.

Parking: On-street parking is mostly at an angle and is permitted only on the north and west sides of the Great Highway/Point Lobos Avenue. In addition, several public parking lots are located on both sides of Point Lobos and the Great Highway. The NPS is constructing a new parking lot with 135 spaces on Point Lobos Avenue north of the Cliff House. Parking occupancy is generally low to moderate on weekdays along Project 7-3 and high on weekends specially near the Cliff House restaurant on the west side of Point Lobos Avenue. There currently is no designated tour bus parking in the area although the new NPS parking lot will include five bus parking bays. Tour bus visits to the Cliff House have declined over the years; most tour buses travel slowly through the area without stopping, while some tour buses stop for a few minutes to allow their passengers to disembark to take pictures.

Pedestrian: Pedestrian volumes are low to moderate on weekdays along Point Lobos Avenue and the Great Highway; pedestrian traffic is high near the Cliff House Restaurant on the west side of Point Lobos Avenue, especially on weekends. Attractions in the area include the Cliff House Restaurant and neighboring retail businesses, Sutro Baths, Ocean Beach and trails connecting to the Golden Gate National Recreation Area (GGNRA). In addition, Project 7-3 terminates one block from the western edge of Golden Gate Park closest to the Dutch Windmill, Beach Chalet and soccer fields.

Bicycle: Bicycle volumes in the area are low to moderate on weekdays and higher on weekends and near the Cliff House. There are several bicycle/pedestrian path entrances to the GGNRA directly across from Point Lobos Avenue and the Great Highway. Point Lobos Avenue and the Great Highway are designated as existing Bicycle Route 95 (Class III) in both directions along the length of Project 7-3. Existing Route 95 intersects with existing Bicycle Route 20 (Class II) at Cabrillo Street. Street grades along Project 7-3 are mostly flat from Cabrillo Street to Balboa Street. North of Balboa Street, Point Lobos Avenue reaches gradients of ten percent.

Loading: Freight loading activity taking place in this area is associated with the Cliff House restaurant and adjacent administrative offices and retail stores. There are no on-street yellow freight commercial loading spaces along this segment of the Great Highway. Available on-street parking spaces are generally adequate to accommodate the loading demand with occasional truck double-parking in the wide angle-parking lane just north of the Cliff House or in the passenger loading zone located in front of the Cliff House entrance. As was previously mentioned, tour bus activity in the area has declined over the years so that there is little demand for tour bus parking/loading zones. This activity is accommodated for the short-term stops in the passenger loading zone in front of the Cliff House entrance or in the wide angle-parking lane just north of the Cliff House. The new NPS lot will include parking for five tour buses.

Commercial loading demand on the Modified Project 7-3 Extension's segment generally occurs throughout the day when deliveries are made to the Beach Chalet Brewery and Restaurant. The

restaurant relies on the off-street parking available in the south-side parking lot for their loading needs. Passenger loading activities occur in the two off-street parking lots that surrounds the restaurant.[4]

Impact Analysis

Traffic: An intersection Level of Service (LOS) analysis was prepared for the Modified Project 7-3 Extension and is summarized below. See **Appendix C** of this document for detailed LOS calculations.

One study intersection was analyzed in the Bicycle Plan FEIR for Modified Project 7-3 (Intersection 56:[5] 48th Avenue/Point Lobos Avenue). The LOS analysis from the Bicycle Plan FEIR is presented in **Table 1** below.

The Modified Project 7-3 Extension entails narrowing existing travel lanes while maintaining the same number of vehicle travel lanes as under existing conditions. This proposed improvement would occur on a section of Great Highway that was not included in the Modified Project 7-3 analyzed in the FEIR. Three study intersections on the Great Highway were analyzed for the Modified Project 7-3 Extension. LOS analysis for Existing, Existing-plus-Project, 2035 Cumulative, 2035 Cumulative-plus-Project for the Modified Project 7-3 Extension are provided in **Table 2** below. PM peak period traffic counts were performed for the three intersections on October 27 and 28, 2010.[6] Intersection volumes under Year 2035 Baseline Conditions were developed based on traffic growth projected by the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF CHAMP) Model.[7]

The new analysis presented in this Addendum combined with the FEIR analysis demonstrate that the Modified Project 7-3 Extension would not result in significant traffic impacts that were not previously identified in the Bicycle Plan FEIR.

FEIR Intersection 56:[8] 48th Avenue/Point Lobos Avenue: As previously discussed, the primary difference between Modified Project 7-3 and the Modified Project 7-3 Extension is the location and length of the southern boundary of the bicycle lane.

Intersection 56 was analyzed in the Bicycle Plan FEIR for the PM peak hour only. As shown in **Table 1**, Existing, Existing plus Project, Cumulative and Cumulative plus Project conditions at the intersection operate at LOS B. Since this intersection, with and without the implementation of Modified Project 7-3, operates at an acceptable LOS and the proposed project modifications are located in the southern boundaries of the project area, operational changes are not anticipated at this intersection under the Modified Project 7-3 Extension. Hence this intersection was not analyzed for this Addendum.

Great Highway/Fulton Street: This intersection was not analyzed in the FEIR. As shown in **Table 2**, for Existing, Existing plus Modified Project Modified Project 7-3 Extension, Cumulative and Cumulative plus Modified Project 7-3 Extension conditions, the intersection would operate acceptably at LOS B; therefore implementation of the Modified Project 7-3 Extension would not create a significant impact at this intersection.

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[4] Per Monica Pereira's phone conversation with Beach Chalet's manager, Andrea Rodriguez, on 12/06/12.

[5] Sixty-one study intersections were identified by the Environmental Planning Division of the San Francisco Planning Department and SFMTA as the intersections most likely to be affected by the near-term improvements. All of the intersections were analyzed for the PM peak hour impacts. Some of these intersections were analyzed for the AM peak hour impacts as well. Ibid 2

[6] Environmental Science Associates, *Beach Chalet Athletic Fields Renovation Project*, June 2011. This report is available for review in Case File No. 2010.0016! at the Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA.

[7] Traffic counts and cumulative volumes were developed by SFMTA.

[8] Ibid 5

Great Highway/JFK Drive: This intersection was not analyzed in the FEIR. As shown in **Table 2**, for Existing, Existing plus Modified Project 7-3 Extension, Cumulative, and Cumulative plus Modified Project 7-3 Extension conditions, the intersection would operate acceptably at LOS A; therefore the Modified Project 7-3 Extension would not create a significant impact at this intersection.

Great Highway/Lincoln Way: This intersection was not analyzed in the FEIR. As shown in **Table 2**, for Existing, Existing plus Modified Project 7-3 Extension, Cumulative, and Cumulative plus Modified Project 7-3 Extension conditions, the intersection would operate acceptably at LOS B; therefore the Modified Project 7-3 Extension would not create a significant impact at this intersection.

In conclusion, the Modified Project 7-3 Extension would not result in substantial increase in the significance of the average delay or service degradation at study intersections, nor would the Modified Project 7-3 Extension contribute considerably to cumulative effects that were not already accounted for in the certified Bicycle Plan FEIR. Overall, the Modified Project 7-3 Extension's traffic impacts are similar to the findings reached in the FEIR that there would be "less than significant impact" as presented on Matrix 1.2, Summary of Project Level Impacts, on FEIR pg. V.A.3-631.

TABLE 1
MODIFIED PROJECT 7-3 WEEKDAY PM PEAK HOUR INTERSECTION OPERATING CONDITIONS: EXISTING, EXISTING-PLUS-PROJECT, CUMULATIVE AND CUMULATIVE PLUS PROJECT

	Existing PM		Existing Plus Project		2025 Cumulative		2025 Cumulative Plus Project	
Intersection[a]	Average Delay[b]	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
56. 48th Avenue/Point Lobos Avenue	10.7	B	11.5	B	11.4	B	13.0	B

Sources: San Francisco Bicycle Plan Final EIR, August 2009; San Francisco Planning Department
Notes:
a. Intersection numbering reflects that presented in Bicycle Plan FEIR.
b. Average Delay in seconds per vehicle.

TABLE 2
MODIFIED PROJECT 7-3 EXTENSION WEEKDAY PM PEAK HOUR INTERSECTIONS OPERATING CONDITIONS: EXISTING, EXISTING-PLUS-PROJECT, CUMULATIVE AND CUMULATIVE PLUS PROJECT

	Existing PM		Existing Plus Project		2035 Cumulative		2035 Cumulative Plus Project	
Intersection	Average Delay[a]	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
Great Highway/Fulton Street	13.3	B	13.5	B	16.0	B	16.3	B
Great Highway/JFK Drive	7.7	A	8.0	A	8.9	A	9.3	A
Great Highway/Lincoln Way	12.0	B	12.0	B	13.2	B	13.2	B

Source: SFMTA, December 2012.
a. Average Delay in seconds per vehicle.

Transit: The Modified Project 7-3 Extension would not result in any substantial increase in delay to transit vehicles beyond what was identified in the Bicycle Plan FEIR. The FEIR identified less-than-significant impacts to the 18 46th Avenue Muni bus route. This is because the movements that the bus takes through the study intersections would not be reconfigured under the Modified Project 7-3. Similar to Modified Project 7-3, analyzed in the FEIR, the Modified Project 7-3 Extension does not propose changes to the study intersections nor would it change the movements of Muni Route 18. Therefore, the Modified Project 7-3 Extension would have a less-than-significant impact on transit.

Pedestrians: The Modified Project 7-3 Extension would not result in an alteration of the existing sidewalk widths on either side of the Great Highway alignment. Similar to the findings in the FEIR, pedestrian impacts would be less-than-significant with implementation of the Modified Project 7-3 Extension.

Bicycle: The Modified Project 7-3 Extension would extend the southern limits of the Modified Project 7-3 from Fulton Street to Lincoln Avenue. The Modified Project 7-3 Extension would include buffered Class II bicycle lanes in both northbound and southbound Great Highway between Lincoln Avenue and Fulton Street. The new bike facilities would close Bike Route 95's gap by connecting the existing facility, on Great Highway between Sloat Boulevard and Lincoln Avenue, to Modified Project 7-3. The Modified Project 7-3 Extension would enhance users' experience by providing Class II bike lanes along both northbound and southbound Great Highway between Lincoln Avenue and Fulton Street.

