285 12th Street, Oakland

Cultural Resources Evaluation Report

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Introduction

Project Background

The East Bay Asian Local Development Corporation (EBALDC) proposes to construct a seven-story, 83-foot tall building at 285 12th Street, Oakland. The parcel is at the northwest corner of the block bounded by 11th, 12th, Harrison, and Alice Streets (APN 002-069-03-01). When complete, the new building will contain 65 residential units and approximately 3,500 square feet of commercial space, with ground floor and second floor parking. The parcel is currently in use as a construction staging area, and one steel-frame building constructed in 1965 stands on the site. The Area of Potential Effect for the project is the project parcel and the immediately adjacent parcels.

Funding provided by the U.S. Department of Housing and Urban Development (HUD) and administered by the City of Oakland are being used for the project. To meet the cultural resources identification requirements outlined in Section 106 of the National Historic Preservation Act (NHPA), the City of Oakland must provide a suitable federal Environmental Review Record to HUD that complies with its obligations under the NHPA (36 CFR §800.5) and with HUD's environmental procedures (24 CFR §58). As such, the City of Oakland has requested a cultural resources evaluation of the Project Site, including a National Register of Historic Places (NRHP) eligibility evaluation for the existing building on site, and an assessment of the project's potential to cause adverse effect on an historic property as defined in 36 CFR §800.5(a).

Summary of Findings

The project parcel is covered in impervious surfaces and could not be inspected for evidence of archaeological deposits. The Project Site's sensitivity for prehistoric archaeological material appears to be low. The southeastern part of the project parcel appears to be sensitive for historic-era archaeological deposits, but the remainder of the parcel has low to moderate sensitivity.

One building stands on the project site. Built in 1965, it served as a used car sales office until approximately 1990. The building does not appear to have sufficient significance to make it eligible to the National Register of Historic Places. The proposed project also does not appear to have the potential to affect any adjacent historic properties. As such, we recommend a finding of No Adverse Effect (as defined at 36 CFR §800.5[b]) for this project.

Project Location and Description of the Undertaking

Project Location and Existing Conditions

The 0.3-acre project site includes one parcel (APN: 002-0069-00301) located at the southeast corner of 12th Street and Harrison Street in the City of Oakland. The project vicinity is generally flat and is highly urbanized. The project site is currently paved in asphalt. A small building built in 1965, formerly an auto sales office, stands at the southern edge of the parcel.

Description of the Undertaking

The East Bay Asian Local Development Corporation (EBALDC) will acquire and develop the 285 12th Street affordable housing project located one parcel at 285 12th Street. The project will demolish existing improvements and construct a seven-story building containing 65 affordable residential units and approximately 3,500 square feet of commercial space on the ground floor. The podium apartment structure would be approximately 83 feet tall to the roof and 93 feet tall to the top of the elevator shaft. An approximately 2,300 square-foot outdoor courtyard would be located on the second floor at the southeast corner of the building. An approximately 800 square foot light court open space would also be provided on the ground floor and open to the adjacent courtyard on the second floor.

Parking for the 65 residential units would be located within a ground floor parking garage. Access to the parking garage would be provided via a driveway along 12th Street. The project would provide 15 parking spaces (0.23 spaces per unit) for the apartments. The project proposes 64 Class I bicycle parking spaces for the apartments, which would be located in a designated bicycle storage room on the ground floor. Six additional bicycle spaces would be provided by sidewalk bike racks on Harrison and 12th Streets. Resident access to the lobby of the apartment building would be from the public sidewalk along Harrison Street. Access to the commercial space would be from the public sidewalks along Harrison Street and 12th Street.

Storm, sewer, and water utility lines within Harrison Street and 12th Street are adjacent to the Project Site on two sides. The project would connect to the existing lines within those streets. Significant off-site utility improvements are not required for the project. The project would widen the existing sidewalks along 12th Street and Harrison Street to approximately 20 feet and improve the street corner with an enhanced pedestrian bulbout. Four existing street trees would be removed and replaced with nine street trees as part of the project.

The project proposes to achieve LEED Silver standards and comply with the City's Green Building Ordinance and the California Green Building Code. Green building measures include on-site bicycle facilities, energy-efficient lighting, and energy-efficient HVAC systems.

The proposed residential project includes 64 units for low income households, and one non-rent manager's unit. The unit mix consists of 15 studios, 16 one-bedroom, 17 two-bedroom, and 17 three-bedroom units. EBALDC proposes to finance construction of the project through Low Income Housing Tax Credits (LIHTC) with affordability levels between 20 and 60 percent of the area median income (AMI). Other sources of financing will include U.S. Department of Housing and Urban Development (HUD) funding, as administered by the City of Oakland Housing Authority, as well non-federal funds from the City of Oakland, State of California department of Housing and Community Development, and private sources.

Figure 1: Location Map, 285 12th Street

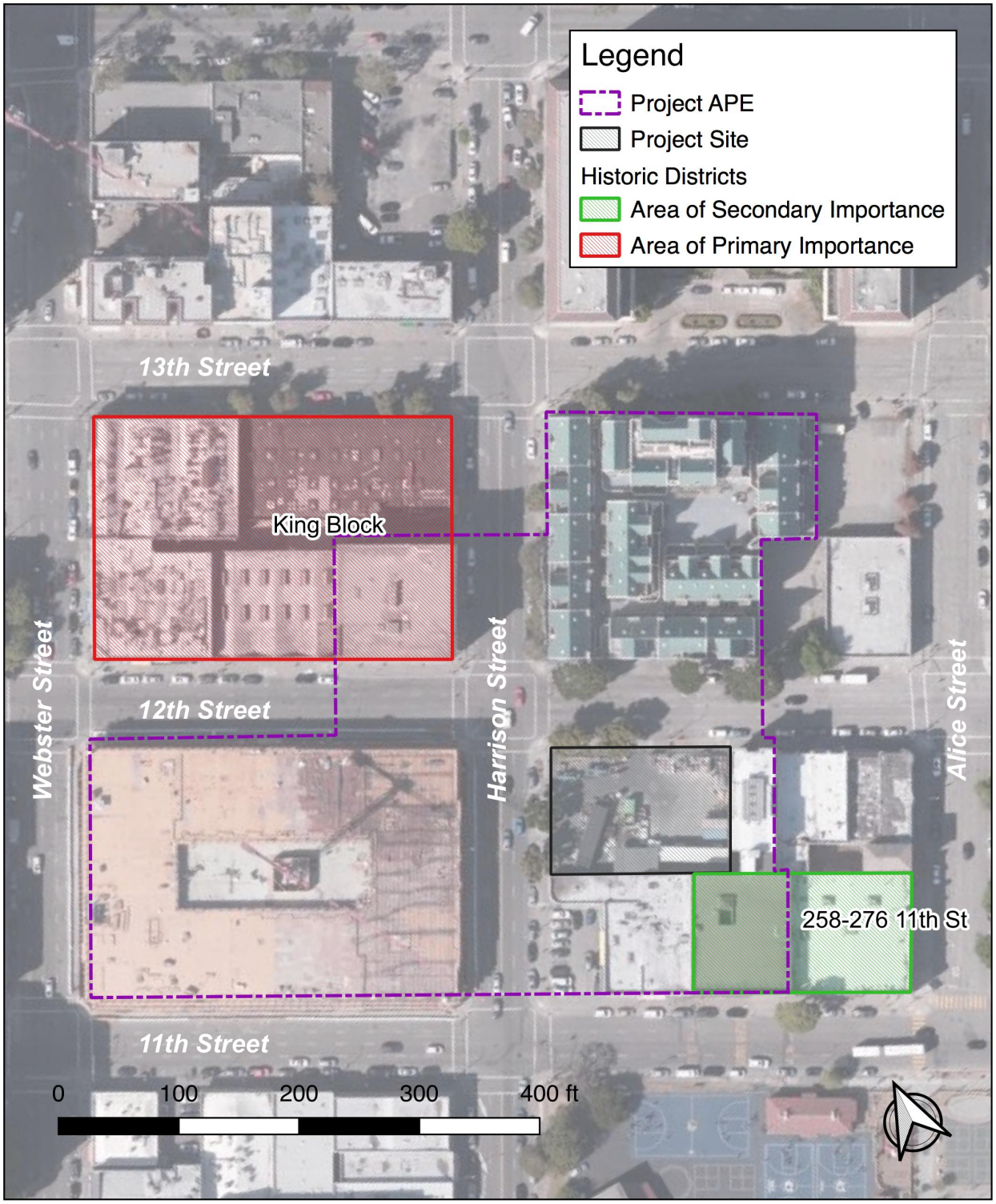

Figure 2: Project Site and Area of Potential Effect, with Historic Districts

Area of Potential Effects

The Area of Potential Effect for the project is the Project Site and the six immediately adjacent parcels within the Indirect APE, as depicted in Figure 2.

APN	Address	Year Built	Comments/OCHS Rating
002-0020-001	1220 Harrison Street	1990	n/a
002-0063-008	300-308 12th Street (King Block)	1904	A1+; Area of Primary Importance
002-0063-006	301 12th Street	Building under construction	n/a
0020-0069-012	288 11th Street	1931	n/a; see below for evaluation
002-0069-011	276 11th Street	1921-22	Cb+2+; 258 & 270-76 11th Street Area of Secondary Importance
002-0069-005	271 12th Street (Temple Hotel)	1906-1907	C3

Historic Context

Research for this report consulted the History Room at the Oakland Public Library, the archives of the Oakland Cultural Heritage Survey at the City of Oakland's Department of Planning and Building, and the Northwest Information Center of the California Historical Resources Information System.

Prehistory

Humans first arrived in the San Francisco Bay area over 10,000 years ago, though little archaeological evidence from this early period has been found to date. The Early Period or Middle Archaic (3500-500 cal. B.C.) included the introduction of ground stone and shell bead technologies and may have marked initial sedentism, "regional symbolic integration, and increased regional trade in the Bay Area" (Milliken et al. 2007a:114-115, Hylkema 2002:241). About 1900 B.C. a population of marsh and bayshore-adapted people, probably ancestral Ohlone/Costanoan-speakers, settled along the East Bay margin, perhaps moving from eastern Contra Costa County (Moratto 1984:277). The Lower Middle Period (500 B.C.-300 A.D.) is marked by major cultural disruptions, such as the introduction of new bead types, flexed burials, and decorative objects that may represent religious or cosmological beliefs. In the Upper Middle Period (300-700 AD), another major cultural shift took place, with the collapse of trade networks, site abandonment, and the introduction of new bead forms. The Late Period or Emergent Period from about A.D. 1050 to A.D. 1550 saw new complexity in the Bay region (Milliken et al. 2007:116).

At the time of historic contact, the Project Site probably encompassed the territory of the Huchiun and/or the Jalquin peoples. Based on mission records, Milliken believes that the Huchiun, speakers of the Chochenyo dialect of the Ohlone/Costanoan language family, lived in the lands "along the East Bay shore from Temescal Creek…north to the lower San Pablo and Wildcat Creek drainages in the present area of Richmond." South of the Huchiun were the Jalquin, who held territory along San Leandro Creek and the interior East Bay hills (Milliken 1995:245; Milliken et al. 2007:107). Ohlone people constructed several types of complex buildings, including domed thatched dwellings, large assembly houses, and sweathouses. Bows and arrows made of stone or bone, manos, metates, net sinkers, mortars, pestles, cordage, baskets, tule mats, bird bone whistles, and shell and bone ornaments are representative of their highly-developed material culture (Levy 1978).

Mission San Francisco was founded in 1776, but few East Bay people moved to the mission until the early 1790s. The Huchiun and Jalquin and other East Bay groups were deeply involved in resistance to the Spanish from 1785 to 1802 (Milliken 1995:102-103, 141; 155-156). The first large groups of Huchiun had gone to Mission San Francisco in the fall of 1794. In 1797 Spanish military actions against native villages in the East Bay included attacks on three Huchiun villages and capture of numerous Huchiun resisters. Such resistance was essentially quelled by 1801 (Milliken 1995:145170). Milliken (1995:171) says, "By the end of summer, 1801, the flat plains from the Santa Clara Valley north all along the east side of San Francisco Bay to the present Richmond area were devoid of native villages, with the exception of the San Leandro Creek Jalquin."

Early History, 1820-1910

In August 1820 Governor Vicente de Sola, the last Spanish governor of California, granted Rancho San Antonio to Luis Maria Peralta, who had come to California with the Anza expedition. Peralta's four sons came to occupy the rancho, and when it was formally divided among them, Vicente Peralta received the *Encinal de Temescal* comprising north and central Oakland, Emeryville,

and Piedmont. In the early American period, the Mexican ranchos came under assault from settlers lured to California by the Gold Rush, who, sometimes with violence, illegally overran rancho land. Vicente Peralta sold most of his land in the early 1850s, and internal family in-fighting kept the family in the courts for many years, which "helped to destroy the Peralta patrimony" (Hoover *et al.* 1990:10).

Settlement in downtown Oakland began in May 1850, when the trio of Edson Adams, Andrew J. Moon, and Horace Carpentier arrived in the area and, after briefly squatting on the land, obtained leases from Vicente Peralta for land in present-day downtown Oakland. They promptly surveyed the leases and began selling lots that they didn't own. In May 1852 Carpentier succeeded in having a bill passed in the State Assembly incorporating Oakland, then convinced the trustees to convey the waterfront to him for 37 years or "in fee simple forever." Carpentier, who was elected Oakland's first mayor in 1854, also financed the first bridge over San Antonio Slough to East Oakland in return for the proceeds from a toll bridge (Willard 1988:32). This bridge was at the foot of 12th Street at approximately the site of the 1868 dam that created Lake Merritt, five blocks east of the Project Site.

History of the Project Site

The Project Site is located east of Oakland's historic central business district, north of Chinatown, and west of Lake Merritt. Though it was an important transportation corridor to Brooklyn and the eastern suburbs, 12th Street remained residential through the end of the 19th century. The earliest known inhabitants of the Project Site were Sabin Harris Sr. and Sabin Harris Jr., both farmers, who lived at the southeast corner of 12th and Harrison in 1884 (Husted 1884). The 1889 Sanborn Fire Insurance Map shows the western part of the Project Site as vacant; on the eastern side is a 2-story dwelling at 265 12th Street with 3 additional small buildings or sheds at the rear of the dwelling. Most likely the Harris family were living here in 1884, possibly earlier, and starting in 1890 Sabin Harris Sr. and Jr. and various other family members are listed as living here in city directories. Harris family members were described as a violin teacher, motorman, and house mover in directories. One Harris even worked for the florist and nursery on the corner of 12th and Alice Streets. They remained at this address until 1894 (Husted 1890-1894).

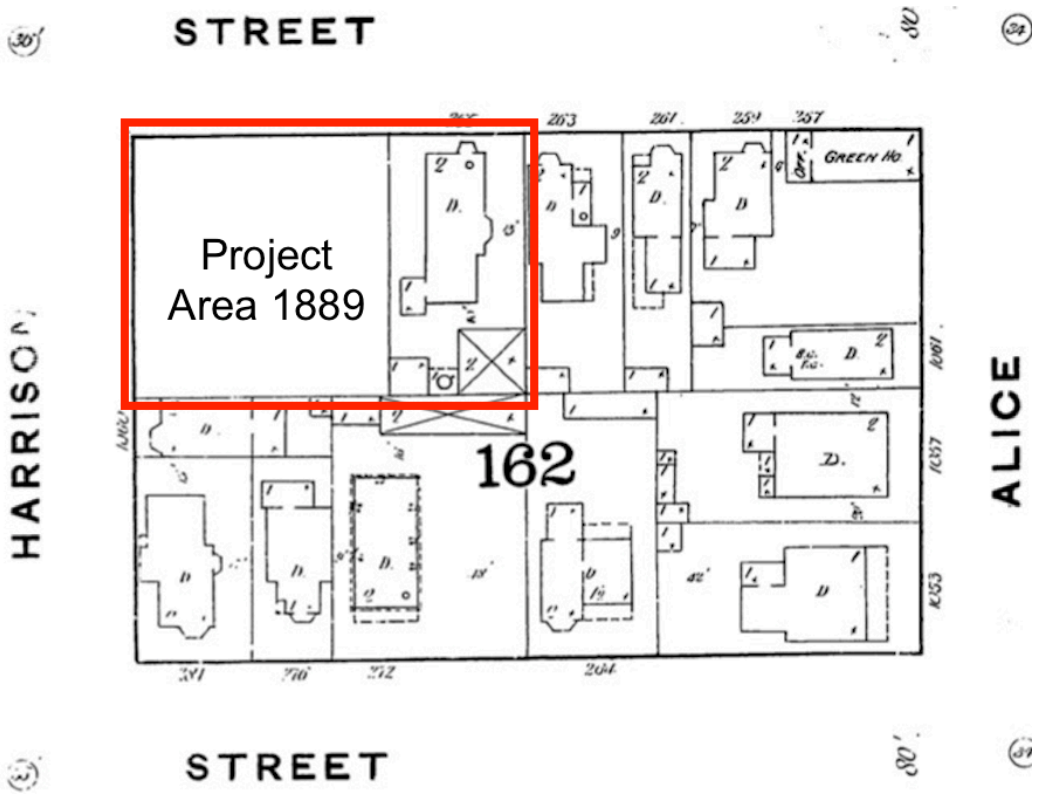

Figure 3: 1889 Sanborn Map

The Project Site transitioned into commercial and light industrial uses around 1900. The 1903 Sanborn Fire Insurance Map still shows the western part of the Project Site as mostly vacant, with only 2 very small buildings or sheds towards the back. The house at 265 12th Street is gone and replaced with 2 businesses that have been renumbered as 269 and 267 12th Street and are labeled "Blacksmith and Carriage Mfg" and "Printing" on the map (Sanborn 1903). City directories support this, listing carriage makers and dealers at 267 12th Street from 1896-1906. Joseph E Johnston moved his carriage business from 266 12th street just across the street to this address in 1896 (Husted 1895, 1896). After Johnston, Cornelius H. Brosnahan is listed as a carriage and wagon manufacturer at 267 12th from 1903-1906 (Husted 1903, 1906). John and Patrick Bohan, horseshoers, also moved their business to 269 12th Street in 1896 and remained there until 1907 when it was replaced by an automobile painting shop (Husted 1896-1908).

Two buildings occupied the Project Site in the first half of the 20th century: a two-story frame structure at 271-281 12th Street (built 1906), on the eastern part of the Project Site, and a single-story brick building at 285-297 12th Street (built 1910), on the western part of the Project Site (Building Permits 5487, 19562).

271-281 12th Street had residential apartments above and three commercial spaces below. It apparently had frequent turnover of businesses in the early decades of the 20th century: between 1911 and 1943, the businesses here included barbers, furniture repair, washing machine dealers, oriental laundries, electrical and hardware supply stores, printers, manufacturer's agents, grocery and liquor markets, and meat wholesalers and cooperatives (Polk-Husted 1915, 1917, 1921; Polk 1927, 1935, 1940, 1943). The building also had some residents during this time period – from 1913 until at least 1940 the upper floor of the building (277 12th Street) was an apartment building

offering furnished rooms, first called The Lenox and later Marion Apartments and Marian Hotel (Polk-Husted 1913-1921; Polk 1927-1940). In 1950, 271-281 12th Street was home to two stores and a restaurant on the ground floor (Sanborn 1950).

By contrast, the building at 285-297 12th Street, at the corner of Harrison, appears to have been mostly automobile-oriented into the 1930s, with several motor car companies listed in city directories (Polk-Husted 1911, 1913). In 1911, Frank W Sabean auto repair was listed at 1070 Harrison (Polk-Husted 1911), and the 1934 edition of the Sanborn map shows the building as devoted to "auto sales". By 1950, the building was used as office space (Sanborn 1950).

In late 1964, both buildings were demolished and the Project Site was converted into a used car sales lot for Cochran and Celli, a prominent Oakland auto dealer whose main sales and service facility was across Harrison Street to the West. The entire lot was paved, and in January 1965 a small sales office was constructed at the southern side of the Project Site (Building Permit C26761). The Project Site was used as a used car sales lot until the 1990s and has served as a surface parking lot since then.