Similar to Modified Project 7-3, analyzed in the FEIR, the Modified Project 7-3 Extension is intended to have a beneficial effect of improving roadway conditions and safety for bicyclists and would not adversely affect bicycle operations in the project vicinity. Therefore, bicycle impacts would be less-than-significant.

Parking: This parking discussion for the Modified Project 7-3 Extension supplements the parking conditions in the Bicycle Plan FEIR (p. V.A.3-607). As analyzed in the FEIR, Modified Project 7-3 would remove approximately 10 on-street parking spaces on the north side of Point Lobos Avenue between 48th Avenue and approximately 200 feet westward. The Modified Project 7-3 Extension does not propose additional on-street parking removal other than what was analyzed in the FEIR.

Consistent with the findings reported in the FEIR and presented here for informational purposes, implementation of the Modified Project 7-3 Extension would not cause a significant change in parking occupancy in the area, particularly with the proposed NPS parking lot coming soon. San Francisco does not consider parking supply as part of the permanent physical environment. Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact (CEQA Guidelines § 15131(a)). The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but there may be secondary physical environmental impacts, such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular, would be in keeping with the City's "Transit First" policy. The

City's Transit First Policy, established in the City's Charter Section 8A.115 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the project site and then seek parking farther away if convenient parking is unavailable. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the Modified Project 7-3 Extension would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

Loading: The loading demands for Modified Project 7-3, on Great Highway from Point Lobos to Fulton Street are driven by the Cliff House restaurant and tourist trips to the area. These were analyzed in the FEIR and found to have a less-than-significant-impact. The Great Highway segment between Fulton Street and Lincoln Way is characterized by similar land uses (restaurants and public open space). Thus, the loading demands for the Modified Project 7-3 Extension are expected to be similar to the loading demands of Modified Project 7-3 analyzed in the FEIR. Therefore, similar to the conclusion reached in the FEIR, there would be less-than-significant loading impacts associated with implementation of the Modified Project 7-3 Extension.

In summary, the significance of impacts with the Modified Project 7-3 Extension as indicated for traffic, transit, pedestrians, bicyclists, and loading would generally be the same as those described for Modified Project 7-3 reported in the certified FEIR.

Aesthetics

The Modified Project 7-3 Extension would result in physical changes within the street right-of-way along the project corridor. In summary, physical changes that may have an effect on the visual setting and aesthetic character of the area include establishment of new bicycle lanes, changes to lane widths, and the construction of a landscaped central median.

The General Plan indicates that Great Highway is a "Street that Defines the City Form" as well as a street that is "Important for the Quality of its Views" (General Plan, Urban Design Element, Policy 1.12).

The Modified Project 7-3 Extension would alter public views currently available from Great Highway, as well as the visual character of the street and its immediate surroundings with the addition of a new landscaped central median, new lane stripping, as well as a new bicycle lane. The addition of these physical elements to the public realm would not adversely affect the streetscape and would contribute to a greater sense of visual organization associated with their specific functions for pedestrians, bicyclists and motorists than currently exists. For example, the landscaped central median would result in traffic calming and enhanced sight lines for both motorists and pedestrians. Bicycle lanes on the east and west sides of Great Highway would provide a visually delineated path of travel for cyclists as well as for motorists. Landscaping proposed within the median would contribute to greenery within the roadbed, which is currently characterized primarily by views of large expanses of asphalt. No unique scenic resources would be adversely affected.

Like Modified Project 7-3, the Modified Project 7-3 Extension would likely include the addition of signs along some of the streets, but such signs would not be excessively large and would not obstruct views or cast perceptible shadows. As described in the Bicycle Plan Initial Study (FEIR Appendix A, p. 54):

> "Article 6 of the Planning Code governs signs in the City. Section 603 exempts governmental traffic control signs from the provisions of Article 6. Portions of the Proposed Project would include improvements along designated scenic streets, which are identified in Planning Code Section 608.6. Planning Code Section 608.6 regulates the placement of signs along these designated scenic streets, and states that no general advertising sign and no other sign exceeding 200 square feet in area can be placed along such streets. The Proposed Project would include the addition of street signage. However, any new signs installed as a result of the Proposed Project would be smaller than those regulated under Planning Code Section 608.6. Therefore, there would not be a significant impact with respect to scenic street resources."

The Modified Project 7-3 Extension's physical features would not affect a scenic vista, nor would they create new sources of substantial light or glare, or cast shadows. Therefore, the Modified Project 7-3 Extension, similar to the Bicycle Plan Initial Study findings, would have no significant impacts with respect to scenic vistas, light, or glare. The project would not affect a "Street that Defines the City Form" or a street that is "Important for the Quality of its Views" in an adverse or demonstrable manner. Thus, similar to the conclusions reached in the Initial Study for the Bicycle Plan, there would be no significant adverse impacts related to visual character and less-than-significant impact with respect to scenic resources resulting from the project as modified.

Air Quality

The Bicycle Plan FEIR (p. V.B, 22) found that:

> "Implementation of the Proposed Project would not result in any new traffic volumes being added to the roadway network; therefore, there would be no change in the intersection volume under project conditions. Hence, intersection volumes stay constant between Existing and Existing plus Project Conditions. Similarly, there is no change in intersection volumes between 2025 Cumulative and 2025 Cumulative plus Project Conditions. However, the reduction of travel lanes at major intersections would increase traffic congestion at some intersections... under Cumulative Plus Project conditions, CO [carbon monoxide] would not exceed the ambient air quality standard and TAC [toxic air contaminants] emissions would be less than existing at all intersections. Therefore implementation and operation of the project would not result in significant adverse air quality impacts. "
>
> "Bicycling has no associated emissions and the Proposed Project can reasonably be expected to reduce emissions citywide by shifting a portion of motor vehicle trips to bicycle trips. The Proposed Project could contribute to a new reduction in emissions and thus would have no impact and would not contribute to a cumulative impact... implementation of the Proposed Project does not result in any new automobile trips being added to the roadway network. Under cumulative conditions, with the Proposed Project included, CO and TAC emissions are predicted to decrease."

As illustrated in **Tables 1 and 2** above, the Modified Project 7-3 Extension average intersection delays would generally be consistent with reported delays for Modified Project 7-3 presented in the FEIR. Given the similarity of delays expected under the Modified Project 7-3 Extension as compared to the Modified

Project 7-3, air quality impacts would be substantially the same. No new or substantially greater air quality impacts would occur.

Archeology

The Initial Study for the Bicycle Plan program determined that with the implementation of a mitigation measure, the project would have a less-than-significant impact on Archeology, stating on Page 58 of the Initial Study (Appendix A of the Bicycle Plan FEIR):

> "The Planning Department found that the Proposed Project may require excavation in places to widen or narrow the roadway in the process of reconfiguring traffic lanes or parking, or to modify, install or remove medians. Excavation would be to a depth no greater than 24 inches. No project activities were identified that would result in a potential to adversely affect CEQA significant archeological resources. ..."

And Page 59:

> "Given the possibility that unanticipated archeological resources may be impacted by the Proposed Project, MEA Standard Archeological Mitigation Measure 1 (Accidental Discovery) will be implemented. With this mitigation measure, the potential of the Proposed Project to affect significant archeological resources would be reduced to a less-than-significant level."

Mitigation Measure 1, from the Bicycle Plan Initial Study, addresses how to treat cultural resources in the case that any are discovered during construction of the Modified Project 7-3.

Similar to the project analyzed in the Initial Study, Modified Project 7-3 Extension would result in a potential to adversely affect CEQA significant archeological resources. However, implementation of Mitigation Measure 1 would be applicable to the Modified Project 7-3 Extension and would reduce potential impacts to archeological resources and human remains to a less-than-significant level.

Water Quality & Runoff

The Initial Study for the Bicycle Plan program determined that the project would have a less-than-significant impact on Hydrology and Water Quality, stating on page 75 of the Bicycle Plan Initial Study (Appendix A of the Bicycle Plan FEIR):

> "The Proposed Project, located within the existing street right-of-way, would not change the amount of impervious surface area substantially, or alter the drainage pattern for the affected streets significantly. There are elements of the Proposed Project that would involve minor excavation and grading; however, the Proposed Project would generally replace paved surfaces with paved surfaces, with the exception of trees along streets and sidewalks. In the case of removed trees, some areas that are currently not paved might be paved over and rendered impervious, adding to stormwater runoff. These effects would be limited to small areas and would not be expected to significantly change runoff patterns."

The Modified Project 7-3 Extension designs would, consistent with the above description, either replace existing pavement with new pavement, or generally decrease the amount of impervious surface along the Great Highway by adding in additional permeable landscaping elements. Additionally, the Modified Project 7-3 Extension design elements are similar to other projects analyzed in the FEIR, such as Project 3-2 and potential elements analyzed under the Long-Term Improvement Projects in the FEIR. During

construction, there would be a temporary increase in the potential for erosion and transport of soil particles during any excavation. During construction, the Modified Project 7-3 Extension would be required to comply with all local water quality requirements, including stormwater control measures to reduce potential erosion impacts during construction and runoff would be directed to the City's combined stormwater/wastewater system and would be treated to standards contained in the City's National Pollutant Discharge Elimination System Permit prior to discharge. Therefore, the Modified Project 7-3 Extension would not substantially degrade hydrology and water quality, and impacts on water quality would be less than significant, consistent with the analysis and conclusions made in the Bicycle Plan FEIR Initial Study.

Other Issues

The Initial Study for the Bicycle Plan program determined that for the following topics, any environmental effects associated with the program and its individual projects would either be insignificant or would be reduced to a less-than-significant level by implementation of the mitigation measures included in as part of the program: land use, population and housing, noise, air quality, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral and energy resources, and agricultural resources. The FEIR did not discuss these issues further. The Initial Study, including the significance conclusions reached therein, remains applicable to the Modified Project 7-3 Extension designs and all applicable mitigation and improvement measures from the Initial Study and the FEIR would be applied to the Modified Project 7-3 Extension.

CONCLUSION

Based on the foregoing, the Department concludes that the analyses conducted and the conclusions reached in the FEIR certified on June 25, 2009 remain valid, and that no supplemental environmental review is required for the proposed project modifications. The Modified Project would not cause new significant impacts not identified in the FEIR, or result in a substantial increase in the severity of previously identified significant impacts, and no new mitigation measures would be necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the original project that would cause significant environmental impacts to which the Modified Project would contribute considerably, and no new information has been put forward which shows that the Modified Project would cause significant environmental impacts. Therefore, no supplemental environmental review is required beyond this addendum.

I do hereby certify that the above determination has been made pursuant to State and Local requirements.

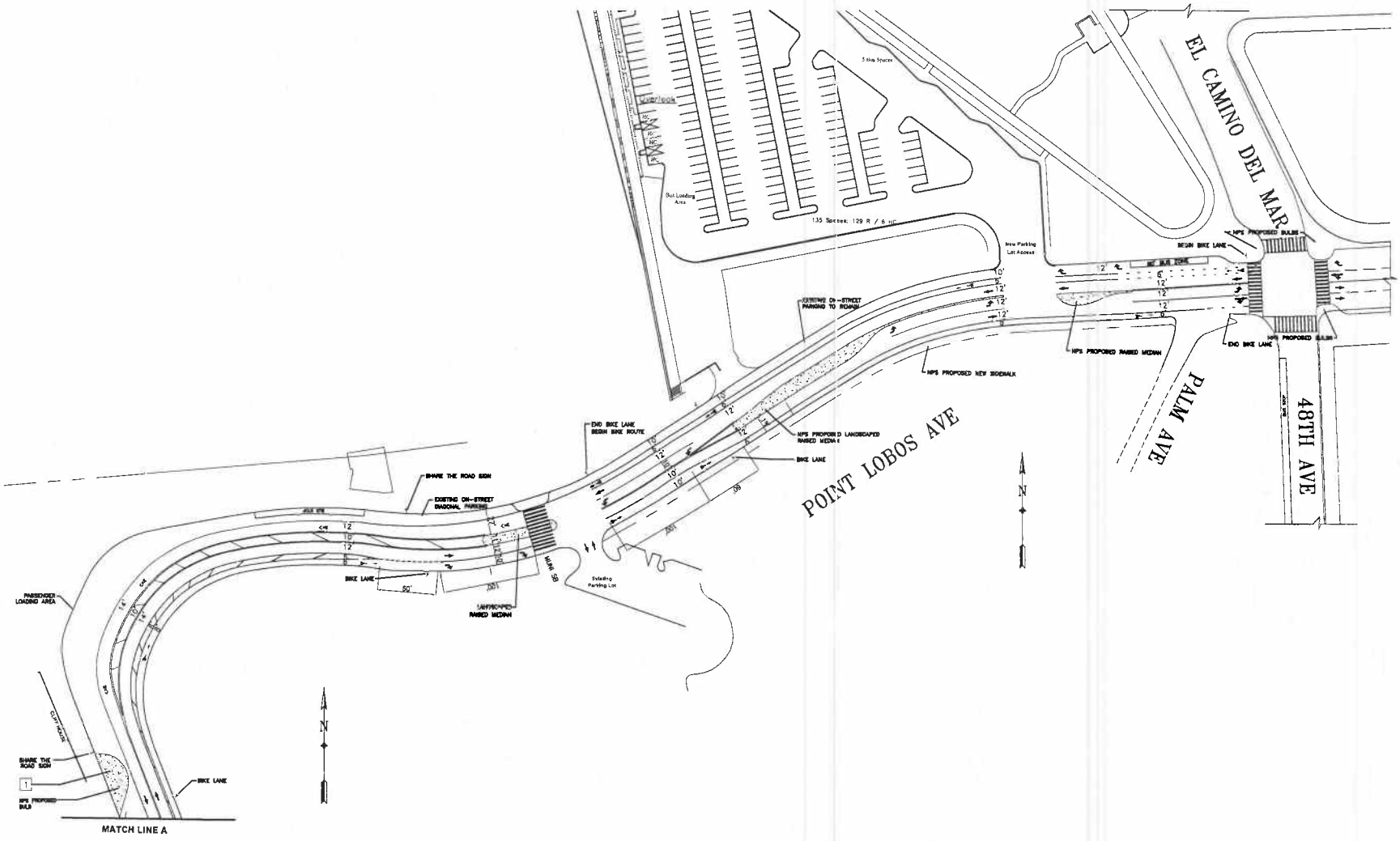
DATE December 27, 2012

Bill Wycko, Environmental Review Officer
for John Rahaim, Director of Planning

cc: Kristiann Choy, San Francisco Municipal Transportation Agency, MTA Livable Streets
Bulletin Board / Master Decision File/Distribution List

APPENDIX A

PROJECT ANALYZED IN THE FEIR
"Modified Project 7-3"



NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

DEPARTMENT OF PARKING AND TRAFFIC
DIVISION OF TRAFFIC ENGINEERING
CITY AND COUNTY OF SAN FRANCISCO

DESIGNED: DATE: C RC 05/29/09
DRAWN: DATE:
CHECKED: DATE:

APPROVED
SECTION ENGINEER DATE:
DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:

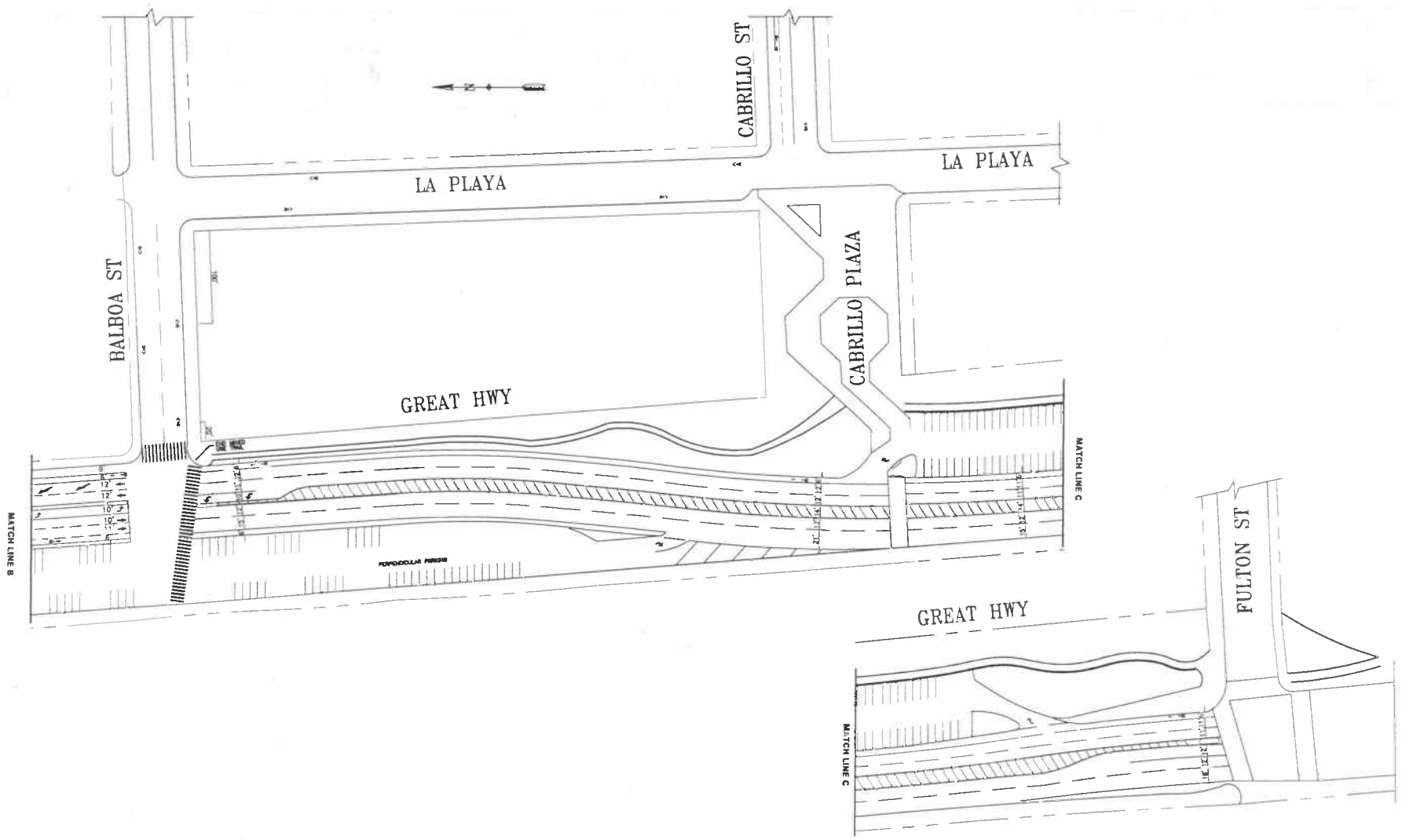
SCALE:
SHEET OF SHEETS 1 OF 3

PROJECT 7-3 MODIFIED OPTION 1

POINT LOBOS/GREAT HIGHWAY
ELCAMINO DEL MAR TO FULTON STREET

CONTRACT NO.
DRAWING NO.
FILE NO.
REV. NO.