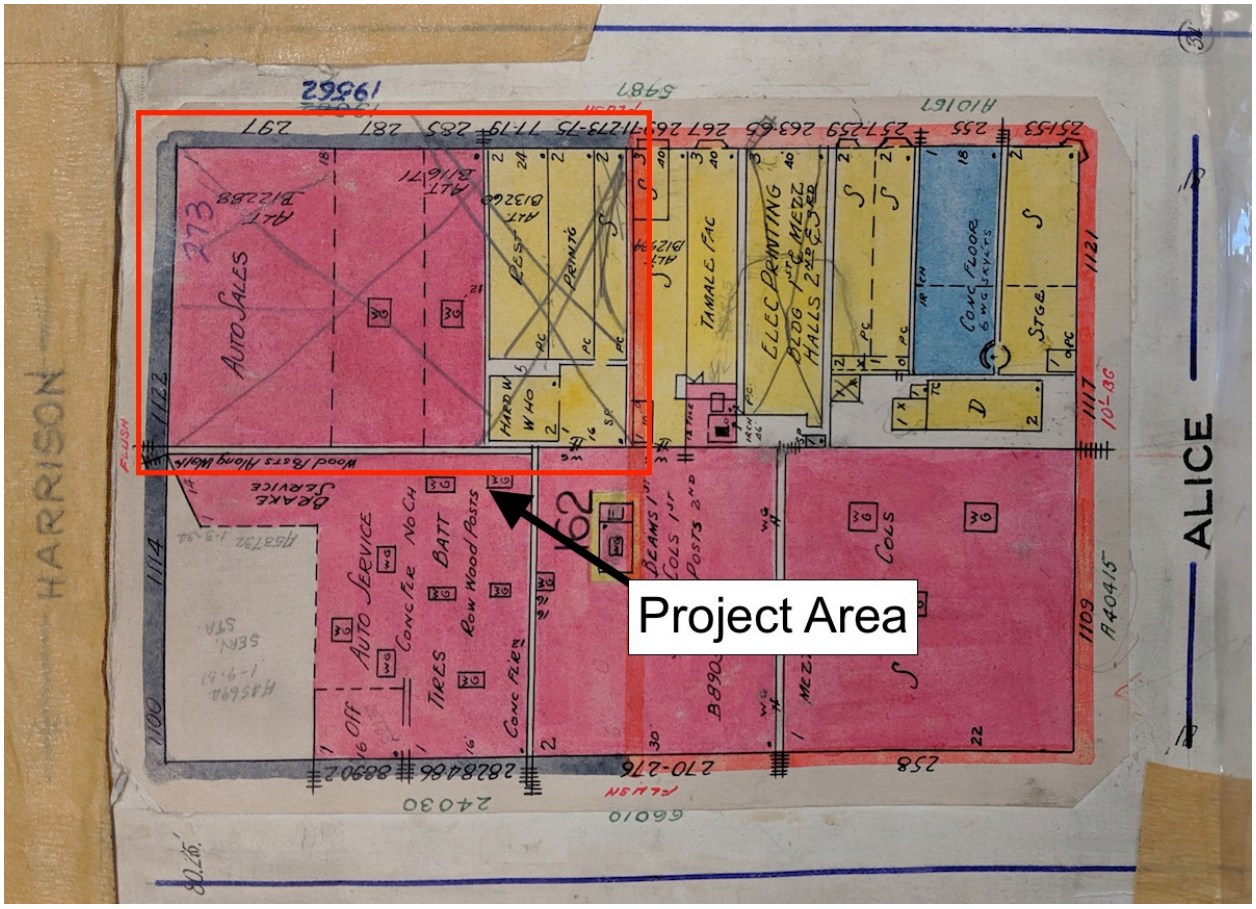

Figure 4: 1936 Sanborn Map

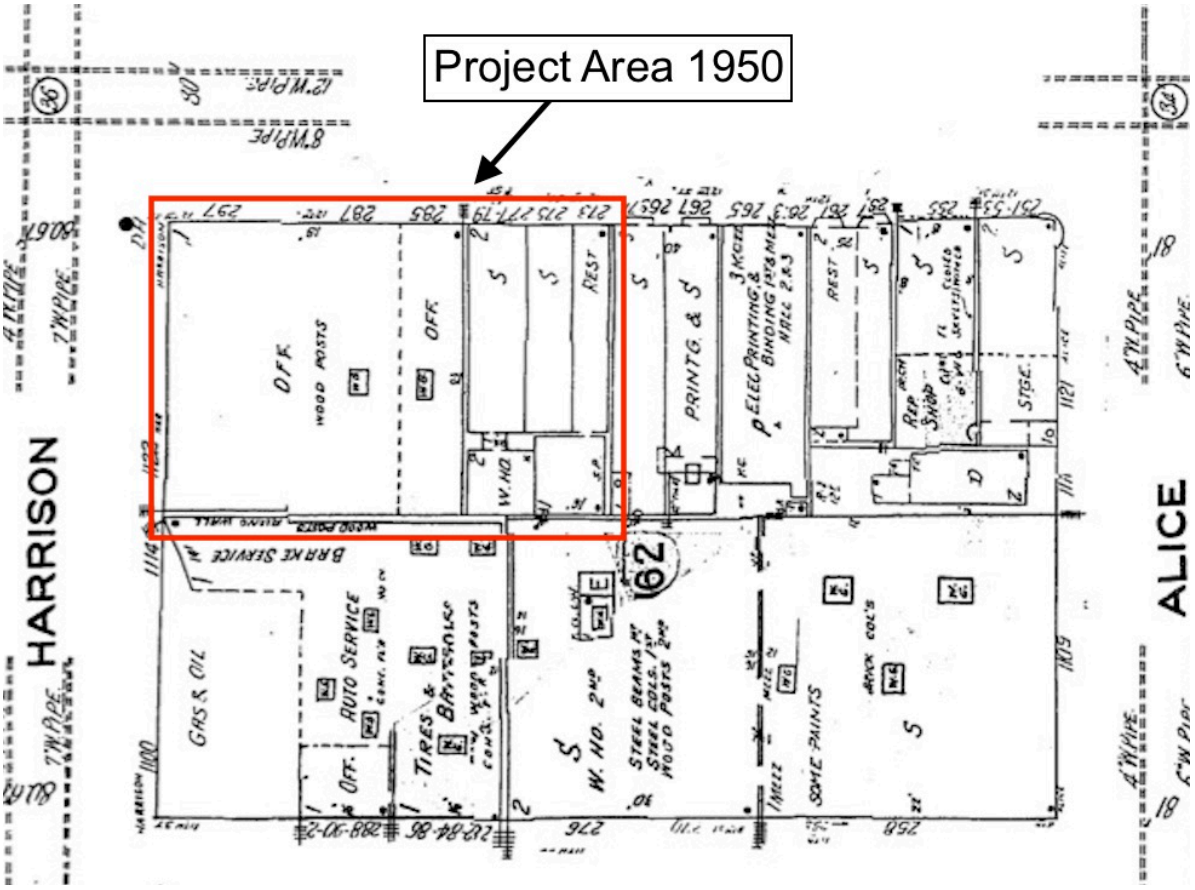

Figure 5: 1950 Sanborn Map

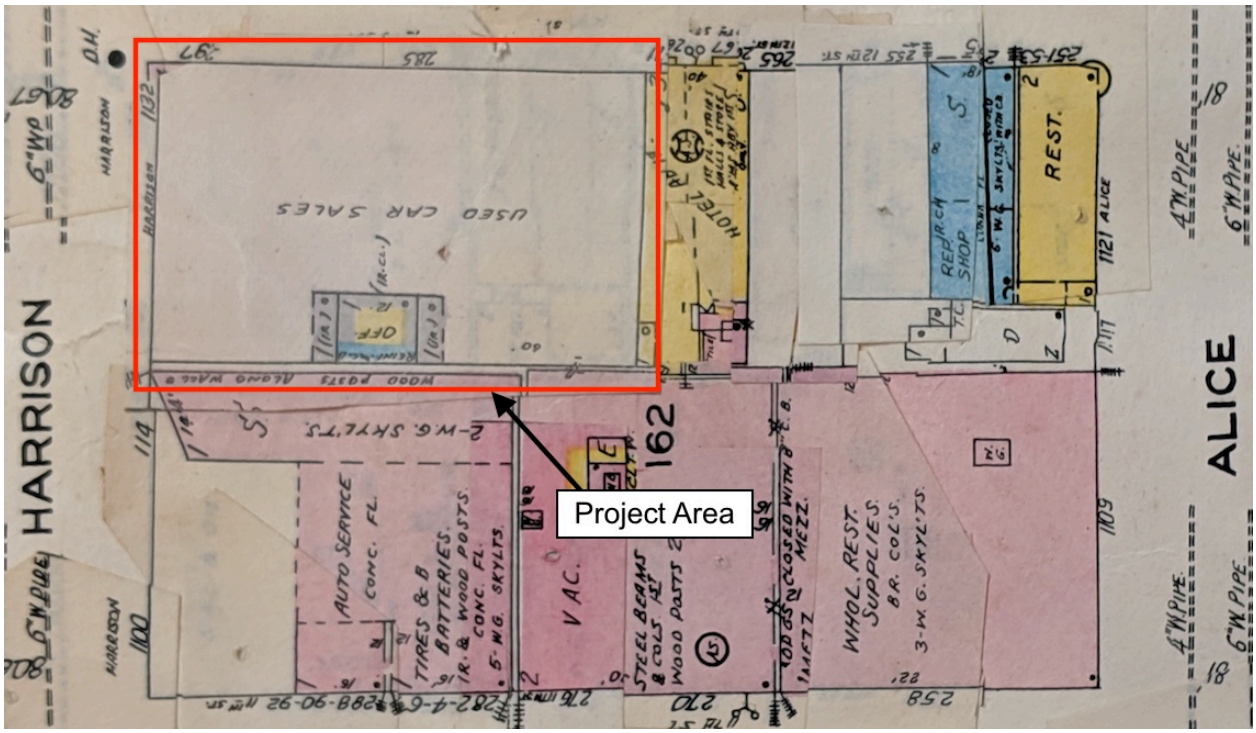

Figure 6: 1969 Sanborn Map

Description of Project Site

The Project Site was surveyed by Daniel Shoup, RPA, on September 25, 2019. It is currently used as a construction staging area. The entire surface of the lot is paved. Two portable office trailers, vehicle parking, and piles of lumber and construction equipment occupy the Project Site.

The Project Site contains one permanent structure, the former sales office for Cochran and Celli's used car business. This steel-frame building was completed in January 1965, according to building permits and plans on file with the City of Oakland. At the same time, the Project Site was paved and a new 4-inch sewer lateral installed out to 12th Street (Building Permit C26761). This facility presumably complemented the company's main sales and service building, which was located to the west across Harrison Street.

The sales office building stands on the south edge of the lot; it measures 24 by 20 feet and is 14 feet high. The front (north) façade consists of a central door flanked on both sides by two bays of plate glass windows. The east and west façades have two bays of plate glass windows, followed by horizontally-ridged, corrugated metal siding toward the rear of the building. The rear of the building abuts the blank concrete wall of the adjoining property. The building is raised slightly off ground level by a cinder-block foundation course two feet high. The roof is supported by steel rafters. Viewed from the front, the asphalt-covered roof has a flattened 'W' shape, with projecting gutters at the two valleys and a central point above the entrance door. On the east and west sides, the roof projects 8 feet from the body of the building and angles upward, creating 'wings' supported by two tapering exposed rafters on each side. It was not possible to see inside the sales office building, as the windows have been painted over, but given its size the building is likely to have had minimal internal partitions.

Figure 7: Overview of Project Site, looking southeast.

Figure 8: Overview of Project Site, looking southwest

The sales office can be considered a minor example of 'Googie' or 'Exaggerated Modern' architecture, which emerged after World War II. In this period, new coffee shops, theaters, hotels, gas stations, and shopping centers sought to attract motorists' attention with angular shapes, exaggerated rooflines, irregular massing, large expanses of glass, colorful accents, and prominent horizontal signage in eclectic shapes (GEI Consultants 2017). This style, christened 'Googie' after a coffee shop chain of the same name, has been characterized as a new commercial vernacular born from the adaptation of modernism to new manufacturing technologies, where plastics, metals, and other new materials allowed the use of bold shapes and colors not previously possible on architectural façades (Hess 1985:31, 43). In Oakland, the style was most prominent in coffee shops and restaurants such as Biff's Coffee Shop (27th and Broadway), Mel's Diner (17th and San Pablo), or the Grand Lake Drive-In (500 Lake Park Drive).

Cochran and Celli was founded by J.E. Cochran and Bernardo Celli, Sr. as City Front Wagon Works in 1906. It later became California's oldest Chevrolet dealership, with an early sales facility at 6th Street, followed by a dealership and tire center at East 12th Street (built 1930), and its flagship sales building at 13th and Harrison (built 1931; Oakland Tribune 1931). In 1948, the company was among the first in the nation to offer automotive service after normal business hours, opening its service department from 4:00 pm to midnight; by 1963 Cochran and Celli had 13 mechanics on the night shift (Genat 1999:141, 144). The sons of the founders became partners in the company in the 1950s, and by the 1960s Cochran and Celli also had a sales lot at 3330 Broadway, on Auto Row. The business remained family-owned until the late 1990s, when the families sold the firm (San Francisco Chronicle 2019). The car lot on the Project Site appears to have closed around this time.

Figure 9: Auto Sales Office, North and West Façades

HISTORIC SIGNIFICANCE EVALUATION AND ANALYSIS

Regulatory Context

The National Register of Historic Places

The National Register of Historic Places is the official list of properties significant in American history, architecture, archaeology, engineering and culture and was designed to be used by the general public, local communities, state governments and federal agencies in their preservation planning efforts. The following criteria are used to evaluate a historic property's eligibility for the National Register of Historic Places.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our pasts; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinctions; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

To meet the National Register standards, a property must possess the above criteria, be associated with an important historic context, and retain the historic integrity of features that conveys its significance (National Park Service 1995:2-3). The National Register criteria specify that integrity is a quality that applies to historic resources in seven ways: location, design, setting, materials, workmanship, feeling and association.

Oakland Cultural Heritage Survey Rating System

The City of Oakland maintains ongoing the Oakland Cultural Heritage Survey (OCHS), which was begun in 1980 and forms the basis of the 1994 Historic Preservation Element of the General Plan. A citywide preliminary (windshield) survey was conducted in1985-86 and 1996-97. The intensive survey uses a Kalman-type system with a series of criteria to evaluate buildings and sites. The process differs from the CRHR in that it is a graduated and more inclusive system that considers properties in the context of the history of Oakland, rather than in the context of the State or nation. The OCHS criteria include visual quality and design, history and association, and context. In both stages of the survey, properties are assigned a rating from A-E based on their score. Properties rated A (highest importance) are outstanding architectural examples or are of extreme historical importance (about 150 properties total). Properties rated B (major importance) are especially fine architectural example, major historical importance (about 600 total). Properties rated A or B indicate landmark-quality buildings, likely eligible for NR and CRHR. Properties with a rating of C (secondary importance) are superior or visually important example, or very early (pre-1906). Cs "warrant limited recognition" (about 10,000 total). Properties rated D (minor importance, representative period examples), E (of no particular interest) and F or * (too recent to rate at the time of the survey) do not come under the most inclusive definition of "historic" in the Element unless they have a higher contingency rating or are located in a district..

Historic Districts and Zoning Designations

The OCHS also identified potential districts, Areas of Primary Importance (APIs) and Areas of Secondary Importance (ASIs). APIs are areas that appear eligible as National Register districts, while ASIs are districts of local interest. District status is indicated by a number 1 or 2 following the letter rating, and a =, -, or * indicating contributor. In addition, the City of Oakland designates City Landmarks and Heritage Properties, and historic preservation combining zones S7 and S20 to designate districts. All of these Designated Historic Properties (S7 and S20 zones, Landmarks, and Heritage Properties), as well as properties with OCHS ratings of A or B or in APIs, are defined as Oakland's Local Register properties for the purposes of the California Environmental Quality Act.

The Project Site is not part of a historic district. However, the APE includes two buildings within Local Register historic districts. The King Building Group (the city block including 300-08 12th Street) is an Area of Primary Importance (API), and is considered eligible to the National Register of Historic Places. 258 and 270-276 11th Street together form a small Area of Secondary Importance. See below for a detailed discussion of historic properties within the APE.

Evaluation of the Project Site

The sales office building at 285 12th Street has not been previously evaluated under any local, state or Federal historic resource criteria and it is not rated in the Oakland Cultural Heritage Survey. Its significance should be considered for the period 1965-1975. The building is not mentioned in newspaper articles during the potential period of significance, and archival sources at the City of Oakland Planning Department or the History Room of the Oakland Public Library do not contain any information about it.

National Register: Historic Integrity

285 12th Street retains a high level of historic integrity, having had no notable alterations from its original design and retaining good overall condition. The building retains integrity of location, design, materials, workmanship, feeling and association.

National Register Criterion A: Significant Events or Patterns of Events

The Cochran and Celli used car sales lot should be understood as an example of the development of open-air auto sales lots. However, research does not suggest that this lot was important either in the history of automotive dealerships, or in Oakland social history. Consequently, the building is not eligible for the National Register under Criterion A because of its association of significant historical patterns or events.

National Register Criterion B: Significant Persons

Based on historical research, the auto sales office is not associated with any individuals who have been significant in local, state or national history. Cochran and Celli (founded 1906) were an important automotive dealership in Oakland, but the project parcel was one of a number of the company's sales facilities and does not appear to have been especially important in the context of the company's history. Nor is the building associated with any locally significant events. Consequently, the building is not eligible under National Register Criterion B because of its association with persons of historical significance.

National Register Criterion C: Significant Design/Construction/Architecture

The auto sales building at 285 12th Street is a minor example of Googie architecture. While the 'wavy' roof line and large plate glass windows are distinctive elements of 1960s modernism, the building lacks many other of the style's most significant characteristics, such as eye-catching neon signs and exaggerated building forms. It is small, not notable from the street, and did not play a defining role in neighborhood identity. The building was constructed by a contractor, and its architect is unknown. As such, the auto sales building appears not eligible under National Register Criterion C as an example of significant design, construction, or architecture.

Non- Historic Properties Within the Project APE

The property at 301 12th Street is currently under construction, and the property at 1220 Harrison Street was constructed in 1990. As such, these buildings are not eligible for the National Register.

Pre-1970 Properties within the APE

Four buildings over 50 years of age are outside the Project Site but within the APE, including 267-271 12th Street (to the east), 308 12th Street (to the northwest), 270-276 11th Street (to the southeast), and 288 11th Street/1100 Harrison Street (to the south). The mixed-use building complex to the north (1220 Harrison Street) was constructed in the 1980s, while a 7-story residential complex is under construction on the parcel to the west (301 12th Street).

267-271 12th Street (Temple Hotel)

Immediately to the east of the Project Site, is the Temple Hotel Building (267-271 12th Street, APN 002-0069-005). The building is three stories and rectangular in plan, with commercial space on the ground floor and residential/hotel use on the upper floors. The building has an OCHS Rating of C3 (building of secondary importance, not in a historic district).

The Temple Hotel was constructed for A.E. Prenville in 1906-1907 and had 31 rooms, with two storefronts on the ground floor. The builder was Robert Bros. Company, though the name of the architect is not preserved in City records (Permit #5487). Prenville operated a paint company at 265 12th Street until at least 1912; the other storefront was home to the Franco-American Wine Company from 1907 to at least 1918. In 1922, a one-story hollow tile building was constructed to the rear of the building (Permits #73565, B12934). This building was a tamale factory, which by 1936 expanded to occupy the whole of the eastern storefront.

267-271 12th Street is an example of post-earthquake commercial architecture in Oakland. It was evaluated in 1984 and, though described as "a very good example of a Colonial Revival store and office building – hotel building", it was found to be ineligible for NRHP: "this building does not meet the criteria for individual listing on the [NRHP] since it appears to lack sufficient design distinction and historical associations" (Buckley 1984a).

300-08 12th Street (King Building)

300-08 12th Street, which sits at the northwest corner of 12th and Harrison Streets, is the focal point of five attached brick masonry commercial buildings built between 1904 and 1922, which are together known as the King Block. 300-08 12th Street is four stories and built in 1904, designed by prominent Oakland architect A.W. Smith, and is rated A1+ by the OCHS (eligible to NRHP both individually and as part of a district).

Constructed for lumber and grain baron Charles King (the namesake of King City, California), the building has a Beaux-Arts design with storefronts on the ground floor and offices on the three upper stories. The building was designed for the Polytechnic Business College, which occupied the upper three floors until circa 1920. The school was an important business education institution in Oakland in the first decades of the 20th century, and represents the technical training newly available to Oaklanders in that period. Architecturally, 300-08 12th Street is "an early example in Oakland of a modern Chicago-influenced commercial block" and was recorded in the State Historic Resources Inventory as eligible for the NRHP (OCHS 1985) both individually and as part of the King Building Group API (Area of Primary Importance - the city block from Harrison to Webster and 12 to 13th Streets).

270-276 11th Street

Located southeast of the Project Site, 270-276 11th Street (APN 002-0069-011) is a Beaux Arts-derivative, Renaissance Revival-style warehouse building. It is square in plan, with a steel frame and brick walls, and two stories in height. Designed by architect H.P. Hoyt, it was built in 1922 (Permit #66010). The façade has terra cotta tile details by Gladding McBean & Co. The building was constructed as a warehouse and showroom for H. Morris Stulsaft & Co., a supplier of appliances and plumbing fixtures. The building had a large ground floor showroom and shipping room, with offices, storerooms, "brass" room, and elevator on the upper floor (Buckley 1984b). City directories from the 1920s show that Stulsaft sold water heaters, ranges, and wholesale plumbing supplies. (Polk 1924-1930). Morris Stulsaft himself was also a real estate developer who was a millionaire on his death in the mid-1960s (SF Chronicle 1968). Today, the building functions as a kitchen, bath, and lighting design showroom.

Evaluated by Buckley in 1984, the building was found to be ineligible to the NRHP. The building has an OCHS rating of Cb+2+. Cb+ indicates that the building has a current rating of C (secondary importance), but might improve to a B (major importance) with appropriate restoration. 2+ indicates that it is located within an Area of Secondary Importance (the 258 & 270-276 11th Street district).

288 11th Street/1100 Harrison St

Located to the south of the Project Site, 288 11th Street/1100 Harrison Street (002-0069-012) is a one-story commercial building built in 1931 as a Firestone Tire and Rubber Company gas station tire store, and repair shop. The building is L-shaped and built of brick with a stucco façade (Permit #A45694). It operated as a Firestone "super service station" from 1931 into the 1950s. Remodeling in 1948 entailed "changing elevation on Harrison, installing new plate glass bulkheads and remodeling [the] gas island" (Permit B22768). The builder for both the 1931 and 1948 permits was C.H. Thrams of Oakland; architect for the 1948 remodeling was C.S. Replogle of Piedmont. The building continued to serve as an auto service station to at least 1969 (Figure 6), though the gas island had been removed by that time. OCHS file photos from 1982 suggest that the building was still an automotive repair shop at that date. Today the building is the Century Plaza mini-mall.

288 11th Street/1100 Harrison Street was surveyed by OCHS in 1984 and at that time was considered a 1948 design and therefore not old enough to be evaluated. The building is now old enough for evaluation.

In the 1920s and 1930s period, gas station design became an important advertising tool for corporations to develop brand identity and visibility to motorists. Corporations developed distinct architectural styles for their stations, including Colonial Revival, Mission Revival, Art Deco, and

Streamline Moderne (Jakle and Scully 1994:156). Stations became larger after 1930, often offering a range of automotive products and service along with gas and oil. Following this trend, from 1926 Firestone Tire and Rubber established a national chain of self-contained service centers offering gas, oil, tires, parts, and automotive service (Witzel 1992). 288 11th Street/1100 Harrison Street is one of two known Firestone stations of this period in Oakland.

While the original L-shaped footprint and massing of the Firestone station remains, the character of 288 11th Street has changed significantly since the 1980s. The building is now divided into five distinct storefronts housing a real estate office, massage parlor, ice cream shop, café, and florist. Each storefront has floor-to-ceiling plate glass windows and doors with fabric awnings, and the whole is painted in several tones of beige. A mural covers the Harrison Street façade of the building. The small plaza that forms the crook of the L-shaped building is used for off-street parking.

Due to these renovations, many of the original features that characterized the Firestone station are now missing, including original windows and doors, interior spaces, a gas station island, signage, and lighting. These features are important to a gas station's ability to convey historical significance (Randl 2008). Compared to the former Firestone service station at 30th and Broadway – which preserves extensive Art Deco detail on its façade – 288 11th Street lacks architectural distinction.

The building retains integrity of location, materials, and setting, because it has not been moved and retains its original volumes, materials, and surfaces. However, it has lost integrity of workmanship, design, association, and feeling due to the removal of the gas island, addition of awnings and plate glass facades, and change in use. No Firestone emblem is visible on the façade, and the building as a whole now suggests a late 20th century mini-mall rather than a gas station or automotive business. and of the period can be found at As a result, the building does not possess sufficient integrity to convey its significance under any of the National Register criteria.

Under the OCHS Evaluation System, we suggest a rating of Dc: that is, a building of minor importance that might reach secondary importance if restored.

Effects Analysis

The proposed building at 285 12th Street will be seven stories and 83 feet tall. The proposed building is not located within a historic district or zone, and will have no physical effects on any adjoining buildings. The surrounding buildings are an eclectic mix of individual designs from the 1900s (300-308 12th Street and 271-281 12th Street), 1930s (288 11th Street/1100 Harrison Street), and 1980s (1220 Harrison Street). A 7-story residential building is under construction on the whole city block to the west (301 12th Street). These existing buildings do not have strong relationships in terms of style, size, massing, or aesthetics which could be disrupted by the proposed new construction. The height of the proposed building is similar to that under construction to the west and similar in scale to many other recent buildings in downtown Oakland. As a result, the proposed building does not appear to have the ability to cause an adverse effect on historic buildings or districts which are eligible to the National Register.

Archaeological Sensitivity of the Project Site

Record Search Results

The Northwest Information Center of the California Historical Resources Information System completed a record search for the Project Site in September 2019 (NWIC File #19-0401). The record search found no previously recorded cultural resources or previous studies in the Project Site.

Four cultural resources have been previously recorded within ¼ mile of the Project Site. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, now beneath the Easton Building. In 1928, a human burial was removed at this location during excavation for an elevator shaft. It was apparently found on the 13th Street side of the block, because, at that time, 13th Street was being widened by four feet. The bones were a foot under the concrete basement and 15 feet below street level. A "large animal tooth" was also found buried under the basement floor" (*San Francisco Chronicle* 1928:1, 4). A site record was prepared (about 1949 or 1950) based on the 1928 *Chronicle* newspaper article. P-01-010530 and P-01-010531 are elements of the old urban railroad system, consisting of ties and hardware from former track alignments. P-01-010530 is located on Webster Street between 10th and 12th streets (Way 2000); P-01-010531 is located on 11th Street about 60 feet west of Broadway. These features were found 11-18 inches below the present surface (Way and O'Rourke 2001). P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street. It was unclear whether the shell was of cultural or natural origin.

See Appendix A for complete record search results.

Native American Consultation

A/HC sent a letter via e-mail to the Native American Heritage Commission (NAHC) on September 3, 2019, requesting a Sacred Lands File search for the Project Site. NAHC staff did not initially reply despite several follow-up attempts. Finally, they replied on February 7, stating that the search was positive, and recommending that the consultant contact the North Valley Yokuts Tribe for more information.

Table 1: Native American Individuals and Groups Consulted

Name	Organization or Tribe	Location	Replied?
Andrew Galvan	The Ohlone Indian Tribe	Fremont, CA	Y
Valentin Lopez	Amah Mutsun Tribal Band	Galt, CA	Y
Charlene Nijmeh	Muwekma Ohlone Tribe	Milpitas, CA	N
Katherine Perez	North Valley Yokuts Tribe	Linden, CA	N
Ann-Marie Sayers	Indian Canyon Mutsun Band of Costanoan	Hollister, CA	N
Irene Zwierlein	Amah Mutsun Tribal Band of Mission San Juan Bautista	Woodside, CA	Y

Letters to six Native American individuals and organizations were sent by email and US Mail on November 25, 2019. The letters communicated the results of the record search and invited the recipients to communicate any information or concerns they might have regarding the Project Site. Follow-up emails were sent on January 3, 2019.

Katherine Perez of the North Valley Yokuts Tribe replied on November 27, stating that "I am unaware of the Project Area being sensitive". After the NAHC replied with positive results from their Sacred Lands File search, A/HC reached out to Ms. Perez again for clarification. After considering the record search results and her own files, Ms. Perez replied on February 13, 2020:

> I took a closer look at the area of the proposed project in Oakland. I do know that the Native American Heritage Commission documents records burial and reburial site by townships. The only thing that comes to mind in relationship to where the proposed project area and the reburial I did back in 1997 is in the township of Alameda. I want to say that would have been near the street named Stanford. Now in relationship to the proposed project and the reburial, it would appear to me to be a bit far. This being the case, there doesn't appear to be a need to have a site visit as long as you include in your report guidelines to protect inadvertent discovery.

Ms. Perez' recommendations to include measures for inadvertent discovery are included below under "Recommended Determinations."

Andrew Galvan replied on December 9, asking what the results of the record search were for the project and asking for a copy of the draft report. The author sent him the requested materials on January 3, 2020. No further response was received.

Valentin Lopez replied on January 3, stating that "this project is outside our Tribal territory, we have no comment."

No other responses were received by January 31, 2020. Please see Appendix B for complete Native American correspondence for this project.

Field Survey

The Project Site was surveyed by Daniel Shoup, RPA, on September 25, 2019. It is currently used as a construction staging area. The entire surface of the lot is paved. Two portable office trailers, vehicle parking, and piles of lumber and construction equipment occupy the Project Site. The steel-framed car sales office building stands on the south side of the lot. No cultural resources were observed

Archaeological Sensitivity Analysis

Because the surface of the Project Site is paved, it was not possible to describe Project Site soils. The Project Site is currently used as a construction staging area and is occupied by office trailers, lumber piles, and heavy equipment that provide insufficient space for subsurface investigations.