EXTERNAL REFERENCES: FILE(S) USED:
SCALE FACTOR: PLOT SCALE:
ORIGIN:
FILE NAME:
DATE:



NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

DEPARTMENT OF PARKING AND TRAFFIC
DIVISION OF TRAFFIC ENGINEERING
CITY AND COUNTY OF SAN FRANCISCO

DESIGNED: DRC DATE: 05/29/08
DRAWN: DATE:
CHECKED: DATE:

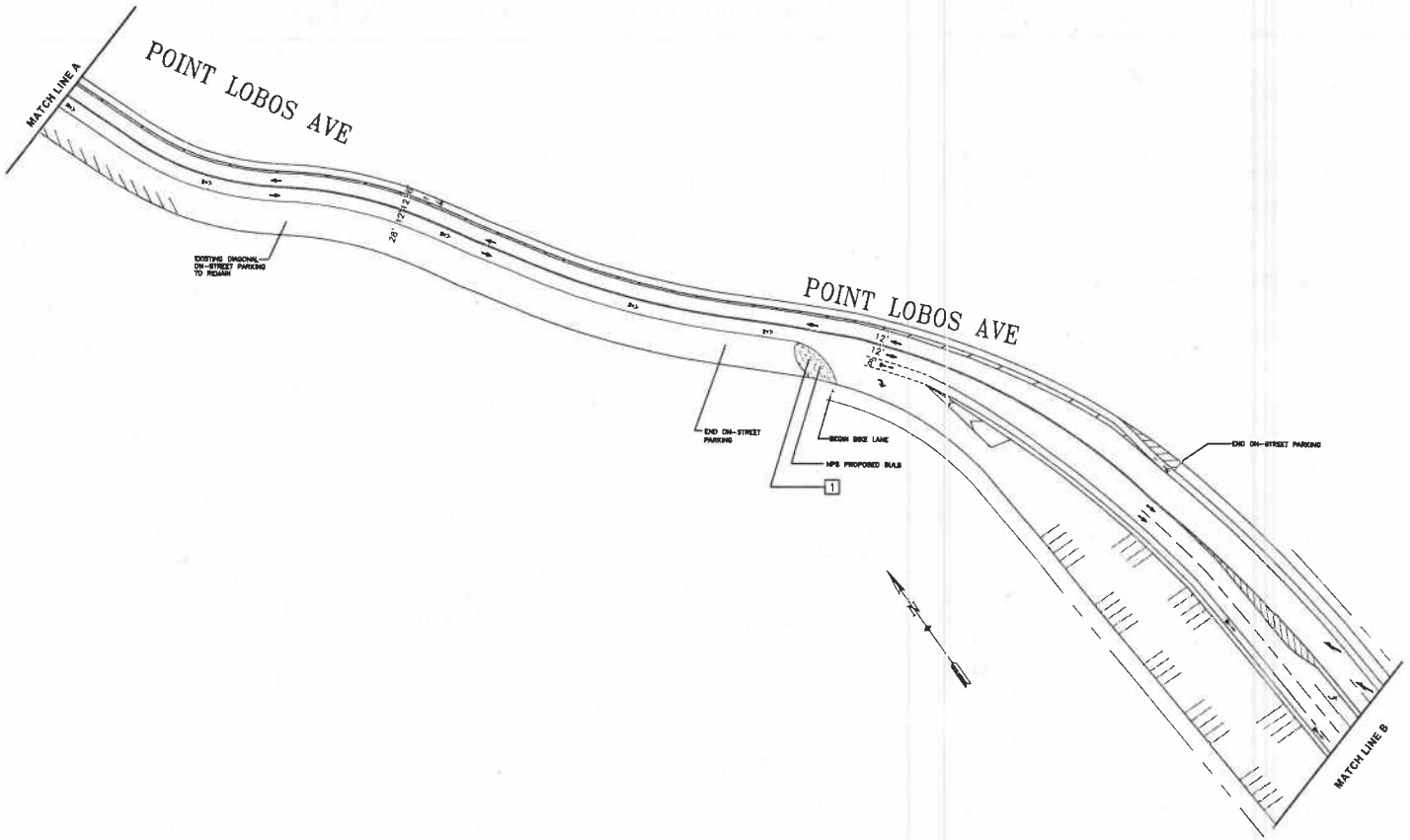
APPROVED
SECTION ENGINEER DATE:
SIGN SUBMITTED AND APPROVED BY CITY TRAFFIC ENGINEER DATE:

SCALE:
SHEET OF SHEETS 3 OF 3

PROJECT 7-3 MODIFIED OPTION 1
POINT LOBOS/GREAT HIGHWAY
ELCAMINO DEL MAR TO FULTON STREET

CONTRACT NO.
DRAWING NO.
FILE NO.
REV. NO.

EXTERNAL REFERENCES FONTS USED:
SCALE FACTOR PLOT SCALE:
ORIGIN:
FILE NAME:
DATE:



NO.	DATE	DESCRIPTION	BY	APP.

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

REFERENCE INFORMATION & FILE NO. OF SURVEYS

DEPARTMENT OF PARKING AND TRAFFIC
DIVISION OF TRAFFIC ENGINEERING
CITY AND COUNTY OF SAN FRANCISCO

DESIGNED: DRC	DATE: 05/29/09
DRAWN:	DATE:
CHECKED:	DATE:

APPROVED
SECTION ENGINEER DATE:
DEP. DIRECTOR AND CITY TRAFFIC ENGINEER DATE:

SCALE:
SHEET OF SHEETS 2 OF 3

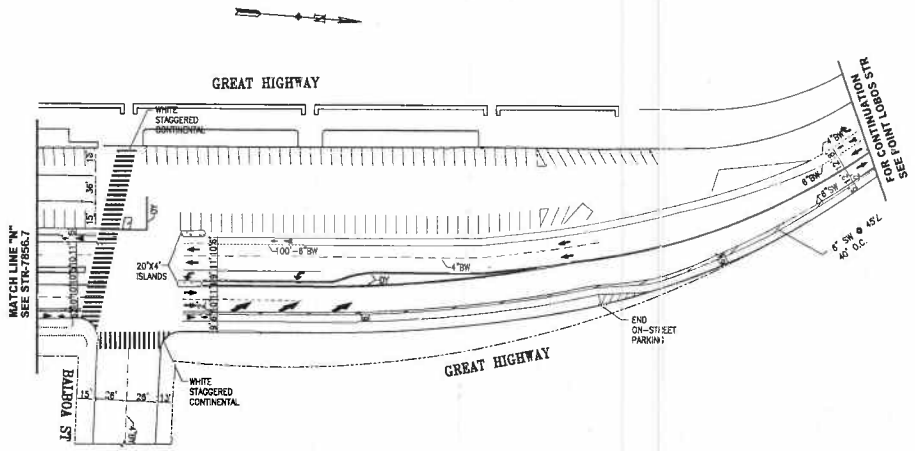
PROJECT 7-3 MODIFIED OPTION 1

POINT LOBOS/GREAT HIGHWAY
ELCAMINO DEL MAR TO FULTON STREET

CONTRACT NO.
DRAWING NO.
FILE NO.
REV. NO.

EXTERNAL REFERENCES: FONTS USED:
SCALE FACTOR: PLOT SCALE:
ORIGIN:
FILE NAME: DATE:

APPENDIX B
Modified Project 7-3 Extension



NO.	DATE	DESCRIPTION	BY	APP.
A	3/2012	AS PER FIELD INSPECTION	DRP	BW

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
CITY AND COUNTY OF SAN FRANCISCO

SUPERCEDES STR-6800.7 REV"3"

DRAWN: DRP/FRM DATE: 5/2012
CHECKED: AKW DATE: 5/2012

APPROVED
BRIAN DUSSEAULT 6/13/12
SENIOR ENGINEER DATE:
RICARDO OLEA 6/13/12
CITY TRAFFIC ENGINEER DATE:

SCALE: 1"=50'
SHEET OF SHEETS 9 OF 9

TRAFFIC STRIPING
GREAT HIGHWAY
SKYLINE BOULEVARD TO POINT LOBOS AVENUE
AND OCEAN BEACH PARKING LAYOUT

CONTRACT NO.
DRAWING NO. STR-7856.8
FILE NO.
REV. NO. 1

T:\T_E_FILES\LivableStreets\PERSONNEL\KChoy\Great Highway\ Great Highway_Str-7856 (Skyline Blvd to Point Lobos) 05-15-2012REV_2.dwg kchoy Fri Oct 26,2012 - 11:34 am

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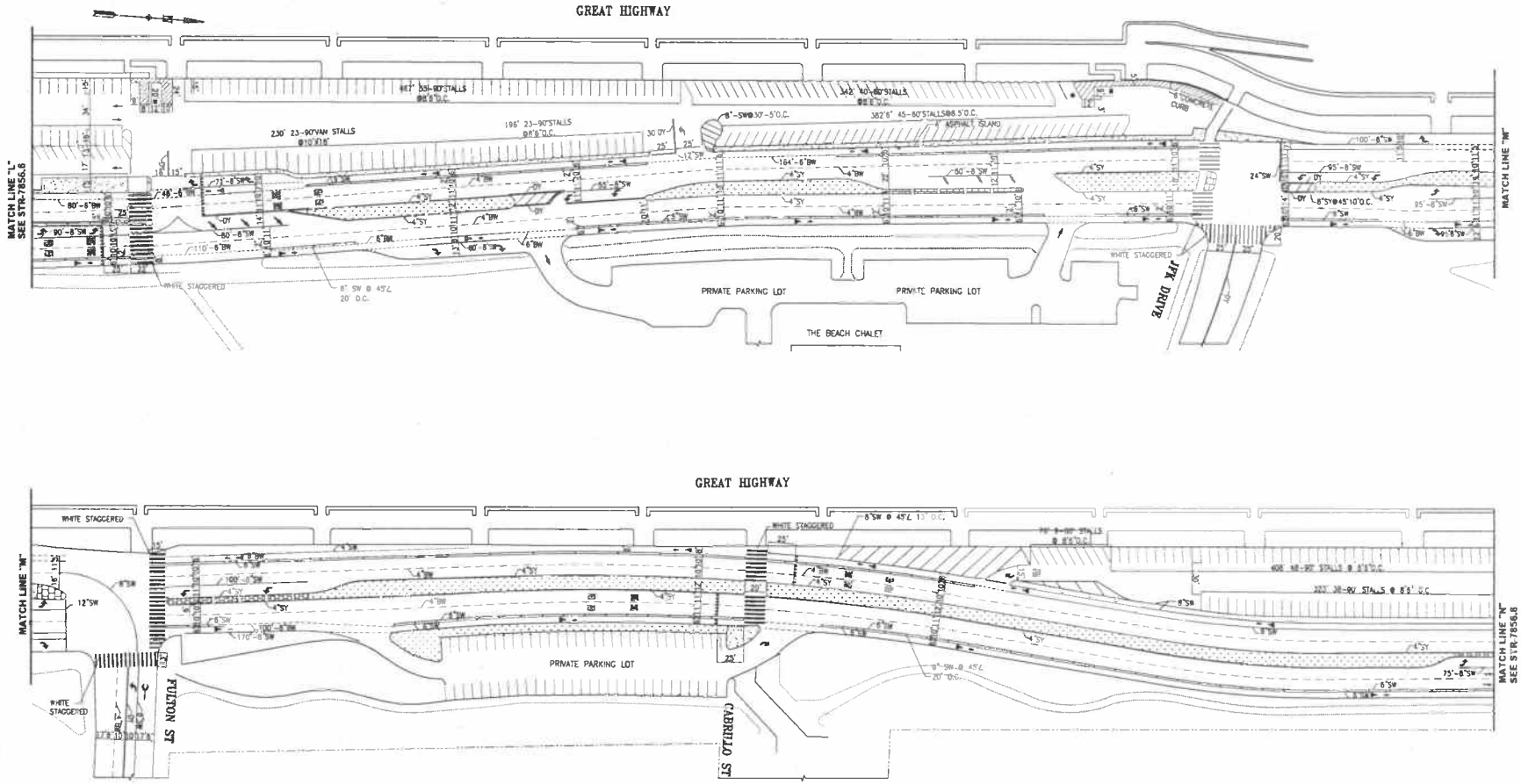
FONTS USED:



NO.	DATE	DESCRIPTION	BY	APP.
1	3/2012	AS PER FIELD INSPECTION	DRP	BW

TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
CITY AND COUNTY OF SAN FRANCISCO

SUPERCEDES STR-6800.6 REV"3"

DRAWN: DRP/FRM DATE: 5/2012
CHECKED: AKW DATE: 5/2012

APPROVED
BRIAN DUSSEAULT 6/13/12
SENIOR ENGINEER DATE
RICARDO OLEA 6/13/12
CITY TRAFFIC ENGINEER DATE

SCALE: 1"=50'
SHEET OF SHEETS: 8 OF 9

TRAFFIC STRIPING
GREAT HIGHWAY
SKYLINE BOULEVARD TO POINT LOBOS AVENUE
AND OCEAN BEACH PARKING LAYOUT

CONTRACT NO
DRAWING NO STR-7856.7
FILE NO.
REV. NO. 2

EXTERNAL REFERENCES: FONTS USED:
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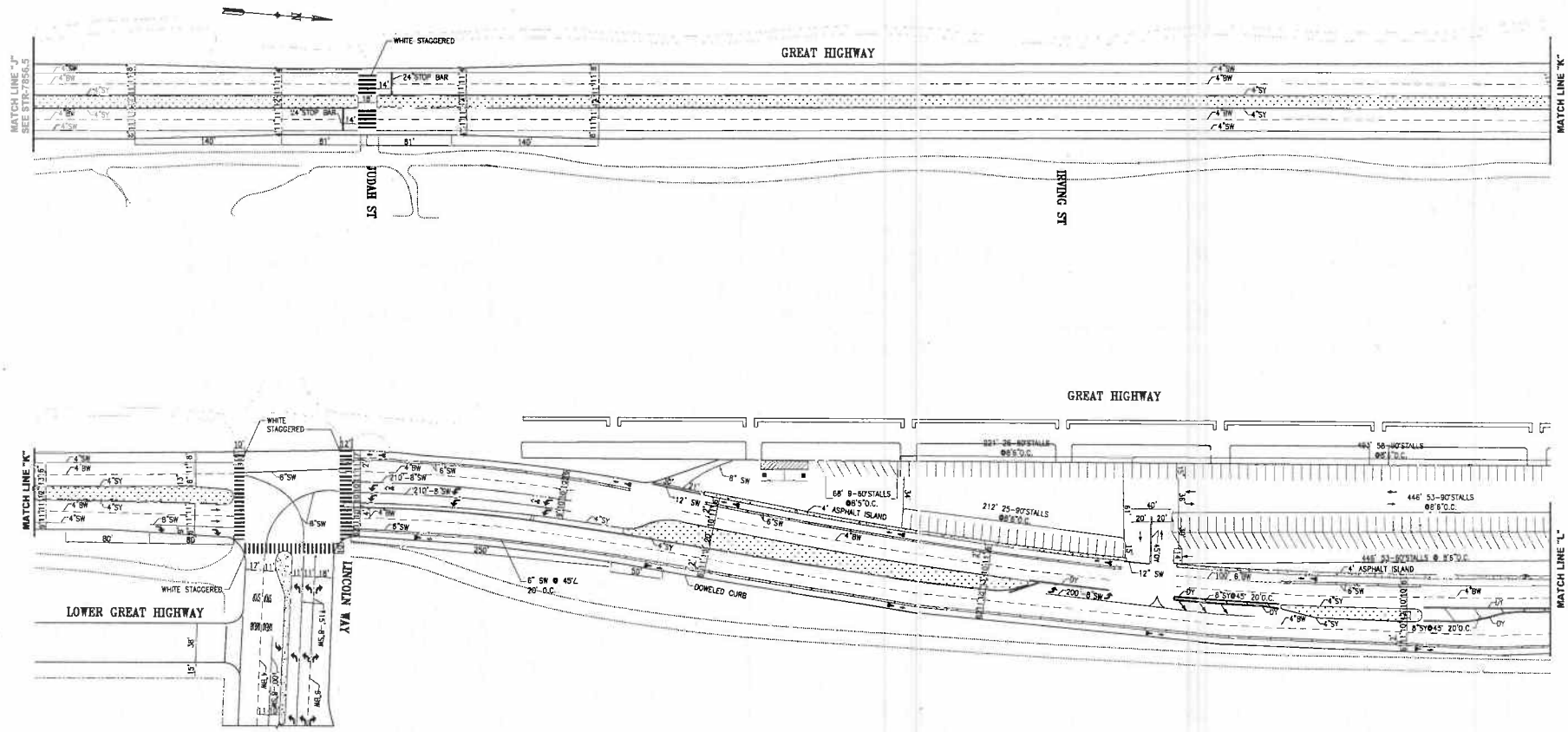

NO.	DATE	DESCRIPTION	BY	APP.
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TABLE OF REVISIONS
CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
CITY AND COUNTY OF SAN FRANCISCO

SUPERCEDES STR-6800.5 REV"1"

DRAWN: DRP/FRM DATE: 5/2012
CHECKED: AKW DATE: 5/2012

APPROVED
BRIAN DUSSEAULT 6/13/12
SENIOR ENGINEER DATE:
RICARDO OLEA 6/13/12
CITY TRAFFIC ENGINEER DATE:

SCALE: 1"=50'
SHEET OF SHEETS 7 OF 9

TRAFFIC STRIPING
GREAT HIGHWAY
SKYLINE BOULEVARD TO POINT LOBOS AVENUE AND OCEAN BEACH PARKING LAYOUT

CONTRACT NO.
DRAWING NO. STR-7856.6
FILE NO.
REV. NO. 2

EXTERNAL REFERENCES: FONTS USED:
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DATE:

APPENDIX C

SYNCHRO OUTPUT
INTERSECTION LEVEL OF SERVICE CALCULATIONS

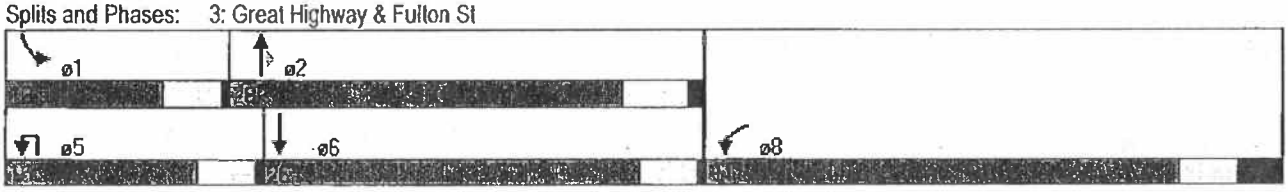
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	447	24	3	438	347	16	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	16	10	12	12	12	14
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3195	0	1652	3539	1583	1770	3775
Flt Permitted	0.955		0.950			0.950	
Satd. Flow (perm)	3195	0	1652	3539	1583	1770	3775
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	8				377		
Link Speed (mph)	30			30			30
Link Distance (ft)	630			260			108
Travel Time (s)	14.3			5.9			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	486	26	3	476	377	17	674
Shared Lane Traffic (%)							
Lane Group Flow (vph)	512	0	3	476	377	17	674
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Right	Left	Left
Median Width(ft)	20			12			12
Link Offset(ft)	0			0			0
Crosswalk Width(ft)	16			16			16
Two way Left Turn Lane							
Headway Factor	1.09	0.85	1.09	1.00	1.00	1.00	0.92
Turning Speed (mph)	15	9	9		9	15	
Number of Detectors	1		1	2	1	1	2
Detector Template	Left		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20		20	100	20	20	100
Trailing Detector (ft)	0		0	0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0	0
Detector 1 Size(ft)	20		20	6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94			94
Detector 2 Size(ft)				6			6
Detector 2 Type				Cl+Ex			Cl+Ex
Detector 2 Channel							
Detector 2 Extend (s)				0.0			0.0
Turn Type	NA		Prot	NA	Perm	Prot	NA
Protected Phases	8		5	2		1	6
Permitted Phases					2		
Detector Phase	8		5	2	2	1	6
Switch Phase							
Minimum Initial (s)	20.0		4.0	13.0	13.0	4.0	6.0