While prehistoric archaeological resources have been discovered within ¼ mile of the Project Site, no known archaeological sites or historic watercourses are known in the Project Site. The Project Site therefore has low to moderate sensitivity for buried archaeological sites.

Stratified historic-era deposits are not known within the Project Site. However, a two-story dwelling and outbuildings were present on the eastern one-third of the Project Site in 1889. It is likely that privies or debris pits are present in the rear area of this property, since municipal waste collection was uncommon during this period and many families disposed of their waste in privies or burned trash in pits behind their homes. However, the short period of domestic occupation, and the likely disturbance due to construction of later buildings on site, make the southeast part of the Project Site only moderately sensitive for historic-era archaeological resources.

Other historic-era archaeological resources associated with light industrial or commercial uses could be present as well. Such features might include foundations (brick, concrete, or foundation trenches), walls (brick, concrete, or wood), and floors (in tile, concrete, or wood). Refuse deposits, which may be associated with domestic, commercial, or industrial uses, may occur as sheet deposits (a layer of refuse deposited over a period of time) or as filled hollow features. Urban infrastructural features, such as sewer pipes, postholes from utility poles, roadbeds (gravel, asphalt, or paving stones), or fill soils also may be encountered. However, it is less likely that features associated with industrial or commercial uses would have sufficient data potential to qualify for the National Register of Historic Places, giving the remainder of the project parcel low to moderate sensitivity for archaeological resources.

Recommended Determinations

Given that the subject property appears to be not eligible to the National Register, and that the project will not adversely affect any adjacent properties, we believe that a finding of No Adverse Effect (as defined at 36 CFR §800.5[b]) is appropriate for this project. We recommend that the City of Oakland, in its capacity as Agency Official for HUD, concur with the Area of Potential Effects and determine that no historic properties will be adversely affected by the undertaking.

Due to the low to moderate sensitivity for accidental discovery of buried cultural resources during construction, we also recommend that the following City of Oakland standard conditions of approval be implemented for this project:

> ***CR1. Archaeological and Paleontological Resources – Discovery During Construction***
>
> Pursuant to CEQA Guidelines section 15064.5(f), in the event that any historic or prehistoric subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant shall notify the City and consult with a qualified archaeologist or paleontologist, as applicable, to assess the significance of the find. In the case of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures recommended by the consultant and approved by the City must be followed unless avoidance is determined unnecessary or infeasible by the City. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures
>
> (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the project site while measures for the cultural resources are implemented.
>
> In the event of data recovery of archaeological resources, the project applicant shall submit an Archaeological Research Design and Treatment Plan (ARDTP) prepared by a qualified archaeologist for review and approval by the City. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practicable. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant. The project applicant shall implement the ARDTP at his/her expense.

In the event of excavation of paleontological resources, the project applicant shall submit an excavation plan prepared by a qualified paleontologist to the City for review and approval. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards and at the expense of the project applicant.

CR2. Archaeologically Sensitive Areas -Pre-Construction Measures

The project applicant shall implement either Provision A (Intensive Pre-Construction Study) or Provision B (Construction ALERT Sheet) concerning archaeological resources.

Provision A: Intensive Pre-Construction Study.

The project applicant shall retain a qualified archaeologist to conduct a site-specific, intensive archaeological resources study for review and approval by the City prior to soil-disturbing activities occurring on the project site. The purpose of the site-specific, intensive archaeological resources study is to identify early the potential presence of history-period archaeological resources on the project site. At a minimum, the study shall include:

a. Subsurface presence/absence studies of the project site. Field studies may include, but are not limited to, auguring and other common methods used to identify the presence of archaeological resources.

b. A report disseminating the results of this research.

c. Recommendations for any additional measures that could be necessary to mitigate any adverse impacts to recorded and/or inadvertently discovered cultural resources.

If the results of the study indicate a high potential presence of historic-period archaeological resources on the project site, or a potential resource is discovered, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction and prepare an ALERT sheet pursuant to Provision B below that details what could potentially be found at the project site.

Archaeological monitoring would include briefing construction personnel about the type of artifacts that may be present (as referenced in the ALERT sheet, required per Provision B below) and the procedures to follow if any artifacts are encountered, field recording and sampling in accordance with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation, notifying the appropriate officials if human remains or cultural resources are discovered, and preparing a report to document negative findings after construction is completed if no archaeological resources are discovered during construction.

Provision B: Construction ALERT Sheet.

The project applicant shall prepare a construction "ALERT" sheet developed by a qualified archaeologist for review and approval by the City prior to soil-disturbing activities occurring on the project site. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could be encountered on the project site. Training by the qualified archaeologist shall be provided to the project's prime contractor, any project subcontractor firms (including demolition, excavation, grading, foundation, and pile driving), and utility firms involved in soil-disturbing activities within the project site.

The ALERT sheet shall state, in addition to the basic archaeological resource protection measures contained in other standard conditions of approval, all work must stop and the City's Environmental Review Officer contacted in the event of discovery of the following cultural materials: concentrations of shellfish remains; evidence of fire (ashes, charcoal, burnt earth, fire-cracked rocks); concentrations of bones; recognizable Native American artifacts (arrowheads, shell beads, stone mortars [bowls], humanly shaped rock); building foundation remains; trash pits, privies

(outhouse holes); floor remains; wells; concentrations of bottles, broken dishes, shoes, buttons, cut animal bones, hardware, household items, barrels, etc.; thick layers of burned building debris

(charcoal, nails, fused glass, burned plaster, burned dishes); wood structural remains (building, ship, wharf); clay roof/floor tiles; stone walls or footings; or gravestones. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. The ALERT sheet shall also be posted in a visible location at the project site.

CR3. Human Remains – Discovery During Construction

Requirement: Pursuant to CEQA Guidelines section 15064.5(e)(1), in the event that human skeletal remains are uncovered at the project site during construction activities, all work shall immediately halt and the project applicant shall notify the City and the Alameda County Coroner. If the County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of the remains until appropriate arrangements are made. In the event that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of section 7050.5 of the California Health and Safety Code. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance, and avoidance measures (if applicable) shall be completed expeditiously and at the expense of the project applicant.

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Appendix A: Northwest Information Center Record Search

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

9/26/2019 NWIC File No.: 19-0401

Daniel Shoup
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609

re: 19-22 DJP 285 12th Street Oakland

The Northwest Information Center received your record search request for the project area referenced above, located on the Oakland West USGS 7.5' quad. The following reflects the results of the records search for the project area and a 0.25 mile radius:

Resources within project area:	None
Archaeological resources within 0.25 mile radius:	P-01-42, 10692, 10530, & 10531.
Reports within project area:	None

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☐ not requested	☒ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey: http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA

Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

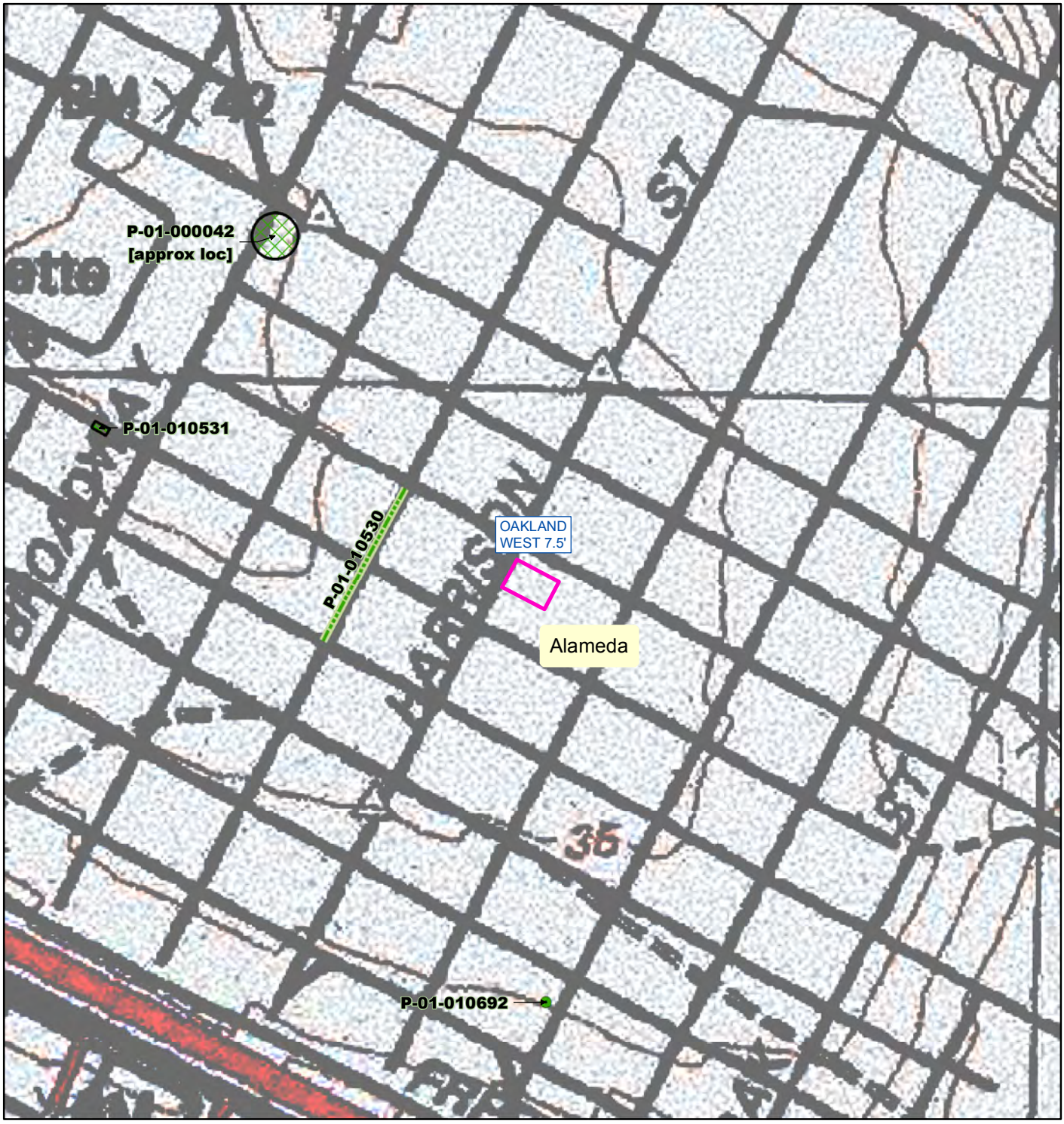
Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lisa C. Hagel
Researcher

19-22 DJP 285 12th Street Oakland



Northwest Information Center

File #19-0401, 26 September 2019, L. Hagel

May depict confidential cultural resource locations.
Do not distribute.

Feet
0 160 320 480 640
0 30 60 90 120 150
Meters

N

Resource Detail: P-01-000042

Identifying information

Primary No.: P-01-000042
Trinomial: CA-ALA-000022
Name: Easton Building
Other IDs:

Type	*Name*
Resource Name	Easton Building

Cross-refs: Physically overlaps or intersects 01-003855

Attributes

Resource type: Site
Age: Prehistoric
Information base: Other
Attribute codes: AP09 (Burials); AP16 (Other) - 50 pound mortar
Disclosure: Not for publication
Collections: Yes
Accession no(s):
Facility: Offices of Perini Corp.

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	7/1/1928	[none]	San Francisco Chronicle	
b	7/1/1928	[none]	San Francisco Chronicle	newspaper article
d	6/3/2006	Richard Schwartz	[none]	
e	5/23/1967	Richard Schwartz	[none]	newspaper article

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-007903	1985	Cultural Resources Evaluation for the East Bay Municipal Utility District Infiltration/Inflow Project (P. O. 951 1143 EA)	David Chavez & Associates
S-014621	1992	Archaeological Resources Review for the Oakland Enterprise Zone EIR, Alameda County, California	David Chavez and Associates
S-023778	2000	Archaeological Resources Investigations for the EBMUD East Bayshore Recycled Water Project, Alameda County, California	David Chavez & Associates
S-025618	2001	Cultural Resource Evaluations of Five (5) Proposed Telecommunication Sites -- Nos. PL-389-01, PL-902-01, PL-903-01, PL-946-01 and SF-367-01 -- located in Alameda and Solano Counties, California (letter report)	Archeo-Tec Inc.
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-026419		VOIDED S#- see additional ciation 'b' of S-23778	
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Resource Detail: P-01-000042

PLSS:

UTMs: Zone 10 564220mE 4184080mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	3/21/2019	hagell	
IC actions:	*Date*	*User*	*Action taken*
	4/4/2005	jay	Trinomial missing from ICRDS; added from list provided by Leigh.
	4/1/2005	jay	Appended records from discontinued ICRDS.

Record status: Verified

Resource Detail: P-01-010530

Identifying information

Primary No.: P-01-010530
Trinomial:
Name: ESA-OAK-001b
Other IDs:

Type	*Name*
Resource Name	ESA-OAK-001b

Cross-refs: See also 01-010529
See also 01-010531

Attributes

Resource type: Other
Age: Historic
Information base: Survey, Testing, Other
Attribute codes: AH07 (Roads/trails/railroad grades)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	10/20/2000	K. Ross Way	Environmental Science Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Webster Street	Oakland		94607

PLSS:
UTMs: Zone 10 564316mE 4183740mN NAD27 (NAD 1927)
Zone 10 564400mE 4183890mN NAD27 (NAD 1927)

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/18/2015	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Resource Detail: P-01-010531

Identifying information

Primary No.: P-01-010531
Trinomial:
Name: ESA-OAK-001c
Other IDs:

Type	*Name*
Resource Name	ESA-OAK-001c

Cross-refs: See also 01-010529
See also 01-010530

Attributes

Resource type: Other
Age: Historic
Information base: Survey, Testing, Other
Attribute codes: AH07 (Roads/trails/railroad grades)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	2/23/2001	K. Ross Way, Christine O'Rourke	Environmental Science Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
11th street and Broadway street	Oakland		94607

PLSS:
UTMs: Zone 10 564118mE 4183943mN NAD27 (NAD 1927)

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/18/2015	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Resource Detail: P-01-010692

Identifying information

Primary No.: P-01-010692
Trinomial:
Name: AC-151
Other IDs:

Type	*Name*
Resource Name	AC-151

Cross-refs:

Attributes

Resource type: Other
Age: Prehistoric
Information base: Survey
Attribute codes: AP16 (Other) - shell scatter
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	11/4/2012	Suzanne Baker, Michael Smith	Archaeological/Historical Consultants	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:
PLSS:
UTMs: Zone 10 564560mE 4183420mN NAD83

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/10/2015	mikulikc	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Appendix B: Native American Correspondence

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

September 3, 2019

RE: 285 12th Street Project

Dear Sir or Madam,

Archaeological/Historical Consultants would like to request a search of the Sacred Lands file and an updated contact list for a project in Oakland, Alameda County. Please see the enclosed request form and map for more detail.

Thanks in advance for your assistance.

Yours truly,

Daniel Shoup

Archaeological/Historical Consultants
daniel.shoup@ahc-heritage.com
tel/fax (510) 654-8635

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: 285 12th Street Project

County Alameda

USGS Quadrangle

Name Oakland West 7.5'

Township Range Section(s) Rancho San Antonio (V and D Peralta)

Company:
Archaeological/Historical Consultants

Contact Person: Daniel Shoup

Street Address: 609 Aileen Street

City: Oakland Zip: 94609

Phone: 510-654-8635

Fax: 510-654-8635

Email: daniel.shoup@ahc-heritage.com

Project Description:

The project site is at 285 12th Street Harrison Street on the northwest corner of block bounded by 11th, 12th, Harrison, and Alice Streets. The proposed project would construct a seven-story, approximately 87-foot-tall building containing 77 residential units and approximately 1,650 square feet of commercial space. Ground floor and second floor parking would be provided. 285 12th Street is being used as a construction staging area. The project sites are surrounded by a variety of commercial, office, and residential buildings ranging from two- to seven-stories tall.

Mercator Projection
WGS84
USNG Zone 10SEG

CalTopo

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 km

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 mi

Scale **1:12000** 1 inch = 1000 feet

N MN 13°

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 7, 2020

Daniel Shoup
Archaeological/Historical Consultants

Via Email to: daniel.shoup@ahc-heritage.com
Cc: canutes@verizon.net

Re: 285 12th Street Project, Alameda County

Dear Mr. Shoup:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the North Valley Yokuts Tribe on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Associate Governmental Program Analyst

Attachment

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3388
Fremont, CA 94539

November 25, 2019

RE: 285 12th Street, Oakland

Dear Mr. Galvan:

The East Bay Asian Local Development Corporation (EBALDC) plans to develop an affordable housing project located on one parcel at 285 12th Street in Oakland, Alameda County. The project will demolish existing improvements – limited to one small building – and construct a seven-story building containing 65 affordable residential units and approximately 3,500 square feet of commercial space on the ground floor. The project will also include utility improvements, sidewalk widening, and an outdoor courtyard space. The City of Oakland is reviewing the project under the delegated authority of the Department of Housing and Urban Development (HUD). HUD is the lead agency responsible for NEPA compliance, while the City of Oakland is the lead agency for California Environmental Quality Act (CEQA) compliance on this proposed project. As part of State and Federal regulations we are assisting the City of Oakland and HUD by notifying the Native American community of the proposed project.

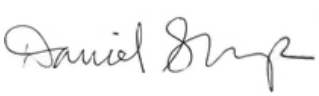
Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d), if you would like to consult on this project.

A record search was completed at the Northwest Information Center in September 2019 (NWIC #19-0401). No archaeological sites lie within the project APE, but two cultural resources have been previously recorded within ¼ mile of the APE. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, about 1200 feet northwest of the project area. In 1928, a prehistoric burial was removed at this location during excavation for an elevator shaft; a site record was prepared in about 1950 based on the 1928 Chronicle newspaper article. P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street, about 1000 feet south of the project area. It was unclear whether the shell was of cultural or natural origin. The Native American Heritage Commission was contacted for a Sacred Lands File search in September; we are still awaiting a response.

HUD and the City of Oakland would like to give you the opportunity to communicate concerns you might have regarding places within the project area that may be important to your community. We request your participation in the identification and protection of cultural resources, sacred lands or other heritage sites within the above described project area with the understanding that you or other members of the community might possess specialized knowledge of the area.

If you or any of your tribal members have any questions or concerns regarding this project please contact me at (510) 654-8635 or via e-mail at daniel.shoup@ahc-heritage.com.

Yours truly,



Daniel Shoup, Principal

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Figure 1: Location Map, 285 12th Street

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Figure 2: Project Area

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: andrew galvan <chochenyo@aol.com>

To: daniel.shoup@ahc-heritage.com

Mon, 13 Jan 2020 05:37:11 +0000 (UTC)

Hi Dan,

Thanks for providing this report.

I agree with your conclusion and recommendation. I have no additional comments.

Happy New Year...

Andy

-----Original Message-----
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: andrew galvan <chochenyo@aol.com>
Sent: Fri, Jan 3, 2020 12:31 pm
Subject: Re: Consultation Request, 285 12th Street, Oakland

Dear Andy,

I realize that I neglected to reply to your message last month - my apologies. Here's my summary of the record search:

The Northwest Information Center of the California Historical Resources Information System completed a record search for the project area in September 2019 (NWIC File #19-0401). The record search found no previously recorded cultural resources or previous studies in the project area.

Four cultural resources have been previously recorded within ¼ mile of the project area. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, now beneath the Easton Building. In 1928, a human burial was removed at this location during excavation for an elevator shaft. It was apparently found on the 13th Street side of the block, because, at that time, 13th Street was being widened by four feet. The bones were a foot under the concrete basement and 15 feet below street level. A “large animal tooth” was also found buried under the basement floor” (*San Francisco Chronicle* 1928:1, 4). A site record was prepared (about 1949 or 1950) based on the 1928 Chronicle newspaper article. P-01-010530 and P-01-010531 are elements of the old urban railroad system, consisting of ties and hardware from former track alignments. P-01-010530 is located on Webster Street between 10th and 12th streets (Way 2000); P-01-010531 is located on 11th Street about 60 feet west of Broadway. These features were found 11-18 inches below the present surface (Way and O’Rourke 2001). P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street. It was unclear whether the shell was of cultural or natural origin.

Our draft report is attached. The project area is entirely impervious, so the foot survey was fairly perfunctory for archaeology. Your comments are welcome!

Happy new year

Dan

andrew galvan wrote:

Hi Dan,

can you tell me if a Phase I Literature Search and/or a Foot Survey have been under taken for this project? And if so, may I have a copy of that report?

Thank you,

Andrew Galvan
An Ohlone Man

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: chochenyo <chochenyo@aol.com>
Sent: Mon, Nov 25, 2019 11:05 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Andy,

Please find a consultation request enclosed for a project in Oakland.

All the best,

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

Inbox 1
Drafts
Sent
Spam 23
Trash 11
18-17 USA
Archive
Bills and Receipts
Certifications and Busines
Current Projects
Gaziantep
Misc Correspondence
Misc Resources
Old Projects
PG&E
Pending Projects
RFP_RFQs
18-07 Contra Costa Co Or
Deleted Messages
Sent Messages

Re: Consultation Request, 285 12...

Close | Back to Folder

Val Lopez vlopez@amahmutsun.org 1 month ago

This project is outside our Traditional tribal territory, we have no comment.

Thank you,

Valelntin Lopez, Chair
Amah Mutsun Tribal Band

On Fri, Jan 3, 2020 at 12:34 PM Daniel Shoup <daniel.shoup@ahc-heritage.com> wrote:

> Dear Mr. Lopez,
>
> Happy new year. I just wanted to follow up to ask whether you might have
> any comments on the attached project.
>
> Yours truly,
>
> Dan
>
> daniel.shoup@ahc-heritage.com wrote:
> > Dear Mr. Lopez,
> >
> > Please find a consultation request attached for a project in Oakland.
> >
> > Thank you!
> >
> > Dan
> >
> > Daniel David Shoup, PhD, RPA
> > Archaeological/Historical Consultants
> > 609 Aileen Street
> > Oakland, CA 94609-1609
> > o 510.654.8635
> > c 510.213.0391
> > daniel.shoup@ahc-heritage.com
> >
> > Cultural Resources Management Since 1976
> >

Options: Reply To All | Show Recipients | Edit Subject | Add Bcc

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: Kathrine Perez <canutes@verizon.net>

To: daniel.shoup@ahc-heritage.com

Wed, 27 Nov 2019 22:08:05 +0000 (UTC)

Hello Daniel,

I am unaware of the project site being sensitive.

Katherine Perez

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: canutes <canutes@verizon.net>
Sent: Mon, Nov 25, 2019 11:08 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Kathy,

Please find a consultation request attached for a project in Oakland. Thank you!

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: Kathrine Perez <canutes@verizon.net>

To: daniel.shoup@ahc-heritage.com

Fri, 14 Feb 2020 03:10:42 +0000 (UTC)

Hello Daniel,

I took a closer look at the area of the proposed project in Oakland. I do know that the Native American Heritage Commission documents records burial and reburial site by townships. The only thing that comes to mind in relationship to where the proposed project area and the reburial I did back in 1997 is in the township of Alameda. I want to say that would of been near the street named Stanford. Now in relationship to the proposed project and the reburial, it would appear to me to be a bit far. This being the case, there doesn't appear to be a need to have a site visit as long as you include in your report guidelines to protect inadvertent discovery. I hope this will makes sense to you. Please let me know.

Nototomne Cultural Preservation
Northern Valley Yokut / Ohlone / Bay Miwuk / Patwin
Katherine Perez
P.O Box 717
Linden, CA 95236
Cell: 209.649.8972
Email: canutes@verizon.net

-----Original Message-----
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: Katherine Perez <canutes@verizon.net>
Sent: Mon, Feb 10, 2020 5:54 pm
Subject: Fwd: Re: Consultation Request, 285 12th Street, Oakland

Hi Kathy,

Thanks for taking my call earlier about the project in Oakland. I'm attaching the record search results, along with the record search map where I've added some explanations, and a picture of the site today. Here's my write-up of the resources from our report:

> Four cultural resources have been previously recorded within ¼ mile of the Project Site. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, now beneath the Easton Building. In 1928, a human burial was removed at this location during excavation for an elevator shaft. It was apparently found on the 13th Street side of the block, because, at that time, 13th Street was being widened by four feet. The bones were a foot under the concrete basement and 15 feet below street level. A “large animal tooth” was also found buried under the basement floor” (*San Francisco Chronicle* 1928:1, 4). A site record was prepared (about 1949 or 1950) based on the 1928 *Chronicle* newspaper article.
>
> P-01-010530 and P-01-010531 are elements of the old urban railroad system, consisting of

> ties and hardware from former track alignments. P-01-010530 is located on Webster Street between 10th and 12th streets (Way 2000); P-01-010531 is located on 11th Street about 60 feet west of Broadway. These features were found 11-18 inches below the present surface (Way and O'Rourke 2001).
>
> P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street. It was unclear whether the shell was of cultural or natural origin.

Based on this information, I wonder if you could tell me whether you're aware of sacred sites or other archaeological resources in our project area?

All the best to you and the family

Dan

--
Daniel David Shoup, PhD, RPA
Principal
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
daniel.shoup@ahc-heritage.com
510-654-8635 o / 510-213-0391 c

Cultural Resources Management Since 1976

-------- Original Message --------
Subject: Re: Consultation Request, 285 12th Street, Oakland
Date: Fri, 07 Feb 2020 16:40:59 -0800
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: Kathrine Perez <canutes@verizon.net>

Dear Kathy,

Hope you're well! You may remember our email conversation about this site in downtown Oakland last December. I finally (after 4 months!) got a reply from NAHC with the Sacred Lands File results. They say that there is something in their Sacred Lands File for this vicinity, and suggest I contact you for details.

Any ideas what they are referring to? The site is located in downtown Oakland at 12th and Harrison Streets. Thanks for any light you can shed on the issue.

All the best

Dan

daniel.shoup@ahc-heritage.com wrote:

> Kathy -
>
> Thank you for the reply, and sorry I missed your call last week - I'm on a short vacation and not minding the phone as much as usual.
>
> Hope you and yours had a good Thanksgiving.
>
> All the best
>
> Dan
>
> Daniel David Shoup, PhD, RPA

Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

----- Original Message -----
From:
"Kathrine Perez" <canutes@verizon.net>

To:
<daniel.shoup@ahc-heritage.com>
Cc:

Sent:
Wed, 27 Nov 2019 22:08:05 +0000 (UTC)
Subject:
Re: Consultation Request, 285 12th Street, Oakland

Hello Daniel,

I am unaware of the project site being sensitive.

Katherine Perez

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: canutes <canutes@verizon.net>
Sent: Mon, Nov 25, 2019 11:08 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Kathy,

Please find a consultation request attached for a project in Oakland. Thank you!

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

Appendix A: Northwest Information Center Record Search

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

9/26/2019 NWIC File No.: 19-0401

Daniel Shoup
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609

re: 19-22 DJP 285 12th Street Oakland

The Northwest Information Center received your record search request for the project area referenced above, located on the Oakland West USGS 7.5' quad. The following reflects the results of the records search for the project area and a 0.25 mile radius:

Resources within project area:	None
Archaeological resources within 0.25 mile radius:	P-01-42, 10692, 10530, & 10531.
Reports within project area:	None

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☐ not requested	☒ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Soil Survey: http://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?stateId=CA

Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

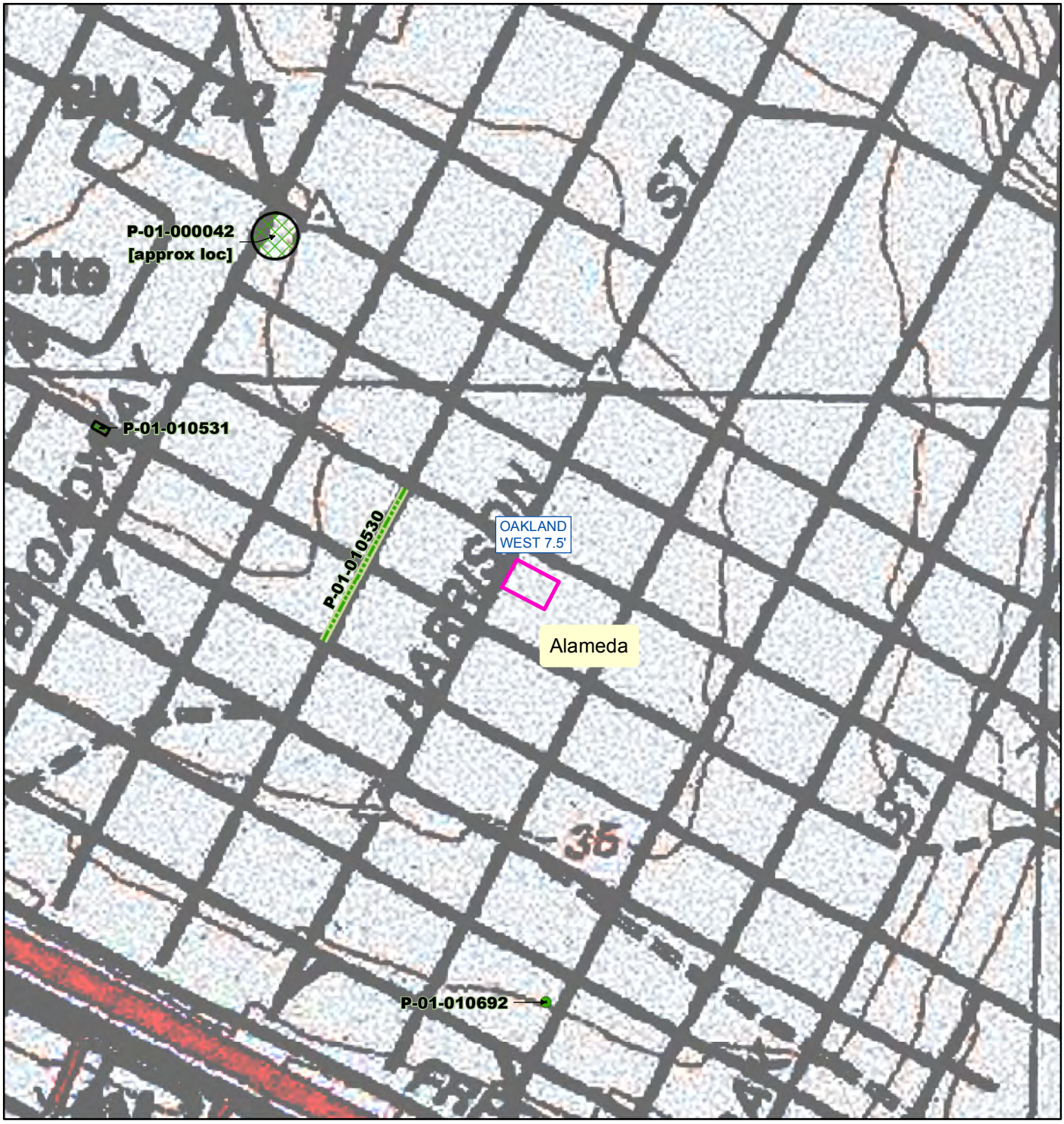
Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lisa C. Hagel
Researcher

19-22 DJP 285 12th Street Oakland



Northwest Information Center

File #19-0401, 26 September 2019, L. Hagel

May depict confidential cultural resource locations.
Do not distribute.

Feet
0 160 320 480 640
0 30 60 90 120 150
Meters

N

Resource Detail: P-01-000042

Identifying information

Primary No.: P-01-000042
Trinomial: CA-ALA-000022
Name: Easton Building
Other IDs:

Type	*Name*
Resource Name	Easton Building

Cross-refs: Physically overlaps or intersects 01-003855

Attributes

Resource type: Site
Age: Prehistoric
Information base: Other
Attribute codes: AP09 (Burials); AP16 (Other) - 50 pound mortar
Disclosure: Not for publication
Collections: Yes
Accession no(s):
Facility: Offices of Perini Corp.

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	7/1/1928	[none]	San Francisco Chronicle	
b	7/1/1928	[none]	San Francisco Chronicle	newspaper article
d	6/3/2006	Richard Schwartz	[none]	
e	5/23/1967	Richard Schwartz	[none]	newspaper article

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-007903	1985	Cultural Resources Evaluation for the East Bay Municipal Utility District Infiltration/Inflow Project (P. O. 951 1143 EA)	David Chavez & Associates
S-014621	1992	Archaeological Resources Review for the Oakland Enterprise Zone EIR, Alameda County, California	David Chavez and Associates
S-023778	2000	Archaeological Resources Investigations for the EBMUD East Bayshore Recycled Water Project, Alameda County, California	David Chavez & Associates
S-025618	2001	Cultural Resource Evaluations of Five (5) Proposed Telecommunication Sites -- Nos. PL-389-01, PL-902-01, PL-903-01, PL-946-01 and SF-367-01 -- located in Alameda and Solano Counties, California (letter report)	Archeo-Tec Inc.
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-026419		VOIDED S#- see additional ciation 'b' of S-23778	
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Resource Detail: P-01-000042

PLSS:

UTMs: Zone 10 564220mE 4184080mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	3/21/2019	hagell	
IC actions:	*Date*	*User*	*Action taken*
	4/4/2005	jay	Trinomial missing from ICRDS; added from list provided by Leigh.
	4/1/2005	jay	Appended records from discontinued ICRDS.

Record status: Verified

Resource Detail: P-01-010530

Identifying information

Primary No.: P-01-010530
Trinomial:
Name: ESA-OAK-001b
Other IDs:

Type	*Name*
Resource Name	ESA-OAK-001b

Cross-refs: See also 01-010529
See also 01-010531

Attributes

Resource type: Other
Age: Historic
Information base: Survey, Testing, Other
Attribute codes: AH07 (Roads/trails/railroad grades)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	10/20/2000	K. Ross Way	Environmental Science Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Webster Street	Oakland		94607

PLSS:
UTMs: Zone 10 564316mE 4183740mN NAD27 (NAD 1927)
Zone 10 564400mE 4183890mN NAD27 (NAD 1927)

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/18/2015	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Resource Detail: P-01-010531

Identifying information

Primary No.: P-01-010531
Trinomial:
Name: ESA-OAK-001c
Other IDs:

Type	*Name*
Resource Name	ESA-OAK-001c

Cross-refs: See also 01-010529
See also 01-010530

Attributes

Resource type: Other
Age: Historic
Information base: Survey, Testing, Other
Attribute codes: AH07 (Roads/trails/railroad grades)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	2/23/2001	K. Ross Way, Christine O'Rourke	Environmental Science Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-026045	2000	Cultural Resources Reconnaissance Survey and Inventory Report for the Metromedia Fiberoptic Cable Project, San Francisco Bay Area and Los Angeles Basin Networks	Mooney & Associates
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
11th street and Broadway street	Oakland		94607

PLSS:
UTMs: Zone 10 564118mE 4183943mN NAD27 (NAD 1927)

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/18/2015	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Resource Detail: P-01-010692

Identifying information

Primary No.: P-01-010692
Trinomial:
Name: AC-151
Other IDs:

Type	*Name*
Resource Name	AC-151

Cross-refs:

Attributes

Resource type: Other
Age: Prehistoric
Information base: Survey
Attribute codes: AP16 (Other) - shell scatter
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	11/4/2012	Suzanne Baker, Michael Smith	Archaeological/Historical Consultants	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-031825		Voided - see S-38249, additional citation 'd'	
S-038249	2010	Historic Property Survey Report, the Alameda County Transit District's East Bay Bus Rapid Transit Project in Berkeley, Oakland, and San Leandro	Archaeological/Historical Consultants

Location information

County: Alameda
USGS quad(s): Oakland West
Address:
PLSS:
UTMs: Zone 10 564560mE 4183420mN NAD83

Management status

Database record metadata

	Date	*User*	
Entered:	4/6/2005	jay	
Last modified:	12/10/2015	mikulikc	
IC actions:	*Date*	*User*	*Action taken*
	4/6/2005	jay	Entered minimal information from hard copy list provided by Leigh.

Record status: Verified

Appendix B: Native American Correspondence

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

September 3, 2019

RE: 285 12th Street Project

Dear Sir or Madam,

Archaeological/Historical Consultants would like to request a search of the Sacred Lands file and an updated contact list for a project in Oakland, Alameda County. Please see the enclosed request form and map for more detail.

Thanks in advance for your assistance.

Yours truly,

Daniel Shoup

Archaeological/Historical Consultants
daniel.shoup@ahc-heritage.com
tel/fax (510) 654-8635

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: 285 12th Street Project

County Alameda

USGS Quadrangle

Name Oakland West 7.5'

Township Range Section(s) Rancho San Antonio (V and D Peralta)

Company:
Archaeological/Historical Consultants

Contact Person: Daniel Shoup

Street Address: 609 Aileen Street

City: Oakland Zip: 94609

Phone: 510-654-8635

Fax: 510-654-8635

Email: daniel.shoup@ahc-heritage.com

Project Description:

The project site is at 285 12th Street Harrison Street on the northwest corner of block bounded by 11th, 12th, Harrison, and Alice Streets. The proposed project would construct a seven-story, approximately 87-foot-tall building containing 77 residential units and approximately 1,650 square feet of commercial space. Ground floor and second floor parking would be provided. 285 12th Street is being used as a construction staging area. The project sites are surrounded by a variety of commercial, office, and residential buildings ranging from two- to seven-stories tall.

Mercator Projection
WGS84
USNG Zone 10SEG

CalTopo

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 km

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 mi

Scale **1:12000** 1 inch = 1000 feet

N MN 13°

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 7, 2020

Daniel Shoup
Archaeological/Historical Consultants

Via Email to: daniel.shoup@ahc-heritage.com
Cc: canutes@verizon.net

Re: 285 12th Street Project, Alameda County

Dear Mr. Shoup:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the North Valley Yokuts Tribe on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Associate Governmental Program Analyst

Attachment

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3388
Fremont, CA 94539

November 25, 2019

RE: 285 12th Street, Oakland

Dear Mr. Galvan:

The East Bay Asian Local Development Corporation (EBALDC) plans to develop an affordable housing project located on one parcel at 285 12th Street in Oakland, Alameda County. The project will demolish existing improvements – limited to one small building – and construct a seven-story building containing 65 affordable residential units and approximately 3,500 square feet of commercial space on the ground floor. The project will also include utility improvements, sidewalk widening, and an outdoor courtyard space. The City of Oakland is reviewing the project under the delegated authority of the Department of Housing and Urban Development (HUD). HUD is the lead agency responsible for NEPA compliance, while the City of Oakland is the lead agency for California Environmental Quality Act (CEQA) compliance on this proposed project. As part of State and Federal regulations we are assisting the City of Oakland and HUD by notifying the Native American community of the proposed project.

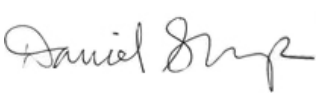
Please consider this letter and preliminary project information as formal notification of a proposed project as required under CEQA, specifically Public Resources Code 21080.3.1 and Chapter 532 Statutes of 2014 (i.e. AB 52). Please respond within 30 days, pursuant to PRC 21080.3.1(d), if you would like to consult on this project.

A record search was completed at the Northwest Information Center in September 2019 (NWIC #19-0401). No archaeological sites lie within the project APE, but two cultural resources have been previously recorded within ¼ mile of the APE. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, about 1200 feet northwest of the project area. In 1928, a prehistoric burial was removed at this location during excavation for an elevator shaft; a site record was prepared in about 1950 based on the 1928 Chronicle newspaper article. P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street, about 1000 feet south of the project area. It was unclear whether the shell was of cultural or natural origin. The Native American Heritage Commission was contacted for a Sacred Lands File search in September; we are still awaiting a response.

HUD and the City of Oakland would like to give you the opportunity to communicate concerns you might have regarding places within the project area that may be important to your community. We request your participation in the identification and protection of cultural resources, sacred lands or other heritage sites within the above described project area with the understanding that you or other members of the community might possess specialized knowledge of the area.

If you or any of your tribal members have any questions or concerns regarding this project please contact me at (510) 654-8635 or via e-mail at daniel.shoup@ahc-heritage.com.

Yours truly,



Daniel Shoup, Principal

ARCHAEOLOGICAL/HISTORICAL CONSULTANTS

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Figure 1: Location Map, 285 12th Street

609 Aileen Street
Oakland, CA 94609
(510) 654-8635
info@ahc-heritage.com
www.ahc-heritage.com

Figure 2: Project Area

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: andrew galvan <chochenyo@aol.com>

To: daniel.shoup@ahc-heritage.com

Mon, 13 Jan 2020 05:37:11 +0000 (UTC)

Hi Dan,

Thanks for providing this report.

I agree with your conclusion and recommendation. I have no additional comments.

Happy New Year...

Andy

-----Original Message-----
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: andrew galvan <chochenyo@aol.com>
Sent: Fri, Jan 3, 2020 12:31 pm
Subject: Re: Consultation Request, 285 12th Street, Oakland

Dear Andy,

I realize that I neglected to reply to your message last month - my apologies. Here's my summary of the record search:

The Northwest Information Center of the California Historical Resources Information System completed a record search for the project area in September 2019 (NWIC File #19-0401). The record search found no previously recorded cultural resources or previous studies in the project area.

Four cultural resources have been previously recorded within ¼ mile of the project area. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, now beneath the Easton Building. In 1928, a human burial was removed at this location during excavation for an elevator shaft. It was apparently found on the 13th Street side of the block, because, at that time, 13th Street was being widened by four feet. The bones were a foot under the concrete basement and 15 feet below street level. A “large animal tooth” was also found buried under the basement floor” (*San Francisco Chronicle* 1928:1, 4). A site record was prepared (about 1949 or 1950) based on the 1928 Chronicle newspaper article. P-01-010530 and P-01-010531 are elements of the old urban railroad system, consisting of ties and hardware from former track alignments. P-01-010530 is located on Webster Street between 10th and 12th streets (Way 2000); P-01-010531 is located on 11th Street about 60 feet west of Broadway. These features were found 11-18 inches below the present surface (Way and O’Rourke 2001). P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street. It was unclear whether the shell was of cultural or natural origin.

Our draft report is attached. The project area is entirely impervious, so the foot survey was fairly perfunctory for archaeology. Your comments are welcome!

Happy new year

Dan

andrew galvan wrote:

Hi Dan,

can you tell me if a Phase I Literature Search and/or a Foot Survey have been under taken for this project? And if so, may I have a copy of that report?

Thank you,

Andrew Galvan
An Ohlone Man

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: chochenyo <chochenyo@aol.com>
Sent: Mon, Nov 25, 2019 11:05 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Andy,

Please find a consultation request enclosed for a project in Oakland.

All the best,

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

Inbox 1
Drafts
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Trash 11
18-17 USA
Archive
Bills and Receipts
Certifications and Busines
Current Projects
Gaziantep
Misc Correspondence
Misc Resources
Old Projects
PG&E
Pending Projects
RFP_RFQs
18-07 Contra Costa Co Or
Deleted Messages
Sent Messages

Re: Consultation Request, 285 12...

Close | Back to Folder

Val Lopez vlopez@amahmutsun.org 1 month ago

This project is outside our Traditional tribal territory, we have no comment.

Thank you,

Valelntin Lopez, Chair
Amah Mutsun Tribal Band

On Fri, Jan 3, 2020 at 12:34 PM Daniel Shoup <daniel.shoup@ahc-heritage.com> wrote:

> Dear Mr. Lopez,
>
> Happy new year. I just wanted to follow up to ask whether you might have
> any comments on the attached project.
>
> Yours truly,
>
> Dan
>
> daniel.shoup@ahc-heritage.com wrote:
> > Dear Mr. Lopez,
> >
> > Please find a consultation request attached for a project in Oakland.
> >
> > Thank you!
> >
> > Dan
> >
> > Daniel David Shoup, PhD, RPA
> > Archaeological/Historical Consultants
> > 609 Aileen Street
> > Oakland, CA 94609-1609
> > o 510.654.8635
> > c 510.213.0391
> > daniel.shoup@ahc-heritage.com
> >
> > Cultural Resources Management Since 1976
> >

Options: Reply To All | Show Recipients | Edit Subject | Add Bcc

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: Kathrine Perez <canutes@verizon.net>

To: daniel.shoup@ahc-heritage.com

Wed, 27 Nov 2019 22:08:05 +0000 (UTC)

Hello Daniel,

I am unaware of the project site being sensitive.

Katherine Perez

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: canutes <canutes@verizon.net>
Sent: Mon, Nov 25, 2019 11:08 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Kathy,

Please find a consultation request attached for a project in Oakland. Thank you!

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

Subject: Re: Consultation Request, 285 12th Street, Oakland

From: Kathrine Perez <canutes@verizon.net>

To: daniel.shoup@ahc-heritage.com

Fri, 14 Feb 2020 03:10:42 +0000 (UTC)

Hello Daniel,

I took a closer look at the area of the proposed project in Oakland. I do know that the Native American Heritage Commission documents records burial and reburial site by townships. The only thing that comes to mind in relationship to where the proposed project area and the reburial I did back in 1997 is in the township of Alameda. I want to say that would of been near the street named Stanford. Now in relationship to the proposed project and the reburial, it would appear to me to be a bit far. This being the case, there doesn't appear to be a need to have a site visit as long as you include in your report guidelines to protect inadvertent discovery. I hope this will makes sense to you. Please let me know.

Nototomne Cultural Preservation
Northern Valley Yokut / Ohlone / Bay Miwuk / Patwin
Katherine Perez
P.O Box 717
Linden, CA 95236
Cell: 209.649.8972
Email: canutes@verizon.net

-----Original Message-----
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: Katherine Perez <canutes@verizon.net>
Sent: Mon, Feb 10, 2020 5:54 pm
Subject: Fwd: Re: Consultation Request, 285 12th Street, Oakland

Hi Kathy,

Thanks for taking my call earlier about the project in Oakland. I'm attaching the record search results, along with the record search map where I've added some explanations, and a picture of the site today. Here's my write-up of the resources from our report:

> Four cultural resources have been previously recorded within ¼ mile of the Project Site. CA-ALA-22 (P-01-000042) is located on the south corner of 13th Street and Broadway, now beneath the Easton Building. In 1928, a human burial was removed at this location during excavation for an elevator shaft. It was apparently found on the 13th Street side of the block, because, at that time, 13th Street was being widened by four feet. The bones were a foot under the concrete basement and 15 feet below street level. A “large animal tooth” was also found buried under the basement floor” (*San Francisco Chronicle* 1928:1, 4). A site record was prepared (about 1949 or 1950) based on the 1928 *Chronicle* newspaper article.
>
> P-01-010530 and P-01-010531 are elements of the old urban railroad system, consisting of

> ties and hardware from former track alignments. P-01-010530 is located on Webster Street between 10th and 12th streets (Way 2000); P-01-010531 is located on 11th Street about 60 feet west of Broadway. These features were found 11-18 inches below the present surface (Way and O'Rourke 2001).
>
> P-01-010692 is a scatter of shell observed in 2004, on the west side of Jackson Street in the block south of 8th Street. It was unclear whether the shell was of cultural or natural origin.

Based on this information, I wonder if you could tell me whether you're aware of sacred sites or other archaeological resources in our project area?

All the best to you and the family

Dan

--
Daniel David Shoup, PhD, RPA
Principal
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
daniel.shoup@ahc-heritage.com
510-654-8635 o / 510-213-0391 c

Cultural Resources Management Since 1976

-------- Original Message --------
Subject: Re: Consultation Request, 285 12th Street, Oakland
Date: Fri, 07 Feb 2020 16:40:59 -0800
From: Daniel Shoup <daniel.shoup@ahc-heritage.com>
To: Kathrine Perez <canutes@verizon.net>

Dear Kathy,

Hope you're well! You may remember our email conversation about this site in downtown Oakland last December. I finally (after 4 months!) got a reply from NAHC with the Sacred Lands File results. They say that there is something in their Sacred Lands File for this vicinity, and suggest I contact you for details.

Any ideas what they are referring to? The site is located in downtown Oakland at 12th and Harrison Streets. Thanks for any light you can shed on the issue.

All the best

Dan

daniel.shoup@ahc-heritage.com wrote:

> Kathy -
>
> Thank you for the reply, and sorry I missed your call last week - I'm on a short vacation and not minding the phone as much as usual.
>
> Hope you and yours had a good Thanksgiving.
>
> All the best
>
> Dan
>
> Daniel David Shoup, PhD, RPA

Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

----- Original Message -----
From:
"Kathrine Perez" <canutes@verizon.net>

To:
<daniel.shoup@ahc-heritage.com>
Cc:

Sent:
Wed, 27 Nov 2019 22:08:05 +0000 (UTC)
Subject:
Re: Consultation Request, 285 12th Street, Oakland

Hello Daniel,

I am unaware of the project site being sensitive.

Katherine Perez

-----Original Message-----
From: daniel.shoup <daniel.shoup@ahc-heritage.com>
To: canutes <canutes@verizon.net>
Sent: Mon, Nov 25, 2019 11:08 am
Subject: Consultation Request, 285 12th Street, Oakland

Dear Kathy,

Please find a consultation request attached for a project in Oakland. Thank you!

Dan

Daniel David Shoup, PhD, RPA
Archaeological/Historical Consultants
609 Aileen Street
Oakland, CA 94609-1609
o 510.654.8635
c 510.213.0391
daniel.shoup@ahc-heritage.com

Cultural Resources Management Since 1976

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

[VIA EMAIL]
March 27, 2020

Refer to HUD_2020_0227_002

Ms. Betty Marvin
Historic Preservation Planner
Bureau of Planning, Historic Preservation Division
Department of Planning & Building
City of Oakland
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, CA 94612-2032

Re: Multifamily Affordable Housing Development Project at 285 12th Street, Oakland

Dear Ms. Marvin:

The California State Historic Preservation Office received your submittal for the above referenced undertaking for review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Undertaking
Your letter informed us that the City of Oakland and East Bay Asian Local Development Corporation (EBALDC) intend to use funding from the U.S. Department of Housing and Urban Development (HUD) for the development of multifamily affordable housing at 285 12th Street. The undertaking involves the demolition of a small existing building and construction of 64 affordable housing units, one managers residential unit, with 3,500 square feet of ground floor commercial space, and two floors of parkin, in a seven-story, mixed-use, building.