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Minimum Split (s)	33.3		8.0	25.0	25.0	8.0	20.0
Total Split (s)	34.0		15.0	28.0	28.0	13.0	26.0
Total Split (%)	45.3%		20.0%	37.3%	37.3%	17.3%	34.7%
Maximum Green (s)	27.7		11.0	23.0	23.0	9.0	22.0
Yellow Time (s)	3.5		3.5	4.0	4.0	3.5	3.5
All-Red Time (s)	2.8		0.5	1.0	1.0	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3		4.0	5.0	5.0	4.0	4.0
Lead/Lag			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0			7.0	7.0		
Flash Dont Walk (s)	20.0			13.0	13.0		
Pedestrian Calls (#/hr)	0			0	0		
Act Effct Green (s)	20.5		5.7	40.9	40.9	6.3	42.1
Actuated g/C Ratio	0.27		0.08	0.55	0.55	0.08	0.56
v/c Ratio	0.58		0.02	0.25	0.36	0.11	0.32
Control Delay	26.1		32.3	10.5	2.7	33.0	10.2
Queue Delay	0.0		0.0	0.5	0.7	0.0	0.0
Total Delay	26.1		32.3	11.0	3.4	33.0	10.2
LOS	C		C	B	A	C	B
Approach Delay	26.1			7.7			10.7
Approach LOS	C			A			B

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 13.3 Intersection LOS: B
Intersection Capacity Utilization 42.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Great Highway & Fulton St



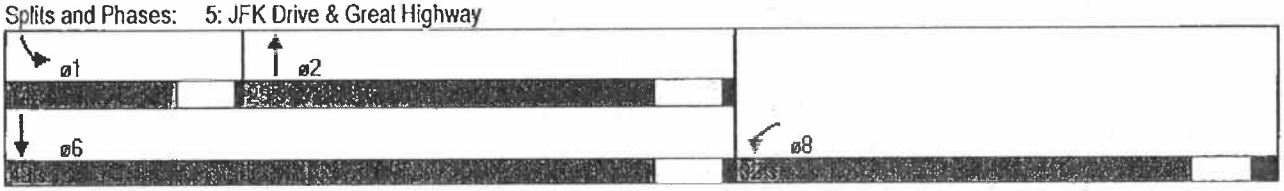
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	27	34	709	37	12	976
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.924		0.993			
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1685	0	3514	0	1652	3539
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1685	0	3514	0	1652	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	37		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	340		930			260
Travel Time (s)	7.7		21.1			5.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	37	771	40	13	1061
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	811	0	13	1061
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.09	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	18.0		13.0		4.0	20.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Split (s)	24.2		31.8		8.0	24.8
Total Split (s)	32.0		29.0		14.0	43.0
Total Split (%)	42.7%		38.7%		18.7%	57.3%
Maximum Green (s)	26.8		24.2		10.0	38.2
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	1.7		0.8		0.5	0.8
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.2		4.8		4.0	4.8
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		None	Max
Walk Time (s)	8.0		9.0			
Flash Dont Walk (s)	11.0		18.0			
Pedestrian Calls (#/hr)	0		0			
Act Effct Green (s)	18.1		44.8		6.1	46.9
Actuated g/C Ratio	0.29		0.71		0.10	0.75
v/c Ratio	0.13		0.32		0.08	0.40
Control Delay	11.2		8.1		28.2	6.7
Queue Delay	0.0		0.0		0.0	0.3
Total Delay	11.2		8.1		28.2	7.0
LOS	B		A		C	A
Approach Delay	11.2		8.1			7.2
Approach LOS	B		A			A

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 62.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 50.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: JFK Drive & Great Highway



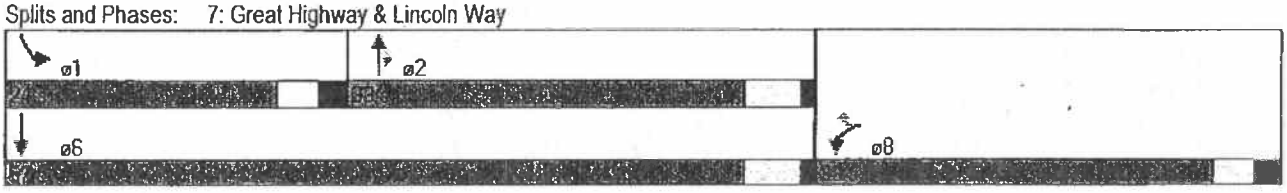
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	117	194	609	162	311	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	16	11	10	10	12
Storage Length (ft)	0	0		0	225	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3319	1794	3421	1478	3204	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3319	1794	3421	1478	3204	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		211		176		
Link Speed (mph)	30		30			30
Link Distance (ft)	754		478			930
Travel Time (s)	17.1		10.9			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	211	662	176	338	891
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	211	662	176	338	891
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	22		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.04	0.85	1.04	1.09	1.09	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	33.0	33.0	10.0	21.0
Total Split (s)	33.0	33.0	33.0	33.0	24.0	57.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	26.7%	63.3%
Maximum Green (s)	28.0	28.0	28.0	28.0	19.0	52.0
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	4.0	4.0	5.0	5.0		
Flash Dont Walk (s)	18.0	18.0	23.0	23.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	8.3	8.3	34.7	34.7	12.3	52.0
Actuated g/C Ratio	0.12	0.12	0.49	0.49	0.17	0.74
v/c Ratio	0.32	0.53	0.39	0.22	0.60	0.34
Control Delay	30.7	10.0	12.8	2.9	31.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	10.0	12.8	2.9	31.3	3.7
LOS	C	B	B	A	C	A
Approach Delay	17.8		10.7			11.3
Approach LOS	B		B			B

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 12.0 — Intersection LOS: B
Intersection Capacity Utilization 44.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Great Highway & Lincoln Way



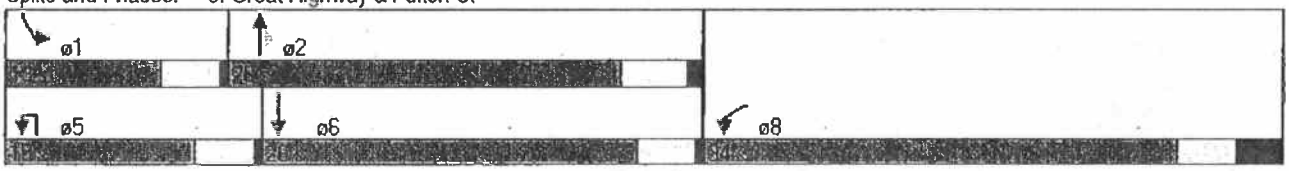
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	447	24	3	438	347	16	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	16	10	11	12	11	11
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3195	0	1652	3421	1583	1711	3421
Flt Permitted	0.955		0.950			0.950	
Satd. Flow (perm)	3195	0	1652	3421	1583	1711	3421
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	8				377		
Link Speed (mph)	30			30			30
Link Distance (ft)	630			260			108
Travel Time (s)	14.3			5.9			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	486	26	3	476	377	17	674
Shared Lane Traffic (%)							
Lane Group Flow (vph)	512	0	3	476	377	17	674
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Right	Left	Left
Median Width(ft)	20			11			11
Link Offset(ft)	0			0			0
Crosswalk Width(ft)	16			16			16
Two way Left Turn Lane							
Headway Factor	1.09	0.85	1.09	1.04	1.00	1.04	1.04
Turning Speed (mph)	15	9	9		9	15	
Number of Detectors	1		1	2	1	1	2
Detector Template	Left		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20		20	100	20	20	100
Trailing Detector (ft)	0		0	0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0	0
Detector 1 Size(ft)	20		20	6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94			94
Detector 2 Size(ft)				6			6
Detector 2 Type				Cl+Ex			Cl+Ex
Detector 2 Channel							
Detector 2 Extend (s)				0.0			0.0
Turn Type	NA		Prot	NA	Perm	Prot	NA
Protected Phases	8		5	2		1	6
Permitted Phases					2		
Detector Phase	8		5	2	2	1	6
Switch Phase							
Minimum Initial (s)	20.0		4.0	13.0	13.0	4.0	6.0

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Minimum Split (s)	33.3		8.0	25.0	25.0	8.0	20.0
Total Split (s)	34.0		15.0	28.0	28.0	13.0	26.0
Total Split (%)	45.3%		20.0%	37.3%	37.3%	17.3%	34.7%
Maximum Green (s)	27.7		11.0	23.0	23.0	9.0	22.0
Yellow Time (s)	3.5		3.5	4.0	4.0	3.5	3.5
All-Red Time (s)	2.8		0.5	1.0	1.0	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3		4.0	5.0	5.0	4.0	4.0
Lead/Lag			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0			7.0	7.0		
Flash Dont Walk (s)	20.0			13.0	13.0		
Pedestrian Calls (#/hr)	0			0	0		
Act Effct Green (s)	20.5		5.7	40.8	40.8	6.3	42.1
Actuated g/C Ratio	0.27		0.08	0.54	0.54	0.08	0.56
v/c Ratio	0.58		0.02	0.26	0.36	0.12	0.35
Control Delay	26.1		32.3	10.6	2.7	33.1	10.5
Queue Delay	0.0		0.0	0.5	0.7	0.0	0.0
Total Delay	26.1		32.3	11.1	3.4	33.1	10.5
LOS	C		C	B	A	C	B
Approach Delay	26.1			7.8			11.1
Approach LOS	C			A			B

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 13.5 Intersection LOS: B
Intersection Capacity Utilization 42.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Great Highway & Fulton St