Area of Potential Effects (APE)
The City defined the APE as the subject parcel and all adjacent parcels. We agree that this is an adequate definition of the APE for the work associated with this undertaking.

Identification of Historic Properties
In an effort to identify potential historic properties within the APE the City and their consultants obtained a records search for the project area from the Northwest Information Center (NWIC) of the CHRIS located at Sonoma State University. The City also contacted the local Native American Heritage Commission (NAHC) for a Sacred Lands File search, and reached out to the recommended tribe. Finally, consultants, David J Powers & Associates, conducted a field

survey of the APE. The City and consultants efforts noted that one known historic property, the King Building Group located at 300- 3008 12th Street, is within the APE. No other historic properties were identified. Our office believes that the City made reasonable and good faith identification efforts.

Finding of Effects

The City made a "determination" of "no adverse effect to historic properties" for the undertaking. Pursuant to 36 CFR §800.5(c)(1), the CA SHPO does not object to the City's finding. The City may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800 in the event that historic properties are discovered during implementation of the undertaking your agency is required to consult further pursuant to §800.13(b).

We appreciate the City of Oakland's consideration of historic properties in the project planning process. If you have questions please contact Shannon Lauchner Pries, Historian II, with the Local Government & Environmental Compliance Unit at (916)445-7013 or by email at shannon.pries@parks.ca.gov .

Note that we are only sending this letter in electronic format. Please confirm receipt of this letter. If you would like a hard copy mailed to you, respond to this email to request a hard copy be mailed.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

285 12TH STREET AFFORDABLE FAMILY HOUSING NEPA NOISE ASSESSMENT

Oakland, California

February 6, 2020

Prepared for:

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INTRODUCTION

This report presents the results of the noise assessment completed for the affordable family housing project proposed at 285 12th Street in Oakland, California. The proposed project would construct a seven-story building housing 65 apartments.

The project's potential to result in adverse effects with respect to applicable National Environmental Policy Act (NEPA) guidelines is assessed in this report. The report is divided into two sections. The Setting Section provides a brief description of the fundamentals of environmental noise, summarizes applicable regulatory criteria, and discusses the results of the ambient noise monitoring survey completed to document existing noise conditions. The NEPA Noise Assessment Section evaluates noise effects resulting from the project. Noise insulation is recommended to avoid the potential for adverse effects on the interiors of proposed residential units.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise* descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the *sound level meter*. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level (*L_{dn} or *DNL)* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

Regulatory Background

The U.S. Department of Housing and Urban Development (HUD) environmental noise regulations are set forth in 24CFR Part 51B (Code of Federal Regulations). The following exterior noise standards for new housing construction would be applicable to this project:

- 65 dBA DNL or less – acceptable.

- Exceeding 65 dBA DNL but not exceeding 75 dBA DNL – normally unacceptable (appropriate sound attenuation measures must provide an additional 5 decibels of attenuation over that typically provided by standard construction in the 65 dBA DNL to 70 dBA DNL zone; 10 decibels additional attenuation in the 70 dBA DNL to 75 dBA DNL zone).

- Exceeding 75 dBA DNL – unacceptable.

These noise standards also apply, "… at a location 2 meters from the building housing noise sensitive activities in the direction of the predominant noise source…" and "…at other locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site."

A goal of 45 dBA DNL is set forth for interior noise levels and attenuation requirements are geared toward achieving that goal. It is assumed that with standard construction any building will provide sufficient attenuation to achieve an interior level of 45 dBA DNL or less if the exterior level is 65 dBA DNL or less. Where exterior noise levels range from 65 dBA DNL to 70 dBA DNL, the project must provide a minimum of 25 decibels of attenuation, and a minimum of 30 decibels of attenuation is required in the 70 dBA DNL to 75 dBA DNL zone. Where exterior noise levels range from 75 dBA DNL to 80 dBA DNL, the project must provide a minimum of 35 decibels of attenuation to achieve an interior level of 45 dBA DNL or less.

Existing Noise Environment

The project site is located southeast of the intersection of Harrison Street and 12th Street in Oakland, California. The proposed project would construct a seven-story building housing 65 apartments on the site.

A noise monitoring survey was made to quantify existing ambient noise levels at the project site between Tuesday, January 7, 2020 and Thursday, January 9, 2020. The noise monitoring survey included two long-term noise measurements (LT-1 and LT-2) and two short-term measurements (ST-1 and ST-2), as shown in Figure 1. All noise measurements were conducted with Larson Davis Laboratories (LDL) Model 820 Type I Sound Level Meters fitted with ½-inch pre-polarized condenser microphones and windscreens. The meters were calibrated with a Larson Davis precision acoustic calibrator prior to and following the measurement survey.

Long-term noise measurement LT-1 was located approximately 28 feet from the centerline of 12th Street. Vehicle traffic along 12th Street was the predominant noise source at this site. The calculated day-night average noise level at this location was 70 dBA DNL on Wednesday, January 8, 2020.

The daily trend in noise levels measured at LT-1 is shown on Figures 2-4. The measured noise level was confirmed with the HUD DNL calculator (Appendix 1).

Long-term noise measurement LT-2 was located approximately 40 feet from the centerline of Harrison Street. Traffic along Harrison Street produced a day-night average noise level of 68 dBA DNL at this location on Wednesday, January 8, 2020. The daily trend in noise levels measured at LT-2 is shown on Figures 5-7. The measured noise level was about 3 dBA higher than the noise level predicted by the HUD DNL calculator.

Two short-term noise measurements were made to complete the project's noise monitoring survey. Short-term noise measurement ST-1 was made at the proposed location of the usable open space area near the center of the site. The estimated DNL at this site was 64 to 65 dBA. Short-term noise measurement ST-2 was made near the southeast corner of the project site. The estimated DNL at this site was 59 to 60 dBA. These data were used to calibrate the traffic noise model (TNM v. 2.5) used to predict exterior noise levels at the usable open space area.

NEPA NOISE ASSESSMENT

Significance Criteria

An adverse effect would result if noise levels at the project site would exceed HUD Guidelines for acceptability. Exterior noise levels exceeding 65 dBA DNL or interior noise levels exceeding 45 dBA DNL would exceed HUD's noise compatibility criteria.

Future Exterior Noise Environment

Pursuant to the HUD Guidelines, the noise exposure at least 10 years in the future must be considered in addition to the existing noise exposure. The future exterior noise environment at the project site was calculated using TNM. Under future conditions, traffic on area roadways is expected to continue to be the dominant noise source on the project site. An increase of 1-2% in volume per year has been assumed for traffic due to general growth throughout the City and surrounding region. Based on this future traffic volume estimate, the future noise environment on the project site would be approximately 1 decibel higher than existing noise levels, resulting in DNL noise levels of 70 dBA at the 12th Street building façade and 69 dBA at the Harrison Street building facade.

Two small, private balconies are proposed on the third level of the building adjacent to Harrison Street, and an additional two small, private balconies are proposed on the third level of the building adjacent to 12th Street. Future exterior noise levels at these balconies are expected to range from 61 to 64 dBA DNL when accounting for the acoustical shielding provided by existing and proposed buildings. Per HUD[1], "Balconies are not 'locations where it is determined that quiet outdoor space is required in an area ancillary to the principal use on the site' (24 CFR 51.103(c)). Furthermore, balconies are not indicative of an 'outdoor noise sensitive activity' for the purpose of eligibility for the discretionary waiver of the Environmental Impact Statement offered in 24 CFR 51.104(b)(2) since spaces inside the dwelling unit can accommodate activities that may occur on balconies."

1 U.S. Department of Housing and Urban Development, Notice CPD-16-19, December 22, 2016.

The project also includes a centrally located courtyard on the second level of the building. The courtyard would be well shielded from traffic noise by the proposed building (83 feet tall) and existing buildings located to the south and east (18-38 feet tall). The predicted exterior noise level due to local traffic at the courtyard would be 50 dBA DNL. Appendix 2 contains the simple noise barrier calculations made using HUD Workcharts 5 and 6 to confirm the results of TNM. These simple calculations assume a standard noise barrier, not a building, and estimate the performance of the standard barrier to be at least 19 dB. Exterior noise levels at outdoor activity areas proposed by the project would be considered "normally acceptable" by HUD.

Future Interior Noise Environment

Floor plans and elevations prepared by *David Baker Architects* (dated August 29, 2018) were reviewed, and calculations were made to quantify the transmission loss provided by the proposed building elements and to estimate interior noise levels resulting from exterior noise sources. The relative areas of the building elements (walls, windows, and doors) were then input into an acoustical model to calculate interior noise levels within individual rooms.

Residential units proposed adjacent to 12th Street and Harrison Street would be exposed to future exterior noise levels ranging from 69 to 70 dBA DNL. The predicted exterior noise level would exceed HUD's "normally acceptable" threshold of 65 dBA DNL by up to 5 dBA DNL. Thirty (30) decibels of attenuation would be required to achieve acceptable levels. Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA DNL with proper wall construction techniques, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

To maintain a habitable interior environment, all units should be mechanically ventilated so that windows and doors can be kept closed at the occupant's discretion to control noise intrusion indoors. Large aluminum storefront windows are proposed for proposed for the majority of second-floor residential units adjacent 12th Street and Harrison Street (northeast and northwest elevations). These residential units should be provided with windows having a minimum Sound Transmission Class rating of STC 34. The remaining residential units adjacent 12th Street and Harrison Street should be provided with windows having a minimum Sound Transmission Class rating of STC 32. The reduced sound-rating accounts for the lower percentage of windows making up the overall wall area in these units. Standard dual-insulating, thermal-pane windows (STC 26 or greater) would be sufficient for all residential units. With the incorporation of the above noise insultation features, interior noise levels would be maintained below 45 dBA DNL with an adequate margin of safety.

Figures 8 and 9 summarize the above noise control recommendations. HUD Figure 19 (Figures 10 and 11 of this report) provide summary examples of the inputs used to complete the calculations of interior noise levels at residential units with the future worst-case noise exposure.

Figure 1: Aerial Image Showing Site Plan and Noise Monitoring Locations

Source: Google Earth, 2020.

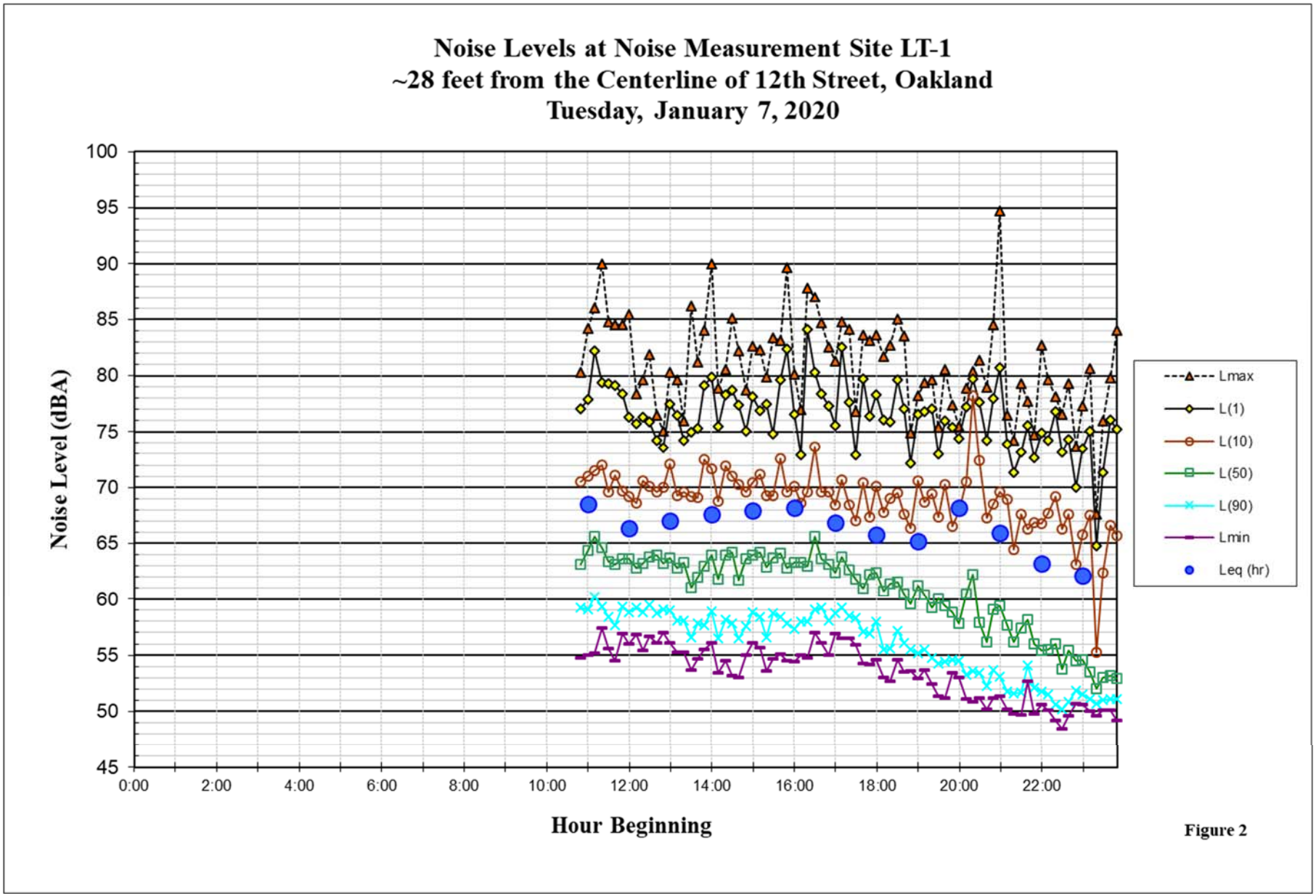

Noise Levels at Noise Measurement Site LT-1
~28 feet from the Centerline of 12th Street, Oakland
Tuesday, January 7, 2020
Noise Level (dBA)
100
95
90
85
80
75
70
65
60
55
50
45
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
Hour Beginning
Lmax
L(1)
L(10)
L(50)
L(90)
Lmin
Leq (hr)

Figure 2

Noise Levels at Noise Measurement Site LT-1
~28 feet from the Centerline of 12th Street, Oakland
Wednesday, January 8, 2020

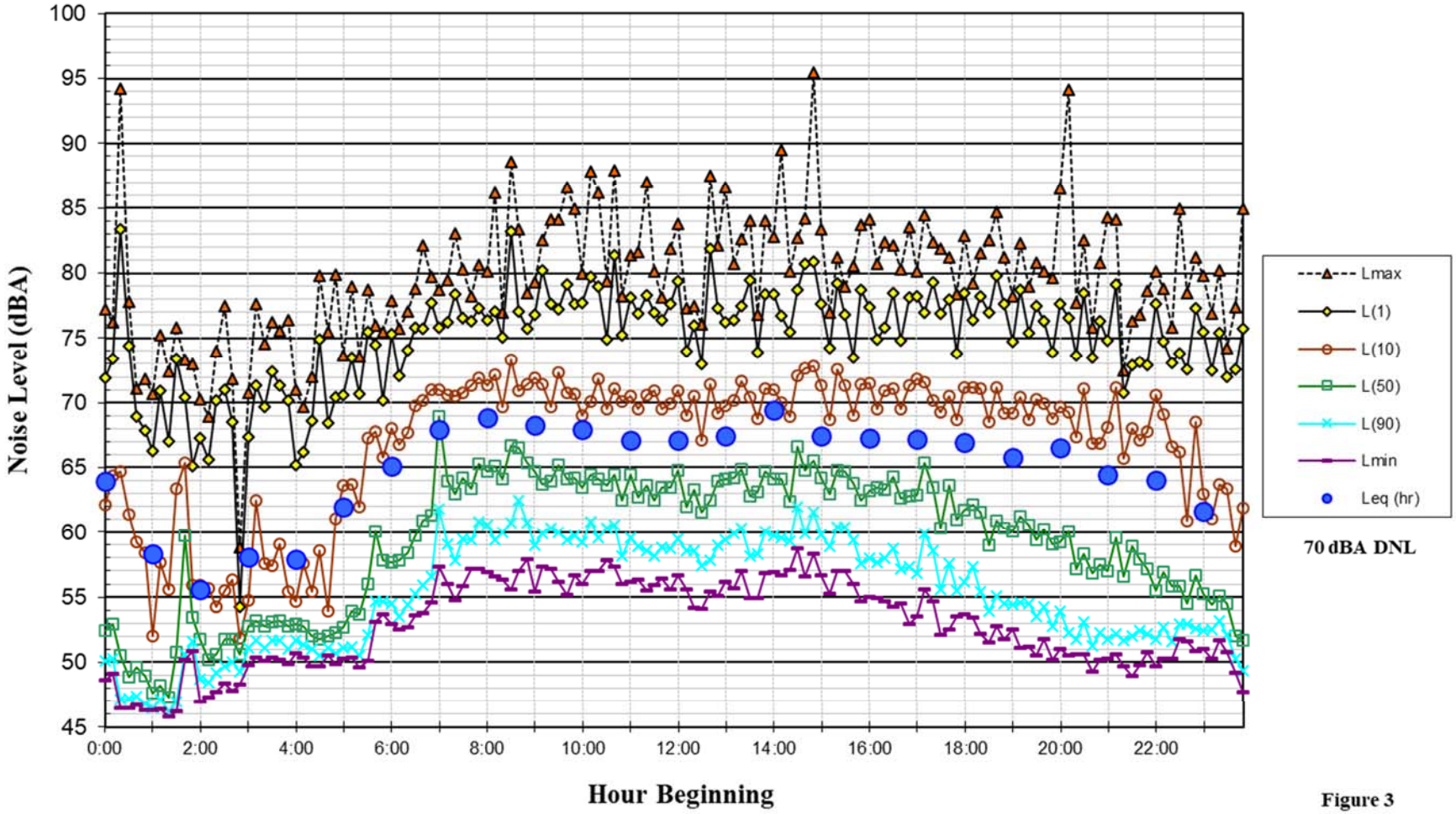


Figure 3

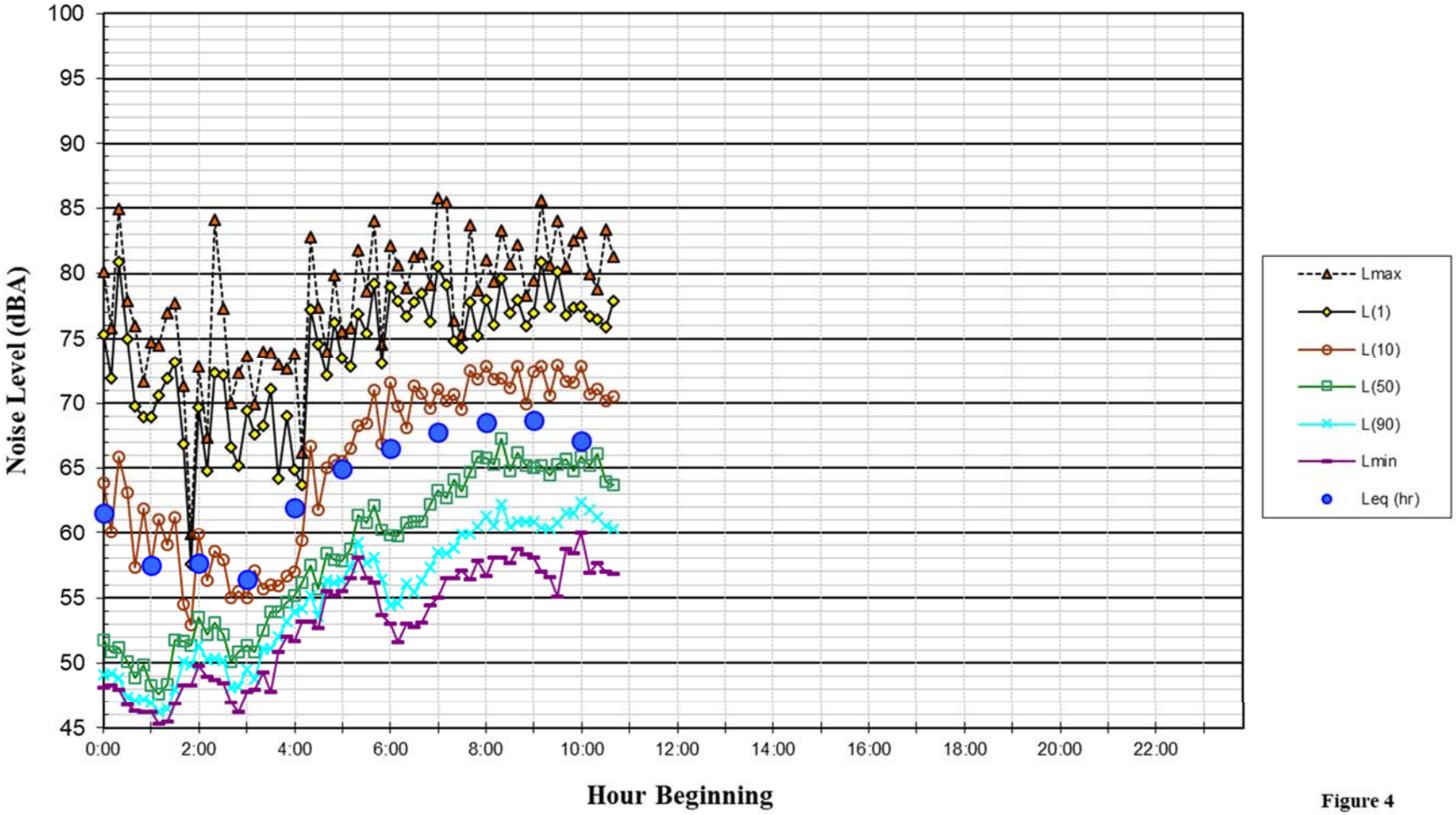

Noise Levels at Noise Measurement Site LT-1
~28 feet from the Centerline of 12th Street, Oakland
Thursday, January 9, 2020
Noise Level (dBA)
100
95
90
85
80
75
70
65
60
55
50
45
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
Hour Beginning
Lmax
L(1)
L(10)
L(50)
L(90)
Lmin
Leq (hr)

Figure 4

Noise Levels at Noise Measurement Site LT-2
~40 feet from the Centerline of Harrison Street, Oakland
Tuesday, January 7, 2020

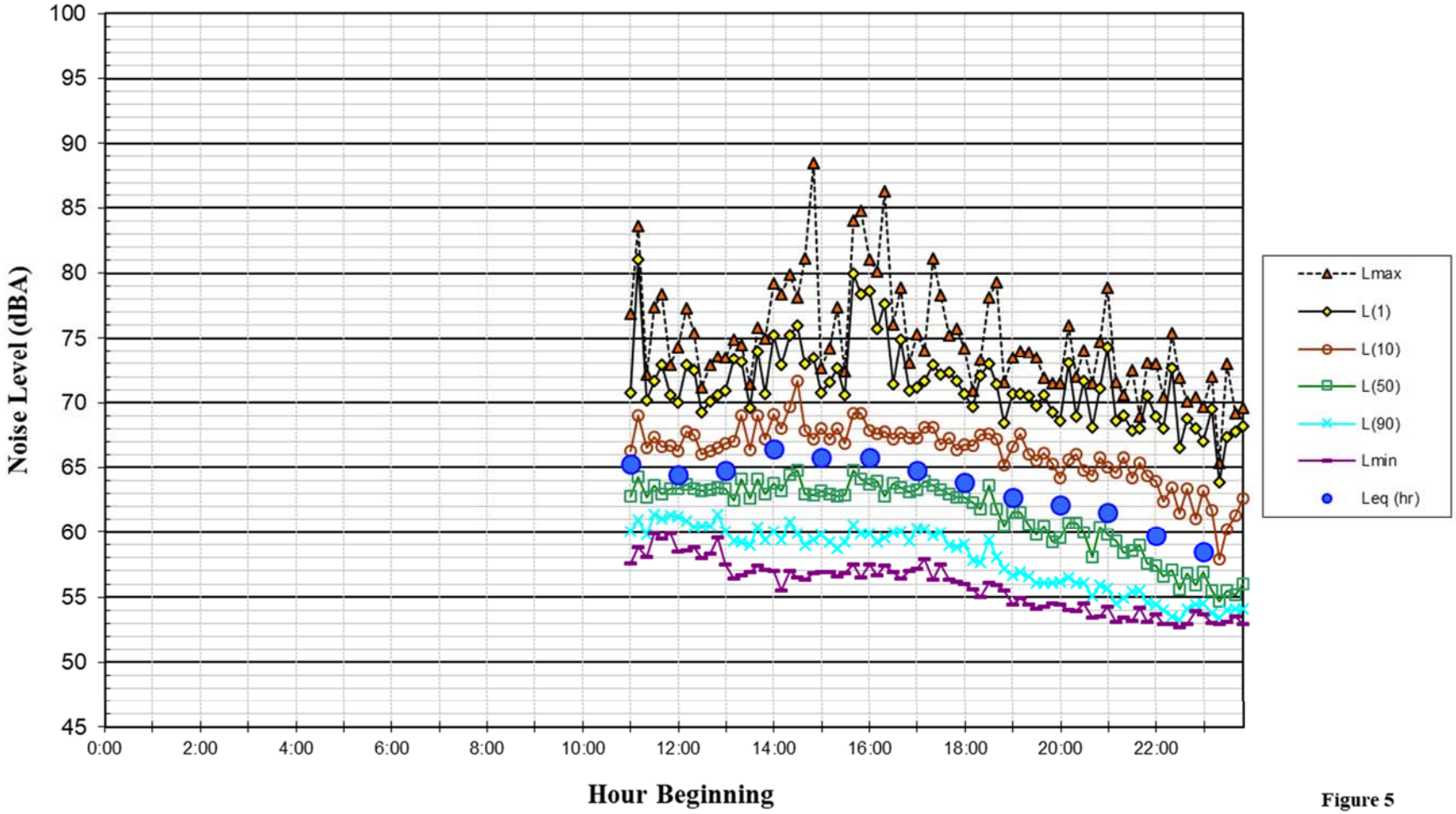


Figure 5

Noise Levels at Noise Measurement Site LT-2
~40 feet from the Centerline of Harrison Street, Oakland
Wednesday, January 8, 2020

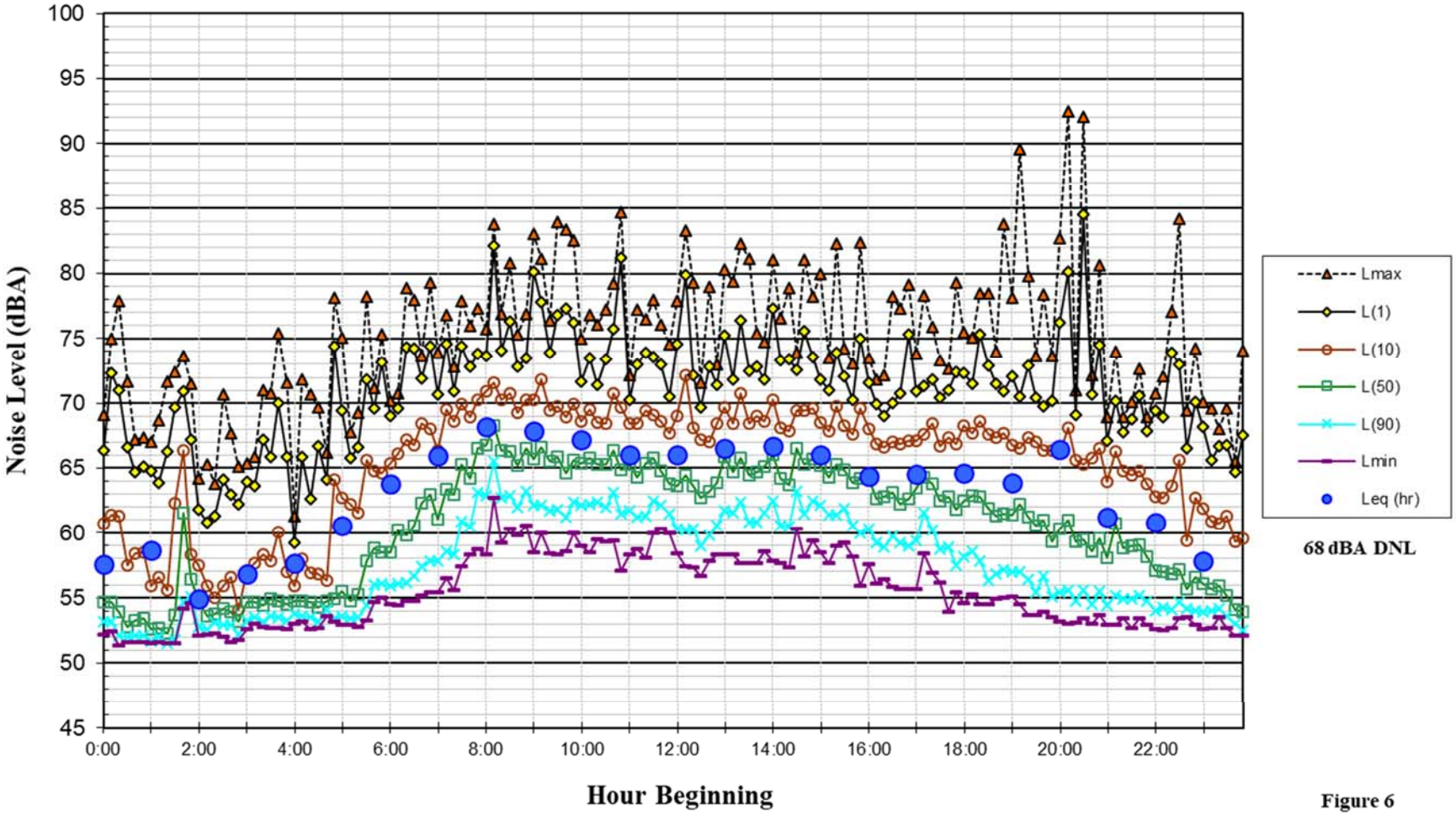


Figure 6

Noise Levels at Noise Measurement Site LT-2
~40 feet from the Centerline of Harrison Street, Oakland
Thursday, January 9, 2020

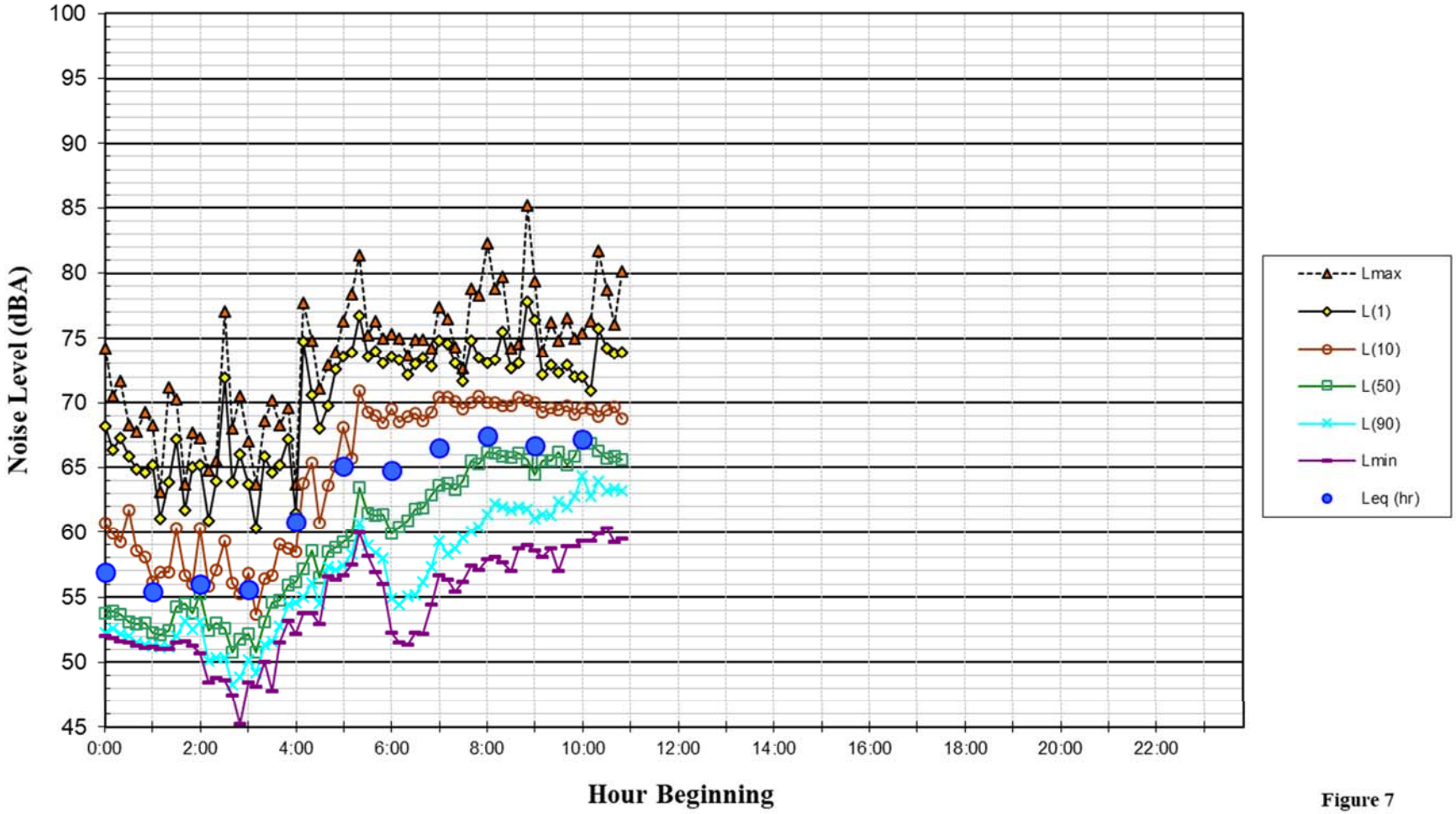


Figure 7

Figure 8 **Recommendations for Noise Insulation – Northeast (12th Street) and Southeast Elevations**

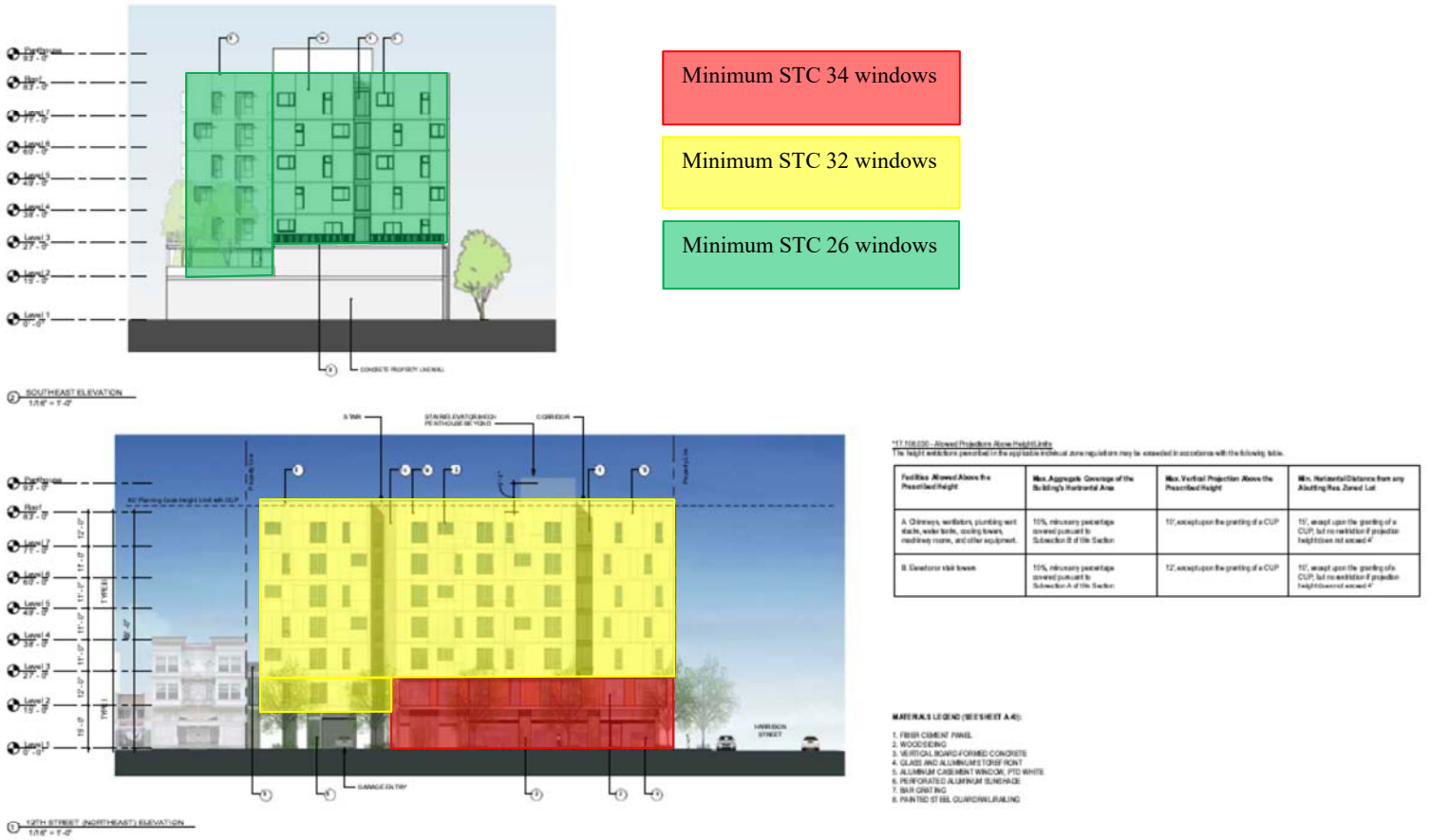
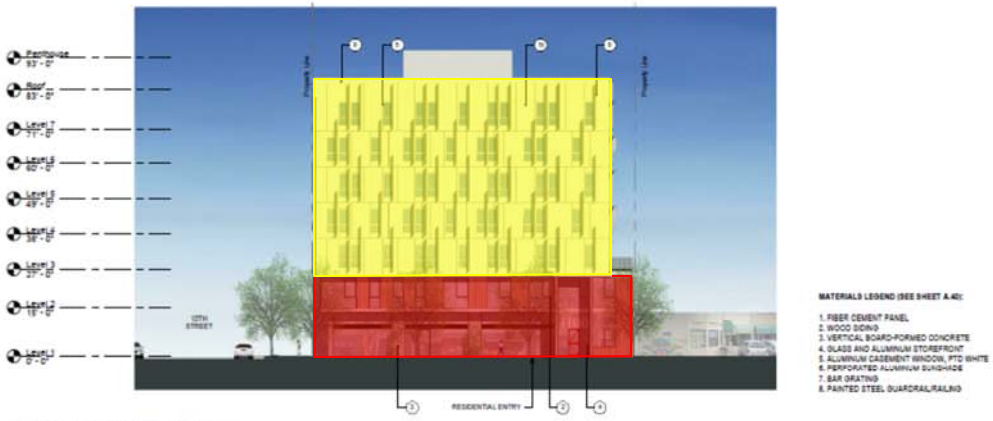


Figure 9 **Recommendations for Noise Insulation – Northwest (Harrison Street) and Southwest Elevations**

Minimum STC 34 windows

Minimum STC 32 windows

Minimum STC 26 windows



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East Bay Asian Local Development Corporation

BUILDING ELEVATIONS
285 12th Street

project number 21808
scale 1/16" = 1'-0" when printed on 22x34
date 8/29/2018

A.21

Figure 10 HUD Figure 19 – 2nd Floor Units

Figure 19
Description of Noise Attenuation Measures
(Acoustical Construction)

Part I

Project Name: 285 12th Street, Living Room/Kitchen of 2-Bedroom Unit at Northwest Corner of Site (Worst-Case Noise Exposure)

Location: Oakland, California

Sponsor/Developer: East Bay Asian Local Development Corporation

Noise Level (From NAG): 70 dBA DNL Attenuation Required: 30 dBA
Primary Noise Source(s): 12th Street and Harrison Street

Part II

1. For wall(s) facing and parallel to the noise source(s) (or closest to parallel:
   a. Description of wall construction*: Wood exterior siding, insulated wood stud, and gypsum board interior
   b. STC rating for wall (rated for no windows or doors): STC 39
   c. Description of windows: Glass and Aluminum Storefront
   d. STC rating for window type: STC 34
   e. Description of doors: NA
   f. STC rating for doors: NA
   g. Percentage of wall (per wall, per dwelling unit) composed of windows: 70% and doors: 0%
   h. Combined STC rating for wall component: 35 dBA

2. For walls perpendicular to noise source(s):
   a. Description of wall construction*: Wood exterior siding, insulated wood stud, and gypsum board interior
   b. STC rating for wall (rated for no windows or doors): STC 39
   c. Description of windows: Glass and Aluminum Storefront
   d. STC rating for window type: STC 34
   e. Description of doors: NA
   f. STC rating for doors: NA
   g. Percentage of wall (per wall, per dwelling unit) composed of windows: 94% and doors: 0%
   h. Combined STC rating for wall component: 34 dBA

3. Roofing component (if overhead attenuation is required to aircraft noise):
   a. Description of roof construction: N/A
   b. STC rating (rated as if no skylights or other openings): N/A
   c. Description of skylights or overhead windows: N/A
   d. STC rating for skylights or overhead windows: N/A
   e. Percentage of roof composed of skylights or windows (per dwelling unit): N/A
   f. Percentage of roof composed of large uncapped openings such as chimneys: N/A
   g. Combined STC rating for roof component: N/A

4. Description of type of mechanical ventilation provided: Satisfactory forced air mechanical ventilation system.

Figure 11 HUD Figure 19 – 3rd Floor Units and Above

Figure 19
Description of Noise Attenuation Measures
(Acoustical Construction)

Part I

Project Name: 285 12th Street, Bedroom of 3-Bedroom Unit at Northwest Corner of Site (Worst-Case Noise Exposure)

Location: Oakland, California

Sponsor/Developer: East Bay Asian Local Development Corporation

Noise Level (From NAG): 70 dBA DNL Attenuation Required: 30 dBA
Primary Noise Source(s): 12th Street and Harrison Street

Part II

1. For wall(s) facing and parallel to the noise source(s) (or closest to parallel:
   a. Description of wall construction*: Fiber cement exterior siding, insulated wood stud, and gypsum board interior
   b. STC rating for wall (rated for no windows or doors): STC 40
   c. Description of windows: Aluminum Window
   d. STC rating for window type: STC 32
   e. Description of doors: NA
   f. STC rating for doors: NA
   g. Percentage of wall (per wall, per dwelling unit) composed of windows: 19% and doors: 0%
   h. Combined STC rating for wall component: 36 dBA

2. For walls perpendicular to noise source(s):
   a. Description of wall construction*: Fiber cement exterior siding, insulated wood stud, and gypsum board interior
   b. STC rating for wall (rated for no windows or doors): STC 40
   c. Description of windows: Aluminum Window
   d. STC rating for window type: STC 32
   e. Description of doors: NA
   f. STC rating for doors: NA
   g. Percentage of wall (per wall, per dwelling unit) composed of windows: 42% and doors: 0%
   h. Combined STC rating for wall component: 34 dBA

3. Roofing component (if overhead attenuation is required to aircraft noise):
   a. Description of roof construction: N/A
   b. STC rating (rated as if no skylights or other openings): N/A
   c. Description of skylights or overhead windows: N/A
   d. STC rating for skylights or overhead windows: N/A
   e. Percentage of roof composed of skylights or windows (per dwelling unit): N/A
   f. Percentage of roof composed of large uncapped openings such as chimneys: N/A
   g. Combined STC rating for roof component: N/A

4. Description of type of mechanical ventilation provided: Satisfactory forced air mechanical ventilation system.

Appendix 1 HUD DNL Calculator

DNL Calculator

WARNING: HUD recommends the use of Microsoft Internet Explorer for performing noise calculations. The HUD Noise Calculator has an error when using Google Chrome unless the cache is cleared before each use of the calculator. HUD is aware of the problem and working to fix it in the programming of the calculator.

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	12th Street, Oakland, CA
Record Date	01/17/2020
User's Name	MST

Road # 1 Name:	**12th Street**

Road #1

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	28	28	28
Distance to Stop Sign	100	100	100
Average Speed	25	25	25
Average Daily Trips (ADT)	16464	252	84
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	61.3069	63.1555	68.8988
Calculate Road #1 DNL	70.524	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○ Yes ◉ No
Combined DNL for all Road and Rail sources	**70.524**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

WARNING: HUD recommends the use of Microsoft Internet Explorer for performing noise calculations. The HUD Noise Calculator has an error when using Google Chrome unless the cache is cleared before each use of the calculator. HUD is aware of the problem and working to fix it in the programming of the calculator.

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	12th Street, Oakland, CA
Record Date	01/17/2020
User's Name	MST

Road # 1 Name:	**Harrison Street**

Road #1

Vehicle Type	Cars	Medium Trucks	Heavy Trucks
Effective Distance	40	40	40
Distance to Stop Sign	80	80	80
Average Speed	25	25	25
Average Daily Trips (ADT)	6762	103	35
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56.1472	57.9748	62.7732
Calculate Road #1 DNL	64.6844	Reset	

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	Yes No
Combined DNL for all Road and Rail sources	**64.6844**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Appendix 2 HUD Noise Barrier Workcharts

Workchart 5
Noise Barrier

To find R, D and h from Site Elevations and Distances

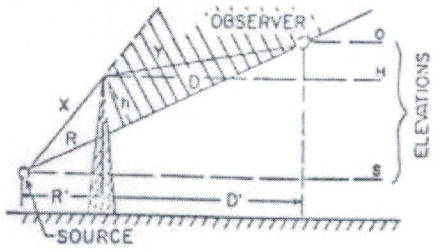
Enter the values for:

H= 83 R'= 83'

S= 3 D'= 33'

Fill out the following worksheet (all quantities are in feet):

O= 20

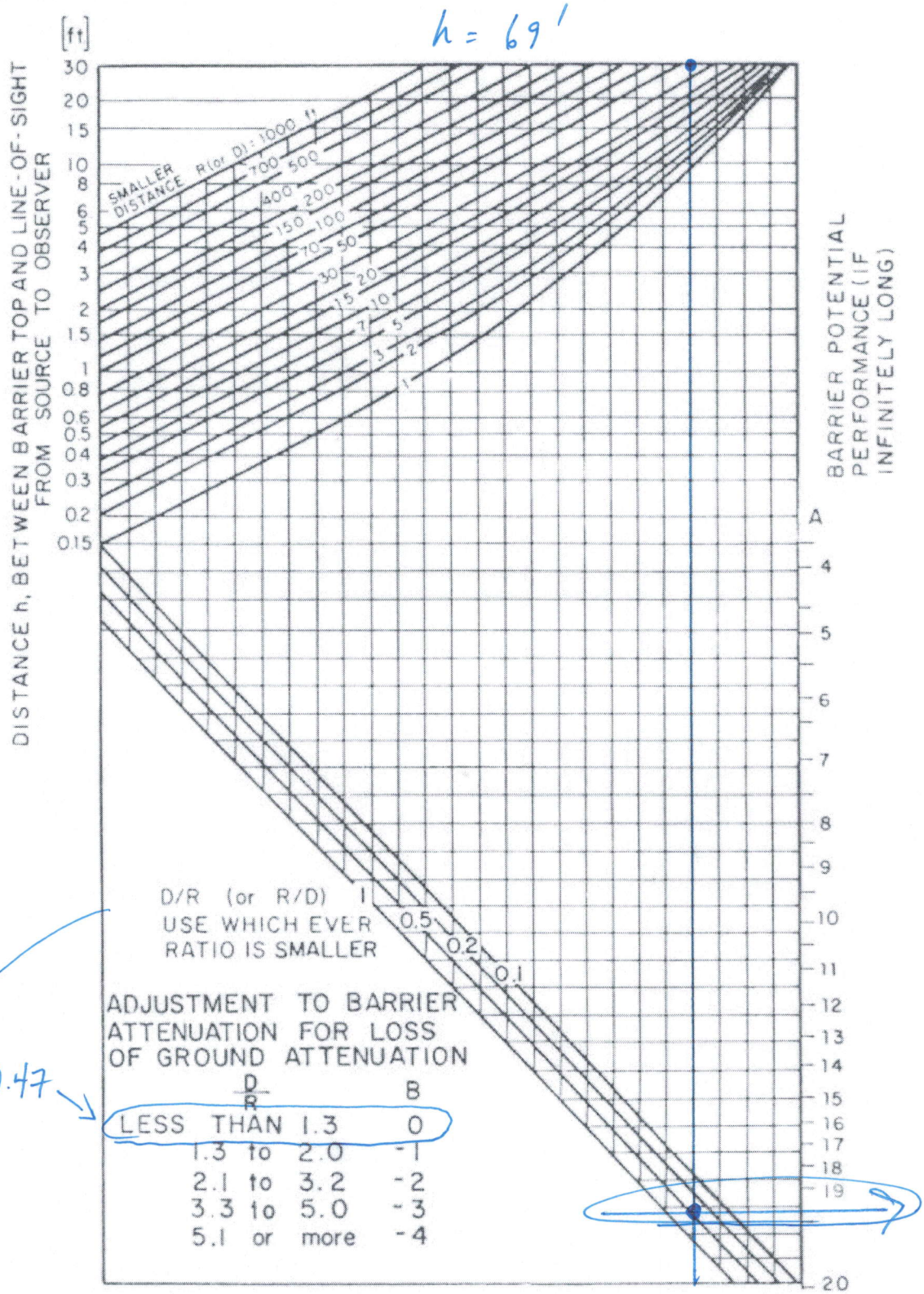


1. Elevation of barrier top minus elevation of source	[H 83]	− [S 3]	= [1 80]	
2. Elevation of observer minus elevation of source	[O 20]	− [S 3]	= [2 17]	
3. Map distance between source and observer (R' + D')			[3 120]	
4. Map distance between barrier and source (R')			[4 72]	
5. Line 2 divided by line 3	[2 17]	÷ [3 120]	= [5 .1417]	
6. Square the quantity on line 5 (i.e., multiply it by itself); always positive	[5 .1417]	× [5 .1417]	= [6 .0201]	
7. 40% of line 6	[0.4]	× [6 .0201]	= [7 .0080]	
8. One minus line 7	[1.0]	− [7 .0080]	= [8 .992]	
9. Line 5 times line 4 (will be negative if line 2 is negative)	[5 .1417]	× [4 72]	= [9 10.2]	
10. Line 1 minus line 9	[1 80]	− [9 10.2]	= [10 69.8]	
11. Line 10 times line 8	[10 69.8]	× [8 .992]	= [11 69.24]	= h
12. Line 5 times line 10	[5 .1417]	× [10 69.8]	= [12 9.89]	
13. Line 4 divided by line 8	[4 72]	÷ [8 .992]	= [13 72.58]	
14. Line 13 plus line 12	[13 72.58]	+ [12 9.89]	= [14 82.47]	= R
15. Line 3 minus line 4	[3 120]	− [4 72]	= [15 48]	
16. Line 15 divided by line 8	[15 48]	÷ [8 .992]	= [16 48.39]	
17. Line 16 minus line 12	[16 48.39]	− [12 9.89]	= [17 38.5]	= D

[**Note:** the value on line 2 may be negative, in which case so will the values on lines 5,9, and 12; line 1 may also be negative. Remember, then, in lines 10, 14, and 17, that adding a negative number is the same as subtracting: $x+(-y)=x-y$. And subtracting a negative number is like adding: $x-(-y)=x+y$.