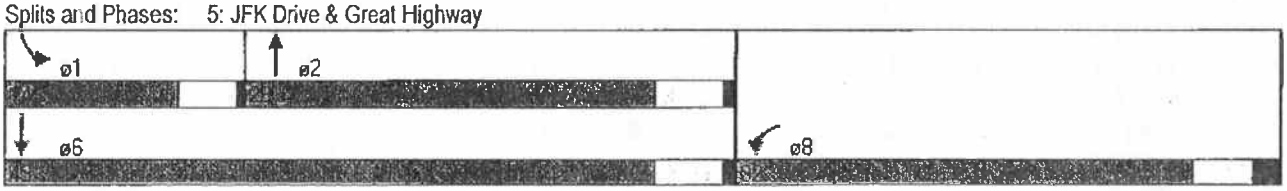
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	27	34	709	37	12	976
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	10
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.924		0.993			
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1685	0	3397	0	1711	3303
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1685	0	3397	0	1711	3303
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	37		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	340		930			260
Travel Time (s)	7.7		21.1			5.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	37	771	40	13	1061
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	811	0	13	1061
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	18.0		13.0		4.0	20.0

Lane Group	WBL	WBR	NBT	NBR	SBT	SBT
Minimum Split (s)	24.2		31.8		8.0	24.8
Total Split (s)	32.0		29.0		14.0	43.0
Total Split (%)	42.7%		38.7%		18.7%	57.3%
Maximum Green (s)	26.8		24.2		10.0	38.2
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	1.7		0.8		0.5	0.8
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.2		4.8		4.0	4.8
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		None	Max
Walk Time (s)	8.0		9.0			
Flash Dont Walk (s)	11.0		18.0			
Pedestrian Calls (#/hr)	0		0			
Act Effct Green (s)	18.1		44.8		6.1	46.9
Actuated g/C Ratio	0.29		0.71		0.10	0.75
v/c Ratio	0.13		0.33		0.08	0.43
Control Delay	11.2		8.3		28.2	7.0
Queue Delay	0.0		0.0		0.0	0.3
Total Delay	11.2		8.3		28.2	7.3
LOS	B		A		C	A
Approach Delay	11.2		8.3			7.6
Approach LOS	B		A			A

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 62.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 8.0 — Intersection LOS: A
Intersection Capacity Utilization 50.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 5: JFK Drive & Great Highway



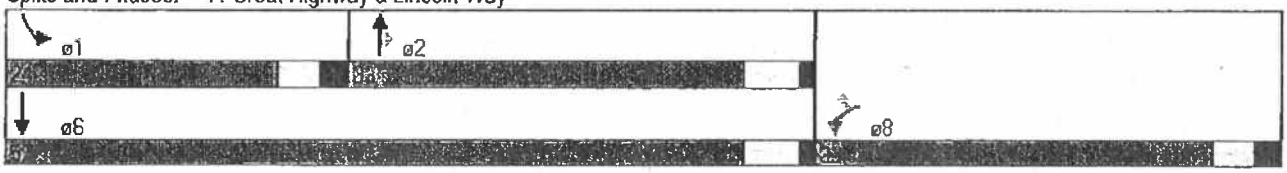
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	117	194	609	162	311	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	16	11	10	10	11
Storage Length (ft)	0	0		0	225	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3319	1794	3421	1478	3204	3421
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3319	1794	3421	1478	3204	3421
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		211		176		
Link Speed (mph)	30		30			30
Link Distance (ft)	754		478			930
Travel Time (s)	17.1		10.9			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	211	662	176	338	891
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	211	662	176	338	891
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	22		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.04	0.85	1.04	1.09	1.09	1.04
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	33.0	33.0	10.0	21.0
Total Split (s)	33.0	33.0	33.0	33.0	24.0	57.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	26.7%	63.3%
Maximum Green (s)	28.0	28.0	28.0	28.0	19.0	52.0
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	4.0	4.0	5.0	5.0		
Flash Dont Walk (s)	18.0	18.0	23.0	23.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	8.3	8.3	34.7	34.7	12.3	52.0
Actuated g/C Ratio	0.12	0.12	0.49	0.49	0.17	0.74
v/c Ratio	0.32	0.53	0.39	0.22	0.60	0.35
Control Delay	30.7	10.0	12.8	2.9	31.3	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	10.0	12.8	2.9	31.3	3.8
LOS	C	B	B	A	C	A
Approach Delay	17.8		10.7			11.4
Approach LOS	B		B			B

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 12.0 — Intersection LOS: B
Intersection Capacity Utilization 44.0% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Great Highway & Lincoln Way



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	447	24	3	438	347	16	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	16	10	12	12	12	14
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3195	0	1652	3539	1583	1770	3775
Flt Permitted	0.955		0.950			0.950	
Satd. Flow (perm)	3195	0	1652	3539	1583	1770	3775
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	8				502		
Link Speed (mph)	30			30			30
Link Distance (ft)	630			260			108
Travel Time (s)	14.3			5.9			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	133%	133%	133%	133%	133%	133%	133%
Adj. Flow (vph)	646	35	4	633	502	23	896
Shared Lane Traffic (%)							
Lane Group Flow (vph)	681	0	4	633	502	23	896
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Right	Left	Left
Median Width(ft)	20			12			12
Link Offset(ft)	0			0			0
Crosswalk Width(ft)	16			16			16
Two way Left Turn Lane							
Headway Factor	1.09	0.85	1.09	1.00	1.00	1.00	0.92
Turning Speed (mph)	15	9	9		9	15	
Number of Detectors	1		1	2	1	1	2
Detector Template	Left		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20		20	100	20	20	100
Trailing Detector (ft)	0		0	0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0	0
Detector 1 Size(ft)	20		20	6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94			94
Detector 2 Size(ft)				6			6
Detector 2 Type				Cl+Ex			Cl+Ex
Detector 2 Channel							
Detector 2 Extend (s)				0.0			0.0
Turn Type	NA		Prot	NA	Perm	Prot	NA
Protected Phases	8		5	2		1	6
Permitted Phases					2		
Detector Phase	8		5	2	2	1	6
Switch Phase							

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Minimum Initial (s)	20.0		4.0	13.0	13.0	4.0	6.0
Minimum Split (s)	33.3		8.0	25.0	25.0	8.0	20.0
Total Split (s)	34.0		15.0	28.0	28.0	13.0	26.0
Total Split (%)	45.3%		20.0%	37.3%	37.3%	17.3%	34.7%
Maximum Green (s)	27.7		11.0	23.0	23.0	9.0	22.0
Yellow Time (s)	3.5		3.5	4.0	4.0	3.5	3.5
All-Red Time (s)	2.8		0.5	1.0	1.0	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3		4.0	5.0	5.0	4.0	4.0
Lead/Lag			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0			7.0	7.0		
Flash Dont Walk (s)	20.0			13.0	13.0		
Pedestrian Calls (#/hr)	0			0	0		
Act Effct Green (s)	22.3		5.8	36.7	36.7	6.6	40.3
Actuated g/C Ratio	0.30		0.08	0.49	0.49	0.09	0.54
v/c Ratio	0.71		0.03	0.37	0.49	0.15	0.44
Control Delay	27.5		32.2	14.7	3.8	33.3	12.8
Queue Delay	0.0		0.0	1.5	1.1	0.0	0.0
Total Delay	27.5		32.2	16.1	4.8	33.3	12.8
LOS	C		C	B	A	C	B
Approach Delay	27.5			11.2			13.3
Approach LOS	C			B			B

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 49.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Great Highway & Fulton St

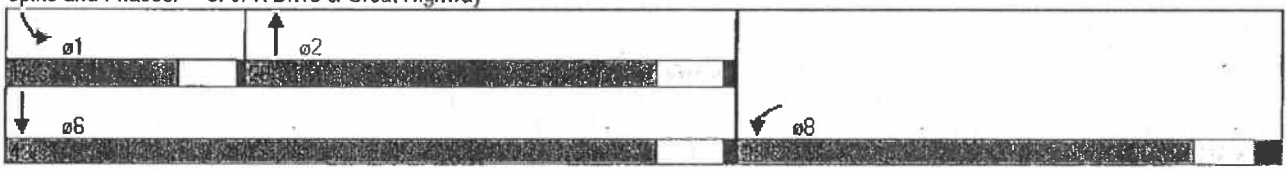
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	27	34	709	37	12	976
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.925		0.993			
Flt Protected	0.978				0.950	
Satd. Flow (prot)	1685	0	3514	0	1652	3539
Flt Permitted	0.978				0.950	
Satd. Flow (perm)	1685	0	3514	0	1652	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	47		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	340		930			260
Travel Time (s)	7.7		21.1			5.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	38	47	986	51	17	1358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	1037	0	17	1358
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		24			24
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.09	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	18.0		13.0		4.0	20.0
Minimum Split (s)	24.2		31.8		8.0	24.8
Total Split (s)	32.0		29.0		14.0	43.0
Total Split (%)	42.7%		38.7%		18.7%	57.3%
Maximum Green (s)	26.8		24.2		10.0	38.2
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	1.7		0.8		0.5	0.8
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.2		4.8		4.0	4.8
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		None	Max
Walk Time (s)	8.0		9.0			
Flash Dont Walk (s)	11.0		18.0			
Pedestrian Calls (#/hr)	0		0			
Act Effct Green (s)	18.2		43.9		6.3	46.0
Actuated g/C Ratio	0.30		0.71		0.10	0.75
v/c Ratio	0.16		0.41		0.10	0.51
Control Delay	11.2		9.1		28.4	7.8
Queue Delay	0.0		0.0		0.0	0.5
Total Delay	11.2		9.1		28.4	8.3
LOS	B		A		C	A
Approach Delay	11.2		9.1			8.6
Approach LOS	B		A			A

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 61.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 8.9 — Intersection LOS: A
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: JFK Drive & Great Highway