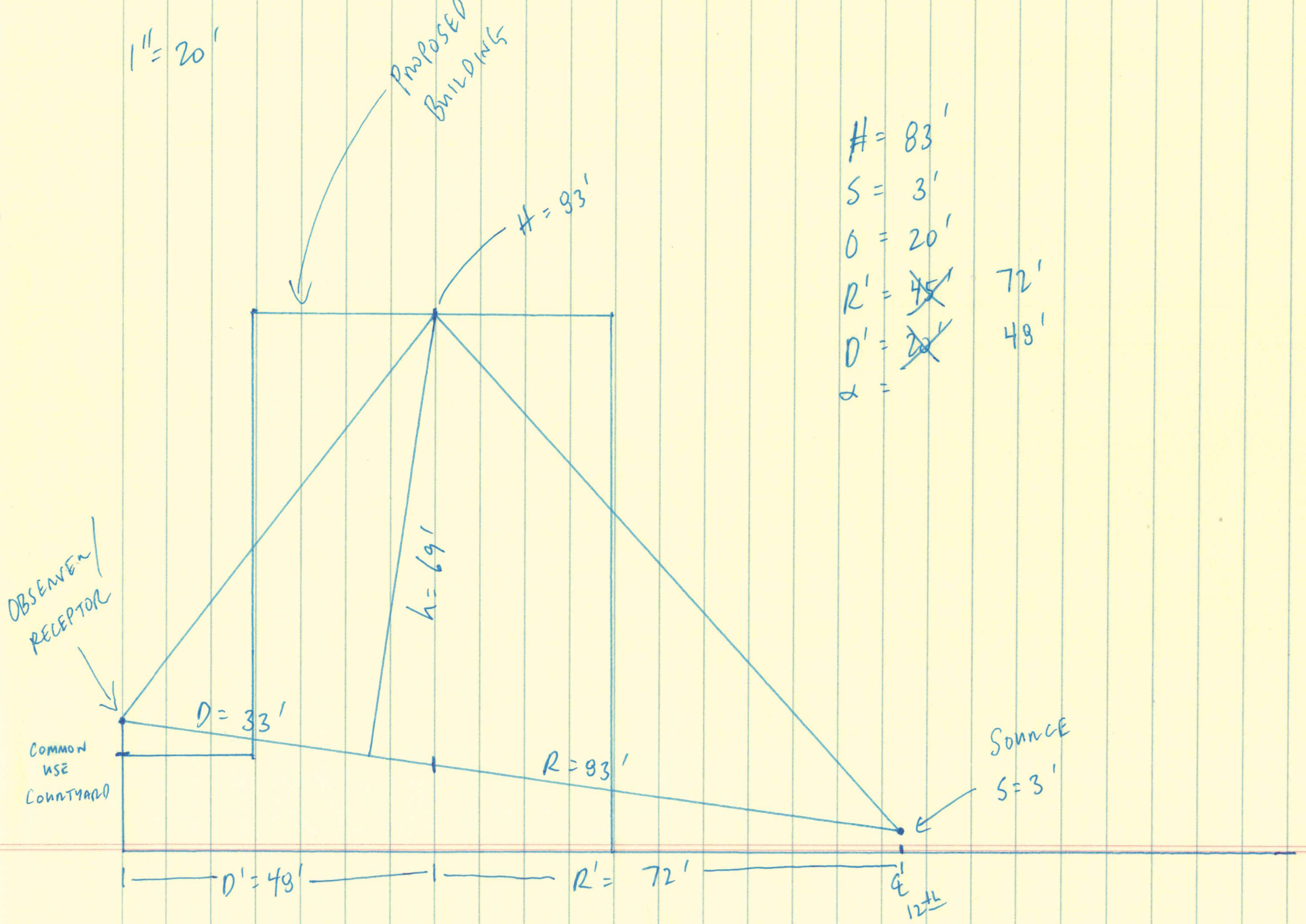
Round off R and D to nearest integer, h to one decimal place.

Workchart 6
Noise Barrier



$\frac{38.5}{82.5} = 0.47$

AT LEAST 19 dB ATTENUATION AT COURTYARD


1" = 20'
PROPOSED BUILDINGS
H = 93'
h = 69'
OBSERVER / RECEPTOR
D = 33'
COMMON USE COURTYARD
R = 93'
SOURCE
S = 3'
D' = 49'
R' = 72'
℄ 12th
H = 83'
S = 3'
O = 20'
R' = ~~45'~~ 72'
D' = ~~20'~~ 49'
α =

FEHR PEERS

MEMORANDUM

Date: July 1, 2016

To: Elizabeth Kanner

From: Bill Burton, Ron Ramos and Priyoti Ahmed

Subject: 12th and Webster Street Residential Project – Transportation Assessment

OK15-0087

This memorandum summarizes the results of the transportation impact analysis completed by Fehr & Peers for the proposed 12th and Webster Street Mixed-Use Project. Fehr & Peers reviewed the proposed project for consistency with the assumptions contained in the Lake Merritt Station Area Plan (LMSAP) Draft EIR for the project site, assessed the project site plan for potential impacts on safety, and evaluated potential project impacts at seven intersections that were not analyzed in the LMSAP Draft EIR. Fehr & Peers also reviewed the project site plan, and recommendations to improve transportation circulation and safety are provided.

INTRODUCTION

The project site is bordered by 12th Street, 11th Street, Webster Street, and Harrison Street in Oakland. The project proposes two buildings, with the first structure being constructed on the full block bounded by 12th Street, 11th Street, Webster Street and Harrison Street and second building being built on a smaller adjacent parcel in the southeast corner of the Harrison Street/12th Street intersection. **Figure 1** illustrates the location of the project within the local and regional street system. The project site is currently occupied by a middle school, parking garage and recreational hardscaped open space.

Figures 2 shows the project's conceptual site plan including the ground floor driveways and parking spaces. Based on site plans, dated December 3rd, 2015, the project proposes to replace the existing middle school, parking garage and recreational hardscaped open space with 26,200 square-feet of retail space and up to 422 multi-family apartment units.

The analysis evaluates the transportation-related impacts of the project during the weekday morning and evening peak hours. This analysis complies with the City of Oakland's *Transportation Impact Study Guidelines*. The following four scenarios are included in the analysis:

- ***Existing*** – Represents existing 2015 conditions
- ***Existing Plus Project*** – Existing conditions plus traffic generated by the project
- ***2040 No Project*** – Future conditions with planned population and employment growth and planned transportation system changes for the year 2040
- ***2040 Plus Project***– 2040 conditions plus traffic generated by the project.

CONSISTENCY WITH LMSAP

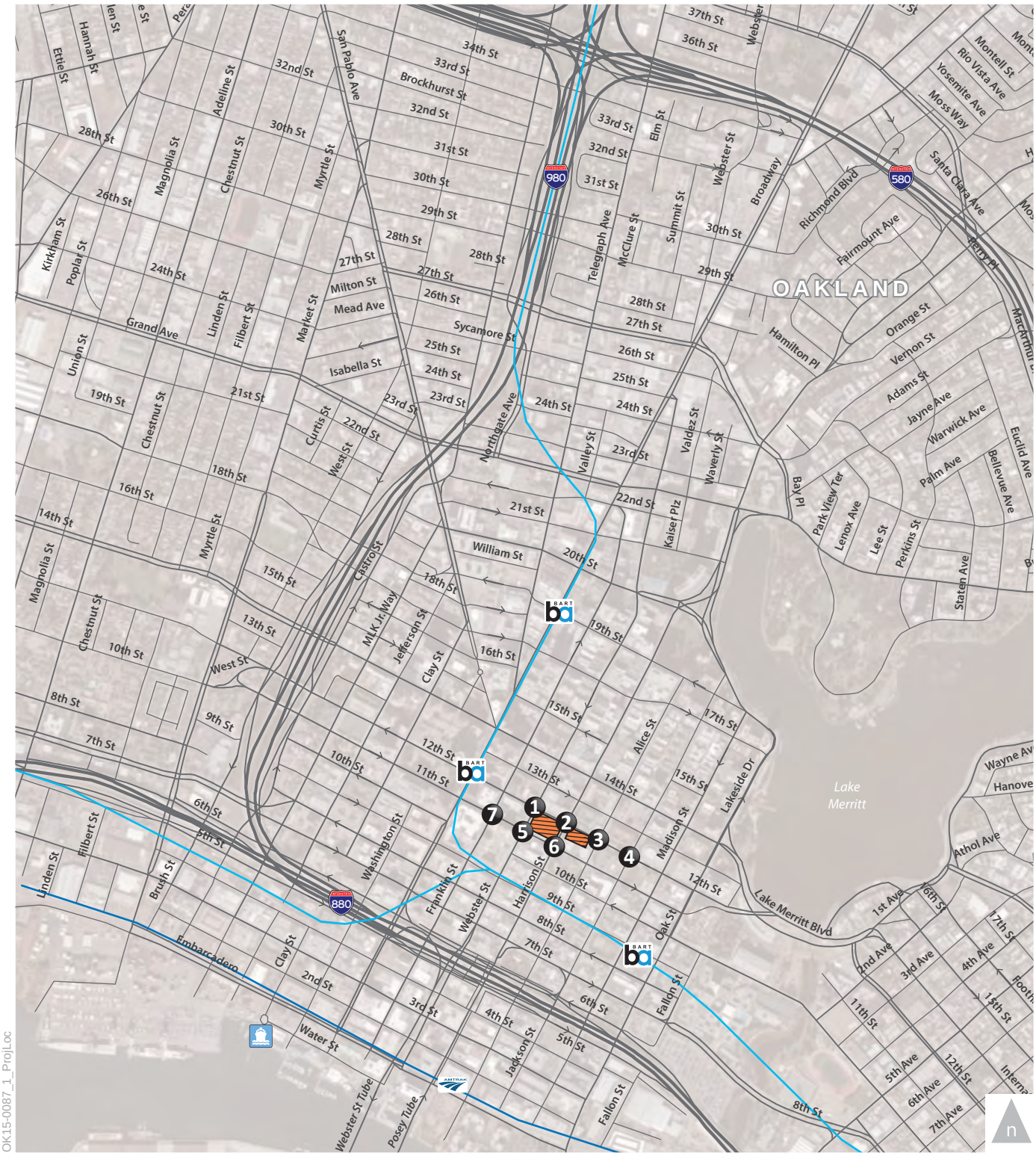
The proposed project site is located within the LMSAP and the LMSAP Draft EIR included development on the project site as part of the project. Since the approval of the LMSAP Draft EIR, the following developments have been proposed and are in some stage of the City's approval process at this time:

- 226 13th Street (Opportunity Site 6): This project is located in the block bordered by 14th Street, 13th Street, Alice Street and Jackson Street. It proposes to replace the existing off-street parking lot with 262 multi-family apartment units and 12,090 square-feet of retail space.
- 14th Street and Alice Street (Opportunity Site 3): This project is located at the northeast corner of 14th and Alice Street in Oakland. The proposed project is a mixed-use development with 174 multi-family apartment units and 3,200 square-feet of retail space.
- Hampton Inn (not included in LMSAP Draft EIR): The project is located at northeast corner of Franklin Street and 11th Street in Oakland. The project proposes to build 114 hotel rooms at this location.
- Lake Merritt Boulevard Apartments (Opportunity Site 44): The project site is located at 1st Avenue and 12th Street in Oakland. The project proposes 298 multi-family dwelling units and 2,000 square-feet of restaurant space.

The total cumulative development contemplated and approved within the LMSAP Draft EIR is substantially larger than that which is currently proposed and under consideration within the Specific Plan Area.

The LMSAP Draft EIR identified the following 29 significant impacts at transportation facilities serving the Plan Area:

- TRAN-1 – Lake Merritt Blvd/11th St, Existing Plus Project, Less than Significant with mitigation
- TRAN-2 – 1st Ave/International Blvd, Existing Plus Project, Significant and Unavoidable
- TRAN-3 – Madison St/10th St, Existing Plus Project, Less than Significant with mitigation
- TRAN-4 – Oak St/10th St, Existing Plus Project, Significant and Unavoidable
- TRAN-5 – Jackson St/7th St, Existing Plus Project, Less than Significant with mitigation
- TRAN-6 – Oak St/6th St, Existing Plus Project, Significant and Unavoidable
- TRAN-7 – Jackson St/5th St, Existing Plus Project, Significant and Unavoidable
- TRAN-8 – I-880 – Oak St to 5th Avenue, Existing Plus Project, Significant and Unavoidable
- TRAN-9 – Brush St/12th St, 2020 Plus Project, Significant and Unavoidable
- TRAN-10 – Jackson St/6th St, 2020 Plus Project, Significant and Unavoidable
- TRAN-11 – Oak St/6th St, 2020 Plus Project, Significant and Unavoidable
- TRAN-12 – Oak St/5th St, 2020 Plus Project, Significant and Unavoidable
- TRAN-13 – Grand Ave/Broadway, 2035 Plus Project, Less than Significant with mitigation
- TRAN-14 – Madison St/14th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-15 – Madison St/11th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-16 – Madison St/10th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-17 – Oak St/10th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-18 – Harrison St/8th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-19 – Jackson St/8th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-20 – Oak St/8th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-21 – Jackson St/7th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-22 – Oak St/7th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-23 – 5th Ave/7th St/8th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-24 – Jackson St/6th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-25 – Oak St/6th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-26 – Oak St/5th St, 2035 Plus Project, Significant and Unavoidable
- TRAN-27 – Oak St – 2nd Street to Embarcadero - 2035 Plus Project, Significant and Unavoidable
- TRAN-28 – Constitution Way/Marina Village Pkwy - Existing Plus Project, Significant and Unavoidable
- TRAN-29 – Constitution Way/Atlantic Ave - Existing Plus Project, Significant and Unavoidable



OK15-0087_1_ProjLoc

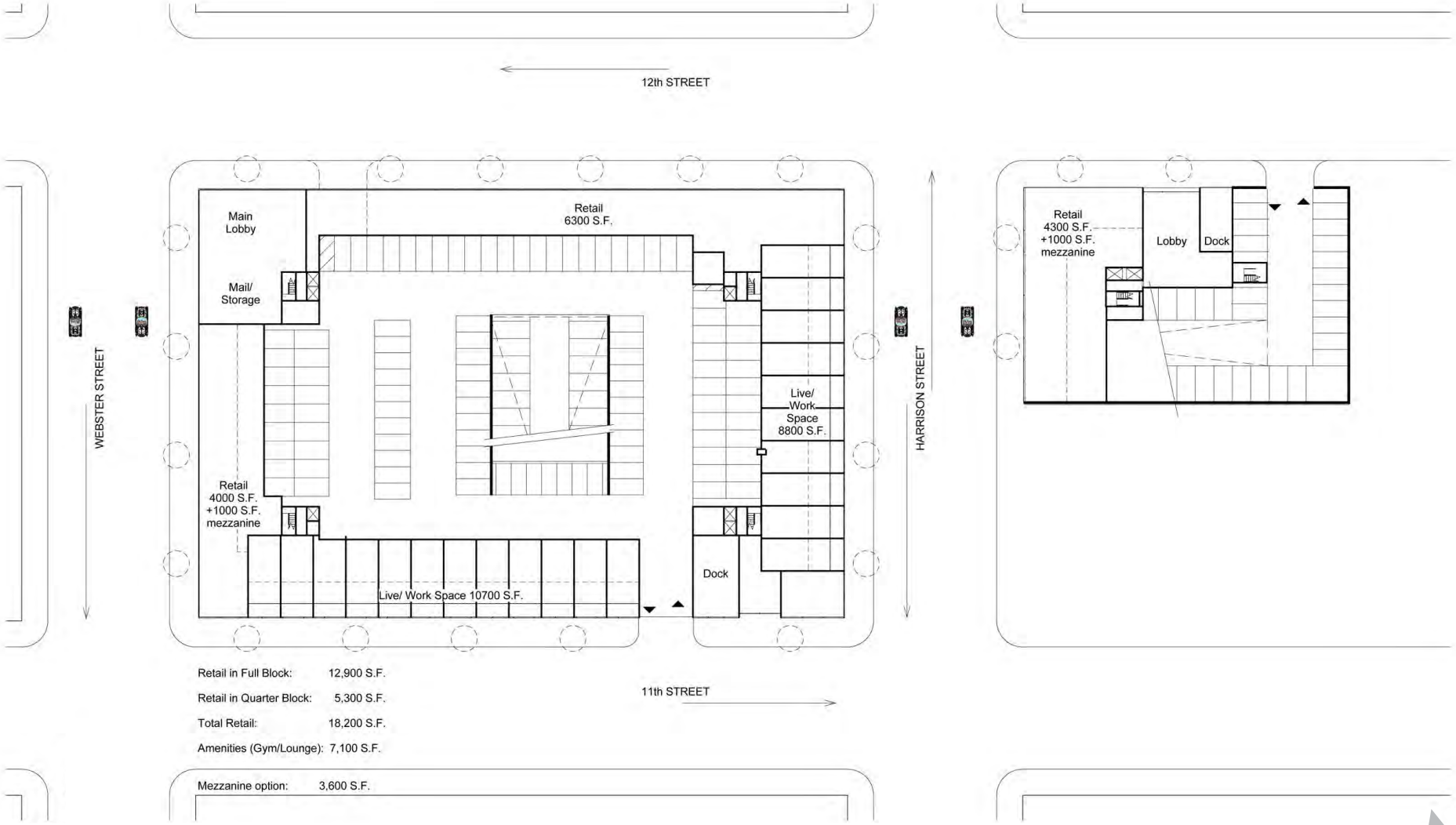
LEGEND

Project Site

Study Intersection

Figure 1

Project Location and Study Intersections



Site Plan Source: FORMA

Figure 2

Conceptual Project Site Plan

The 12th and Webster project would add small amounts of traffic to each of these 29 impacted locations.

EXISTING TRAFFIC CONDITIONS

In addition to evaluating how the proposed project fits into the overall development envelope analyzed in the transportation study for the LMSAP Draft EIR, the transportation study for the proposed project evaluates traffic operations at the following seven intersections in the vicinity of the project site, as shown on Figure 1**:**

1. 12th Street/ Webster Street
2. 12th Street/ Harrison Street
3. 12th Street/ Alice Street
4. 12th Street/ Jackson Street
5. 11th Street/ Webster Street
6. 11th Street/ Harrison Street
7. 11th Street/ Franklin Street

Consistent with City of Oakland guidelines, the study intersections include locations that were not already studied in the LMSAP Draft EIR and where the project could potentially increase traffic volumes by 50 or more peak-hour trips.

Traffic data, consisting of automobile turning movement as well as pedestrian and bicycle counts, was collected from 7:00 AM to 9:00 AM (weekday AM peak hour) and from 4:00 PM to 6:00 PM (weekday PM peak hour) on November 18, 2015. **Appendix A** presents the existing traffic volume counts. For each study intersection, the peak hour (i.e., the hour with the highest traffic volumes observed in the study area) within each peak period was selected for evaluation.

Figure 3 presents existing intersection lane configurations, traffic control devices, and peak hour traffic volumes, and **Figure 4** presents peak hour pedestrian and bicycle volumes at the study intersections.

Based on the volumes and roadway configurations presented in Figure 3, Fehr & Peers calculated the Level of Service (LOS)[1] at the study intersections using the 2010 *Highway Capacity Manual*

[1] The operations of roadway facilities are typically described with the term level of service (LOS), a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, which reflects free-flow conditions where there is very little interaction between vehicles, to LOS F, where the vehicle demand exceeds the capacity and high levels of vehicle delay result. LOS E represents "at-capacity" operations.

(HCM) methodologies. The City of Oakland considers LOS E as the threshold of significance for signalized intersections located within Downtown area or that provide direct access to Downtown[2], and LOS D for all other signalized intersections. All seven study intersections signalized and located in Downtown Oakland where the threshold of significance is LOS E.

Study intersections currently operate at LOS B or better during weekday AM and PM peak hours. **Table 1** summarizes the existing intersection analysis results. **Appendix B** provides the detailed LOS calculation sheets.

TABLE 1: EXISTING INTERSECTION LEVELS OF SERVICE SUMMARY

Intersection	Control[1]	Peak Hour	Delay (seconds)	LOS
1. 12th Street/ Webster Street	Signal	AM	10.1	B
		PM	11.9	B
2. 12th Street/ Harrison Street	Signal	AM	10.1	B
		PM	9.7	A
3. 12th Street/ Alice Street	Signal	AM	13.1	B
		PM	12.4	B
4. 12th/ Harrison Street	Signal	AM	10.6	B
		PM	10.5	B
5. 11th Street/ Webster Street	Signal	AM	15.2	B
		PM	14.0	B
6. 11th Street/ Harrison Street	Signal	AM	17.1	B
		PM	17.3	B
7. 11th Street/ Franklin Street	Signal	AM	12.9	B
		PM	13.8	B

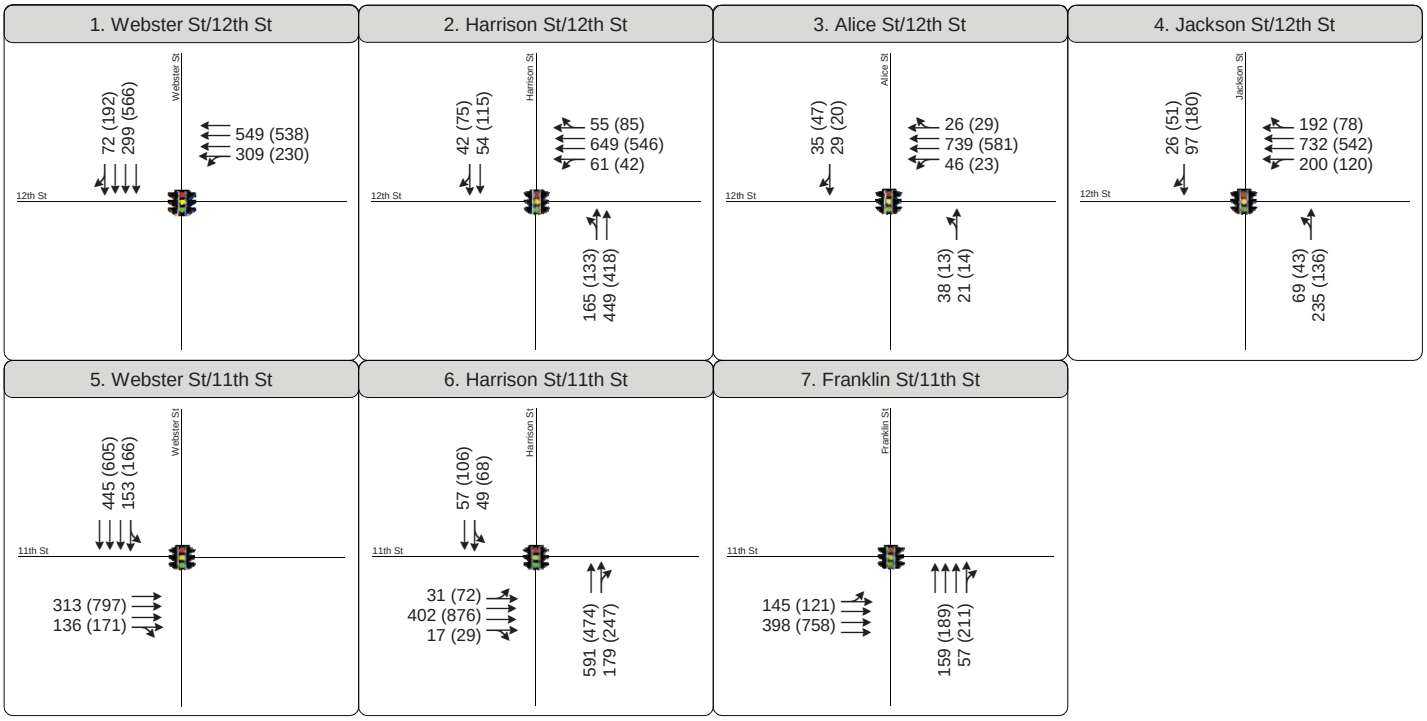
1. Signal = intersection is controlled by a traffic signal
2. For signalized intersections, average intersection delay and LOS based on the 2010 HCM method is shown.