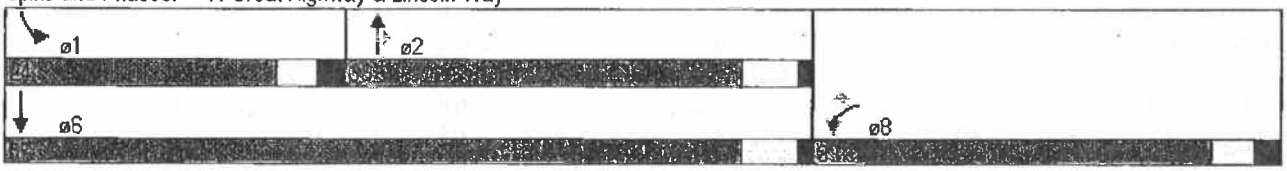
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	117	194	609	162	311	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	16	11	10	10	12
Storage Length (ft)	0	0		0	225	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3319	1794	3421	1478	3204	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3319	1794	3421	1478	3204	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		266		222		
Link Speed (mph)	30		30			30
Link Distance (ft)	754		478			930
Travel Time (s)	17.1		10.9			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	126%	126%	126%	126%	126%	126%
Adj. Flow (vph)	160	266	834	222	426	1123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	160	266	834	222	426	1123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	22		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.04	0.85	1.04	1.09	1.09	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	33.0	33.0	10.0	21.0
Total Split (s)	33.0	33.0	33.0	33.0	24.0	57.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	26.7%	63.3%
Maximum Green (s)	28.0	28.0	28.0	28.0	19.0	52.0
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	4.0	4.0	5.0	5.0		
Flash Dont Walk (s)	18.0	18.0	23.0	23.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	8.9	8.9	32.8	32.8	14.2	52.0
Actuated g/C Ratio	0.13	0.13	0.46	0.46	0.20	0.73
v/c Ratio	0.38	0.58	0.53	0.28	0.66	0.43
Control Delay	31.2	9.8	16.0	3.3	31.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	9.8	16.0	3.3	31.3	4.5
LOS	C	A	B	A	C	A
Approach Delay	17.8		13.3			11.8
Approach LOS	B		B			B

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 13.2 — Intersection LOS: B
Intersection Capacity Utilization 50.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Great Highway & Lincoln Way



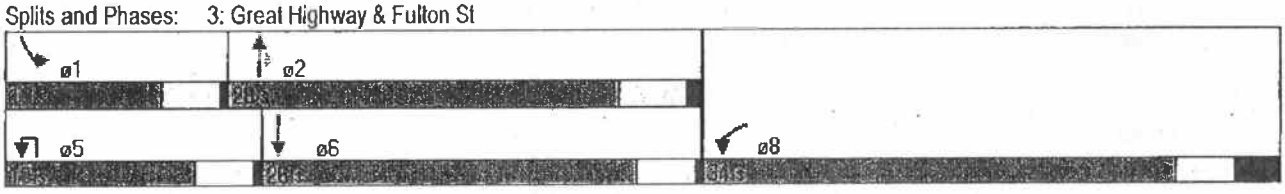
Lane Group	WBL	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	447	24	3	438	347	16	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	16	10	11	12	11	11
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	1.00	0.95
Frt	0.992				0.850		
Flt Protected	0.955		0.950			0.950	
Satd. Flow (prot)	3195	0	1652	3421	1583	1711	3421
Flt Permitted	0.955		0.950			0.950	
Satd. Flow (perm)	3195	0	1652	3421	1583	1711	3421
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)	8				502		
Link Speed (mph)	30			30			30
Link Distance (ft)	630			260			108
Travel Time (s)	14.3			5.9			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	133%	133%	133%	133%	133%	133%	133%
Adj. Flow (vph)	646	35	4	633	502	23	896
Shared Lane Traffic (%)							
Lane Group Flow (vph)	681	0	4	633	502	23	896
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Right	R NA	Left	Right	Left	Left
Median Width(ft)	20			11			11
Link Offset(ft)	0			0			0
Crosswalk Width(ft)	16			16			16
Two way Left Turn Lane							
Headway Factor	1.09	0.85	1.09	1.04	1.00	1.04	1.04
Turning Speed (mph)	15	9	9		9	15	
Number of Detectors	1		1	2	1	1	2
Detector Template	Left		Left	Thru	Right	Left	Thru
Leading Detector (ft)	20		20	100	20	20	100
Trailing Detector (ft)	0		0	0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0	0
Detector 1 Size(ft)	20		20	6	20	20	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94			94
Detector 2 Size(ft)				6			6
Detector 2 Type				Cl+Ex			Cl+Ex
Detector 2 Channel							
Detector 2 Extend (s)				0.0			0.0
Turn Type	NA		Prot	NA	Perm	Prot	NA
Protected Phases	8		5	2		1	6
Permitted Phases					2		
Detector Phase	8		5	2	2	1	6
Switch Phase							

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Minimum Initial (s)	20.0		4.0	13.0	13.0	4.0	6.0
Minimum Split (s)	33.3		8.0	25.0	25.0	8.0	20.0
Total Split (s)	34.0		15.0	28.0	28.0	13.0	26.0
Total Split (%)	45.3%		20.0%	37.3%	37.3%	17.3%	34.7%
Maximum Green (s)	27.7		11.0	23.0	23.0	9.0	22.0
Yellow Time (s)	3.5		3.5	4.0	4.0	3.5	3.5
All-Red Time (s)	2.8		0.5	1.0	1.0	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3		4.0	5.0	5.0	4.0	4.0
Lead/Lag			Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	None	C-Max
Walk Time (s)	7.0			7.0	7.0		
Flash Dont Walk (s)	20.0			13.0	13.0		
Pedestrian Calls (#/hr)	0			0	0		
Act Effct Green (s)	22.3		5.8	36.7	36.7	6.6	40.3
Actuated g/C Ratio	0.30		0.08	0.49	0.49	0.09	0.54
v/c Ratio	0.71		0.03	0.38	0.49	0.15	0.49
Control Delay	27.5		32.2	14.9	3.8	33.4	13.5
Queue Delay	0.0		0.0	1.5	1.0	0.0	0.0
Total Delay	27.5		32.2	16.4	4.8	33.4	13.5
LOS	C		C	B	A	C	B
Approach Delay	27.5			11.3			14.0
Approach LOS	C			B			B

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 16.3 — Intersection LOS: B
Intersection Capacity Utilization 49.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 3: Great Highway & Fulton St



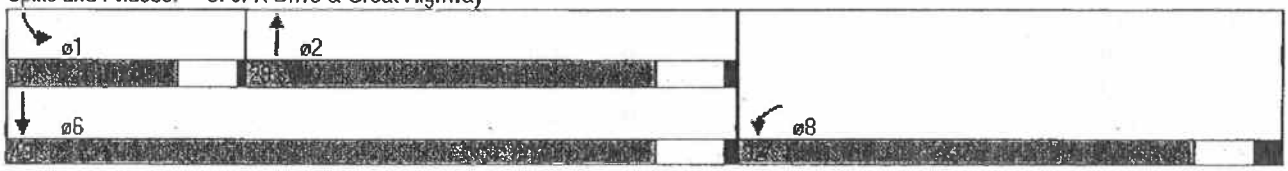
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	27	34	709	37	12	976
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	10
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.925		0.993			
Flt Protected	0.978				0.950	
Satd. Flow (prot)	1685	0	3397	0	1711	3303
Flt Permitted	0.978				0.950	
Satd. Flow (perm)	1685	0	3397	0	1711	3303
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	47		7			
Link Speed (mph)	30		30			30
Link Distance (ft)	340		930			260
Travel Time (s)	7.7		21.1			5.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	128%	128%	128%	128%	128%	128%
Adj. Flow (vph)	38	47	986	51	17	1358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	1037	0	17	1358
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.04	1.04	1.04	1.09
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	18.0		13.0		4.0	20.0
Minimum Split (s)	24.2		31.8		8.0	24.8
Total Split (s)	32.0		29.0		14.0	43.0
Total Split (%)	42.7%		38.7%		18.7%	57.3%
Maximum Green (s)	26.8		24.2		10.0	38.2
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	1.7		0.8		0.5	0.8
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	5.2		4.8		4.0	4.8
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		Max		None	Max
Walk Time (s)	8.0		9.0			
Flash Dont Walk (s)	11.0		18.0			
Pedestrian Calls (#/hr)	0		0			
Act Effct Green (s)	18.2		43.9		6.2	46.0
Actuated g/C Ratio	0.30		0.71		0.10	0.75
v/c Ratio	0.16		0.43		0.10	0.55
Control Delay	11.2		9.3		28.3	8.4
Queue Delay	0.0		0.0		0.0	0.6
Total Delay	11.2		9.3		28.3	9.0
LOS	B		A		C	A
Approach Delay	11.2		9.3			9.2
Approach LOS	B		A			A

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 61.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 9.3 — Intersection LOS: A
Intersection Capacity Utilization 57.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 5: JFK Drive & Great Highway



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	117	194	609	162	311	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	16	11	10	10	11
Storage Length (ft)	0	0		0	225	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3319	1794	3421	1478	3204	3421
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3319	1794	3421	1478	3204	3421
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		266		222		
Link Speed (mph)	30		30			30
Link Distance (ft)	754		478			930
Travel Time (s)	17.1		10.9			21.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	126%	126%	126%	126%	126%	126%
Adj. Flow (vph)	160	266	834	222	426	1123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	160	266	834	222	426	1123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	22		20			20
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.04	0.85	1.04	1.09	1.09	1.04
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	27.0	27.0	33.0	33.0	10.0	21.0
Total Split (s)	33.0	33.0	33.0	33.0	24.0	57.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	26.7%	63.3%
Maximum Green (s)	28.0	28.0	28.0	28.0	19.0	52.0
Yellow Time (s)	3.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	4.0	4.0	5.0	5.0		
Flash Dont Walk (s)	18.0	18.0	23.0	23.0		
Pedestrian Calls (#/hr)	0	0	0	0		
Act Effct Green (s)	8.9	8.9	32.8	32.8	14.2	52.0
Actuated g/C Ratio	0.13	0.13	0.46	0.46	0.20	0.73
v/c Ratio	0.38	0.58	0.53	0.28	0.66	0.45
Control Delay	31.2	9.8	16.0	3.3	31.3	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	9.8	16.0	3.3	31.3	4.6
LOS	C	A	B	A	C	A
Approach Delay	17.8		13.3			11.9
Approach LOS	B		B			B

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 13.2 — Intersection LOS: B
Intersection Capacity Utilization 50.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Great Highway & Lincoln Way