Source: Fehr & Peers, 2016

When traffic volumes exceed the intersection capacity, stop-and-go conditions result and a vehicle may wait through multiple signal cycles before passing through the intersection; these operations are designated as LOS F.

[2] Intersections that provide direct access to downtown are generally defined as principal arterials within two miles of Downtown and minor arterials within one mile of Downtown, provided that the street connects directly to Downtown.

OK15-0087_3_ExVol



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Signalized Intersection

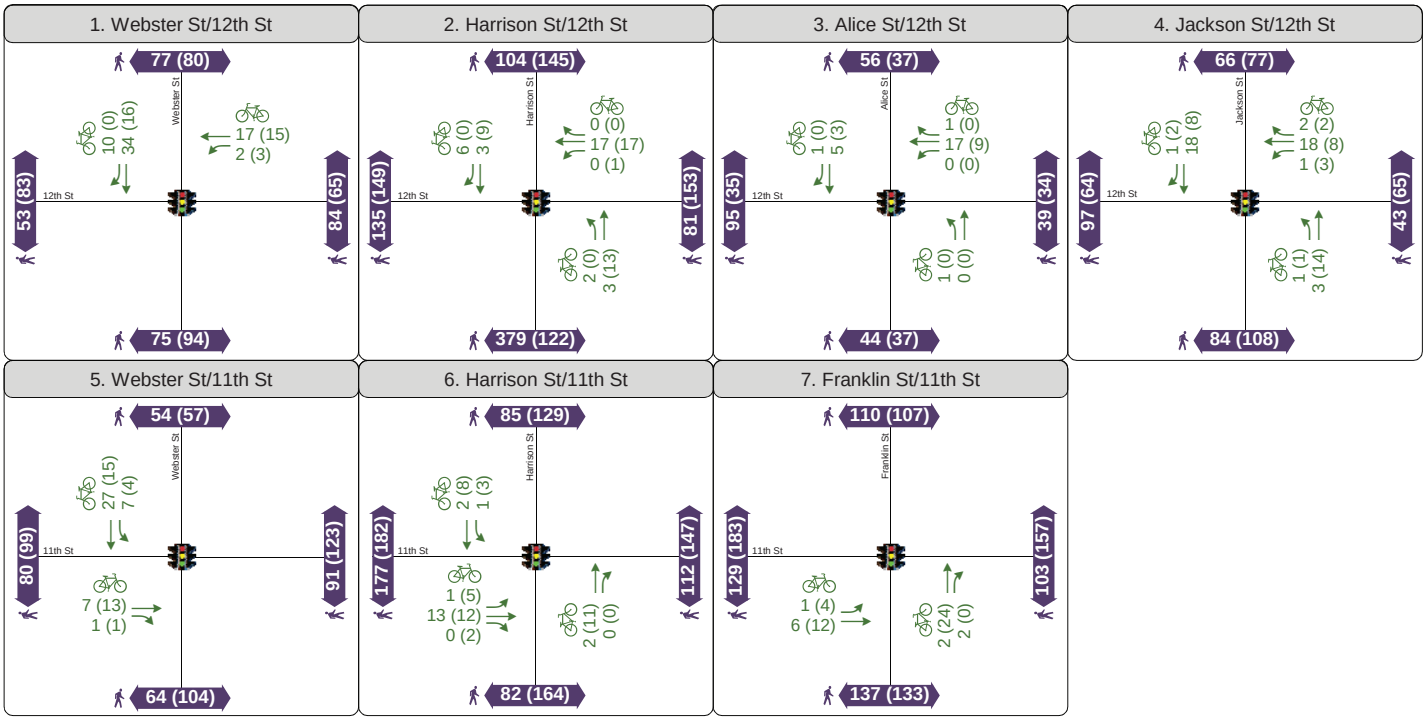
Project Site

Study Intersection

Figure 3

Existing
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

OK15-0087_4_ExPedBikeVol



LEGEND

- x (y) — AM (PM) Peak Hour Pedestrian Volumes
- x (y) — AM (PM) Peak Hour Bicycle Volumes
- Signalized Intersection
- Project Site
- # — Study Intersection

Figure 4

Existing Peak Hour Pedestrian and Bicycle Volumes

TRIP GENERATION

Vehicular Trip Generation

Trip generation is the process of estimating the number of vehicles that would likely access the project. Current accepted methodologies, such as the Institute of Transportation Engineers (ITE) *Trip Generation* methodology, are primarily based on data collected at single-use suburban sites. These defining characteristics limit their applicability to developments, such as the proposed project, which is in a walkable dense urban setting near frequent local and regional transit service. Fehr & Peers adjusted the ITE-based estimates to account for the project's setting and proximity to frequent transit service, in accordance with City guidelines. Since the proposed project is about 0.2 mile from the 12th Street BART Station, this analysis reduces the ITE based trip generation by 55 percent to account for the non-automobile trips. This reduction is consistent with the 2011 American Community Survey which shows that 55 percent of Downtown City of Oakland residents travel to work by non-automobile modes.

Table 2 summarizes the trip generation for the project. The project would generate approximately 1,496 daily, 17 AM peak hour, and 120 PM peak hour trips.

TABLE 2: VEHICLE TRIP GENERATION SUMMARY – PROPOSED PROJECT

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential	422 DU	220[2]	2,806	43	172	215	170	92	262
Retail	26.2 KSF	820[3]	1,119	16	10	25	47	50	97
Middle School	370 Students	522[4]	(600)	(110)	(90)	(200)	(29)	(30)	(59)
	Pass-by Reduction 34% Retail Use[5]			0	0	0	(16)	(17)	(33)
Subtotal			3,325	(51)	91	39	171	95	267
Non-Auto Reduction (-55%)[7]			1,829	(28)	50	22	94	52	147
Adjusted Project Trips			**1,496**	**(23)**	**41**	**17**	**76**	**44**	**120**

1. DU = Dwelling Units, KSF = 1,000 square feet.
2. ITE Trip Generation (9th Edition) land use category 220 (Apartment):
   Daily: 6.65
   AM Peak Hour: 0.51 (20% in, 80% out)
   PM Peak Hour: 0.62 (65% in, 35% out)
3. ITE Trip Generation (9th Edition) land use category 820 (Shopping Center):
   Daily: 42.70
   AM Peak Hour: 0.96 (62% in, 38% out)
   PM Peak Hour: 3.71 (48% in, 52% out)
4. Existing land use to be removed by project.
   ITE Trip Generation (9th Edition) land use category 522 (Middle School/Junior High School):
   Daily: 1.62
   AM Peak Hour: 0.54 (55% in, 45% out)
   PM Peak Hour: 0.16 (49% in, 51% out)
5. PM peak hour pass-by rates based on ITE *Trip Generation Handbook* (3rd Edition). The weekday PM peak hour average pass-by rates for land use category 932 is 43% and for land use category 820 is 34%. A 43% and 34% pass-by rate is applied to the restaurant and the retail component respectively. Pass-by rates are not applied to the AM peak hour.
6. Reduction of 55.0% assumed based on 2011 American Community Survey in Downtown Oakland.

Source: Fehr & Peers, 2016.

In addition, the project trip generation presented in Table 2 does not account for the following in order to present a reasonable "worst case" scenario:

- ***Existing Trips*** - The project would eliminate the existing middle school, parking garage and recreational hardscape open space. The trip generation nets out (i.e. subtracts) the existing trips generated by the middle school. However, the trip generation estimates conservatively do not net out any the existing trips generated by the surface parking lot (that portion of the lot not used by the middle school). Although the removal of the parking spaces may eliminate some of the existing automobile trips, other off-street parking facilities in the vicinity likely provide adequate spaces to accommodate most of the motorists that currently park at the project site. Thus, many of these motorists would likely

continue to travel to and from the project area via automobile after the completion of the project.

Non-Vehicular Trip Generation

Consistent with the City of Oakland's Transportation Impact Analysis Guidelines and information from the 2011 American Community Survey of Downtown Oakland, **Table 3** presents the estimates of project trip generation for all travel modes.

TABLE 3: TRIP GENERATION BY TRAVEL MODE

Mode	Mode Share Adjustment Factors[1]	Daily	Weekday AM Peak Hour	Weekday PM Peak Hour
Automobile	45.0%	1,496	18	120
Transit	36.8%	1,222	14	98
Bike	4.7%	157	2	13
Walk	27.8%	925	11	74
Total Trips		**3,800**	**45**	**305**

1. Based on the City of Oakland's Transportation Impact Analysis Guidelines and the *2011 American Community Survey of Downtown Oakland* on *City of Oakland*.

Source: Fehr & Peers, 2016.

The traffic analysis which follows is based on a previous, larger version of proposed project which was originally proposed. In its original form, the project was to develop 510 dwelling units, 14,700 square feet of retail space, 2,000 square feet of café space and 1,500 square feet of restaurant space. The project was later downsized to its current proposal. **Table 4** presents the vehicular trip generation characteristics of previously proposed project. As presented in Table 4, the prior proposal would result in additional trips being generated on a daily, AM peak hour and PM peak hour basis. As the traffic analysis is based on a more intensive, higher generating set of land uses, it can be considered conservative with respect to its evaluation of transportation impacts.

TABLE 4: VEHICLE TRIP GENERATION SUMMARY – PREVIOUSLY PROPOSED PROJECT

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential	510 DU	220[2]	3,391	52	208	260	205	111	316
Retail	14.7 KSF	820[3]	628	9	5	14	26	29	55
Cafe	2.0 KSF	932[4]	254	12	10	22	12	8	20
Restaurant	1.5 KSF	932[4]	191	9	7	16	9	6	15
Middle School	370 Students	522[5]	(600)	(110)	(90)	(200)	(29)	(30)	(59)
	Pass-by Reduction 43% Restaurant[6]		0	0	0	0	(9)	(6)	(15)
	Pass-by Reduction 34% Retail Use[6]		0	0	0	0	(9)	(10)	(19)
Subtotal			3,864	(28)	140	112	206	107	313
Non-Auto Reduction (-55%)[7]			2,215	(15)	77	62	113	59	172
Adjusted Project Trips			**1,739**	**(13)**	**63**	**50**	**92**	**49**	**141**

1. DU = Dwelling Units, KSF = 1,000 square feet.
2. ITE Trip Generation (9th Edition) land use category 220 (Apartment):
   Daily: 6.65
   AM Peak Hour: 0.51 (20% in, 80% out)
   PM Peak Hour: 0.62 (65% in, 35% out)
3. ITE Trip Generation (9th Edition) land use category 820 (Shopping Center):
   Daily: 42.70
   AM Peak Hour: 0.96 (62% in, 38% out)
   PM Peak Hour: 3.71 (48% in, 52% out)
4. ITE Trip Generation (9th Edition) land use category 932 (High Turnover Sit Down Restaurant):
   Daily: 127.15
   AM Peak Hour: 10.81 (55% in, 45% out)
   PM Peak Hour: 9.85 (60% in, 40% out)
5. Existing land use to be removed by project.
   ITE Trip Generation (9th Edition) land use category 522 (Middle School/Junior High School):
   Daily: 1.62
   AM Peak Hour: 0.54 (55% in, 45% out)
   PM Peak Hour: 0.16 (49% in, 51% out)
6. PM peak hour pass-by rates based on ITE *Trip Generation Handbook* (3rd Edition). The weekday PM peak hour average pass-by rates for land use category 932 is 43% and for land use category 820 is 34%. A 43% and 34% pass-by rate is applied to the restaurant and the retail component respectively. Pass-by rates are not applied to the AM peak hour.
7. Reduction of 55.0% assumed based on 2011 American Community Survey in Downtown Oakland.

Source: Fehr & Peers, 2016.

Since the traffic analysis was complete, a newly proposed project would include only 416 residential units and approximately 25,050 square feet of commercial space. As shown in **Table 5** below, the further downsized project proposal would result in fewer trips than the previous, larger version of

the project and the basis for this analysis. As such, the previous, larger version of the project still can be considered conservative with respect to its evaluation of transportation impacts.

TABLE 5: VEHICLE TRIP GENERATION SUMMARY – PROPOSED PROJECT

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential	416 DU	220[2]	2,766	42	170	212	168	90	258
Retail	25.05 KSF	820[3]	1,070	15	9	24	45	48	93
Middle School	370 Students	522[4]	(600)	(110)	(90)	(200)	(29)	(30)	(59)
	Pass-by Reduction 34% Retail Use[5]			0	0	0	(15)	(16)	(31)
Subtotal			3,236	(53)	89	36	169	92	261
Non-Auto Reduction (-55%)[7]			(1,780)	(29)	49	20	93	51	144
Adjusted Project Trips			**1,456**	**(24)**	**40**	**16**	**76**	**41**	**117**

1. DU = Dwelling Units, KSF = 1,000 square feet.
2. ITE Trip Generation (9th Edition) land use category 220 (Apartment):
   Daily: 6.65
   AM Peak Hour: 0.51 (20% in, 80% out)
   PM Peak Hour: 0.62 (65% in, 35% out)
3. ITE Trip Generation (9th Edition) land use category 820 (Shopping Center):
   Daily: 42.70
   AM Peak Hour: 0.96 (62% in, 38% out)
   PM Peak Hour: 3.71 (48% in, 52% out)
4. Existing land use to be removed by project.
   ITE Trip Generation (9th Edition) land use category 522 (Middle School/Junior High School):
   Daily: 1.62
   AM Peak Hour: 0.54 (55% in, 45% out)
   PM Peak Hour: 0.16 (49% in, 51% out)
5. PM peak hour pass-by rates based on ITE *Trip Generation Handbook* (3rd Edition). The weekday PM peak hour average pass-by rates for land use category 932 is 43% and for land use category 820 is 34%. A 43% and 34% pass-by rate is applied to the restaurant and the retail component respectively. Pass-by rates are not applied to the AM peak hour.
6. Reduction of 55.0% assumed based on 2011 American Community Survey in Downtown Oakland.

Source: Fehr & Peers, 2016.

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution and assignment process is used to estimate how the trips generated by a project site would be distributed across the roadway network. Based on the trip distribution and assignment assumptions provided in the Lake Merritt Station Area Plan DEIR, locations of complementary land uses, and the one-way street network and turn restrictions in Downtown Oakland, the directions of approach to and departure from the project site were determined. **Figure 5** shows the resulting trip distribution.

Trips generated by the proposed project, as shown in Table 2, were assigned to the roadway network according to the trip distribution shown on Figure 4. **Figure 6** shows the project trip assignment for the weekday AM and PM peak hours at the study intersections.

INTERSECTION ANALYSIS

This section discusses the impacts of the proposed project on traffic operations under Existing and 2040 conditions based on the City of Oakland's Transportation Impact Study Guidelines.

Existing Plus Project Intersection Analysis

Figure 7 shows traffic volumes under Existing Plus Project conditions, which consists of Existing traffic volumes (shown on Figure 3) plus added traffic volumes generated by the project (shown on Figure 5).

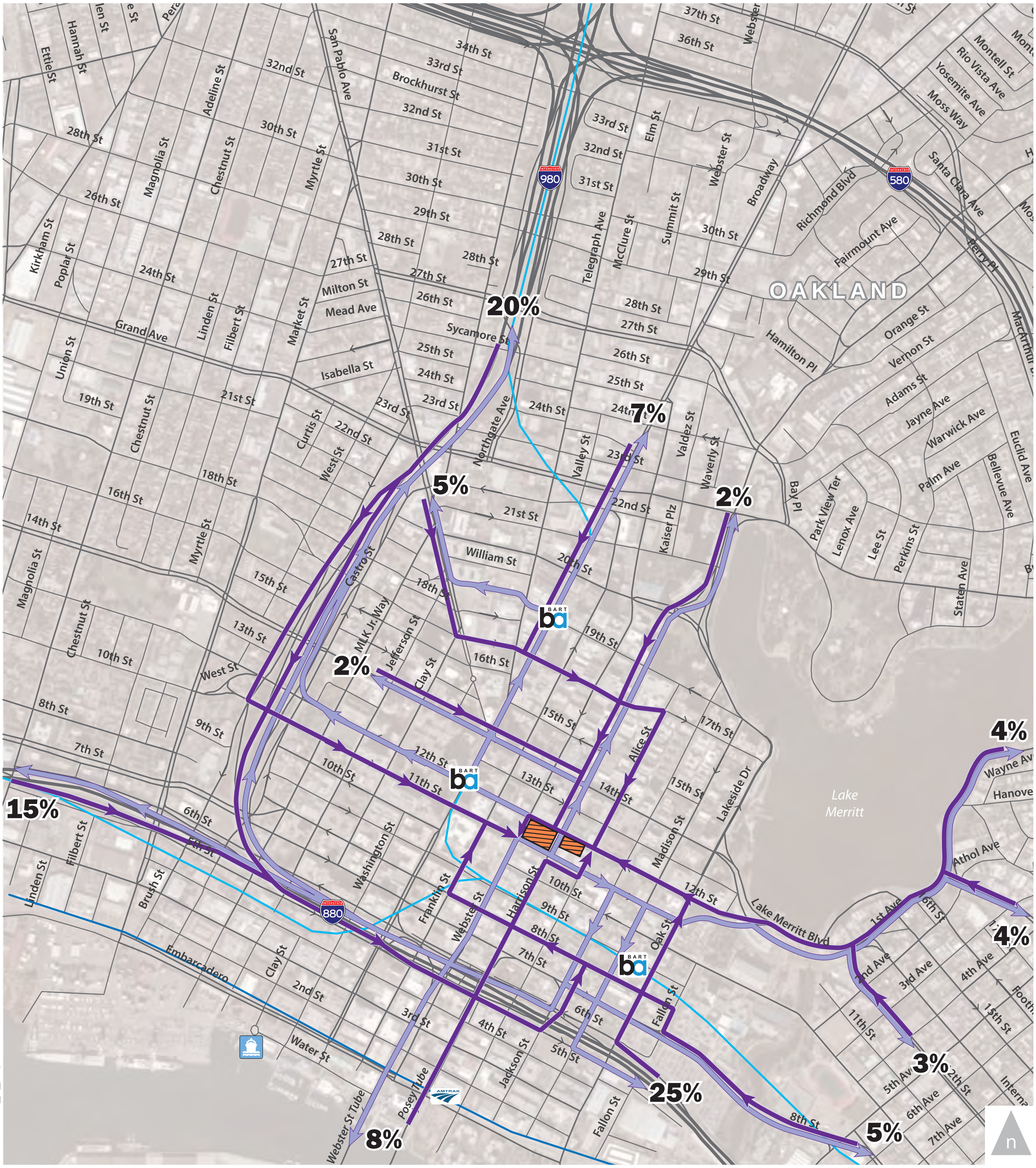
Table 6 summarizes the intersection operations results for the Existing No Project and Existing Plus Project conditions. All study intersections would continue to operate at an acceptable LOS. The proposed project would not cause a significant impact at the study intersections under Existing Plus Project conditions.

TABLE 6: EXISTING NO PROJECT AND EXISITNG PLUS PROJECT INTERSECTION LEVELS OF SERVICE SUMMARY

Intersection	Control	Peak Hour	Existing No Project		Existing Plus Project		Significant Impact
			Delay	LOS	Delay	LOS	
1. 12th Street/ Webster Street	Signal	AM	10.1	B	10.0	A	No
		PM	11.9	B	11.8	B	No
2. 12th Street/ Harrison Street	Signal	AM	10.1	B	9.2	A	No
		PM	9.7	A	9.0	A	No
3. 12th Street/ Alice Street	Signal	AM	13.1	B	13.0	B	No
		PM	12.4	B	12.6	B	No
4. 12th Street and Jackson Street	Signal	AM	10.6	B	10.5	B	No
		PM	10.5	B	10.9	B	No
5. 11th Street and Webster Street	Signal	AM	15.2	B	15,1	B	No
		PM	14.0	B	18.1	B	No
6. 11th Street and Harrison Street	Signal	AM	17.1	B	17.2	B	No
		PM	17.3	B	17.3	B	No
7. 11th Street and Franklin Street	Signal	AM	12.9	B	12.4	B	No
		PM	13.9	B	13.4	B	No

Notes:
1. Signal = intersection is controlled by a traffic signal
2. For signalized intersections, average intersection delay and LOS based on the 2010 HCM method is shown.

Source: Fehr & Peers, 2016



OK15-0087_5_TripDistro

LEGEND

Inbound Routes

Outbound Routes

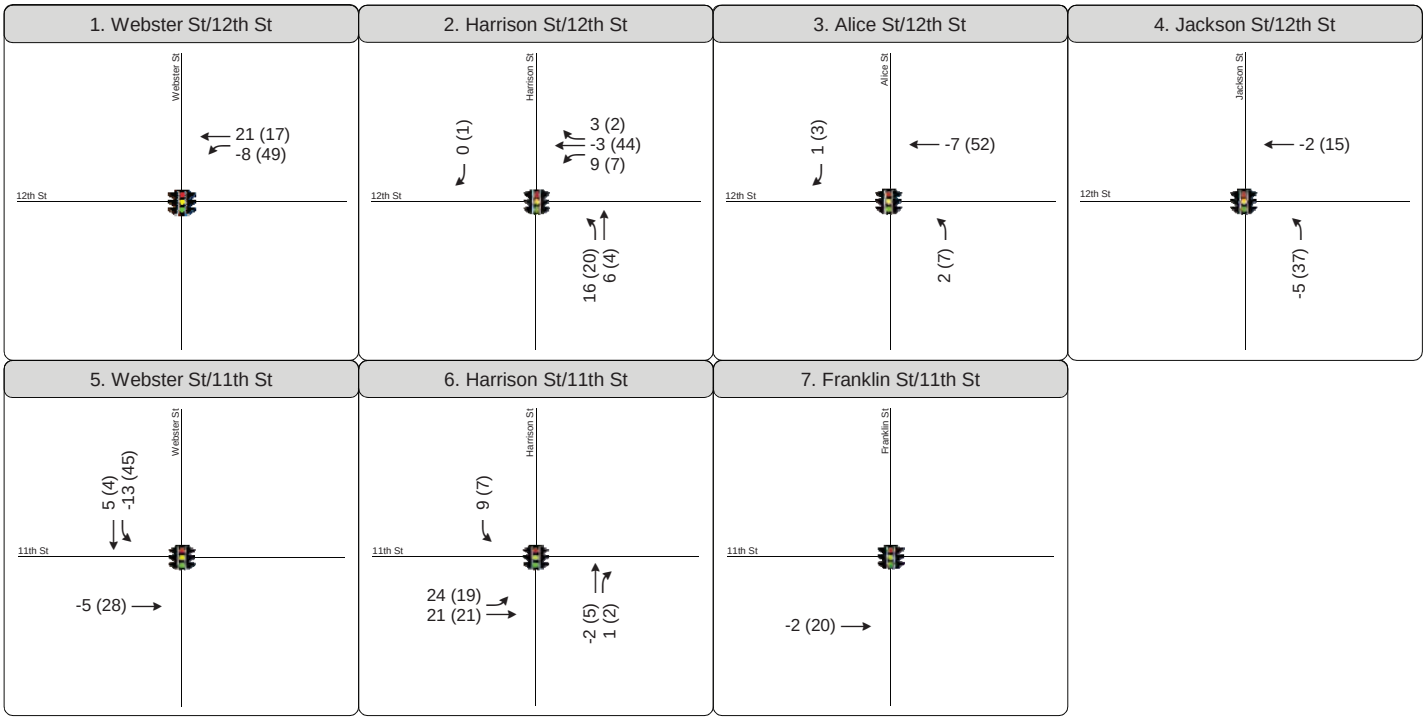
XX% Trip Distribution

Project Site

Figure 5

Project Trip Distribution

OK15-0087_6_PTA



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Signalized Intersection

Project Site

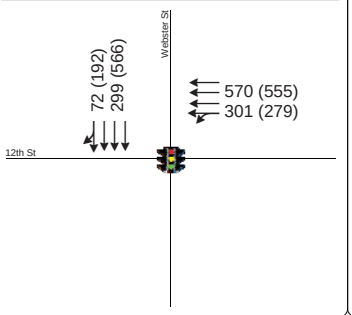
Study Intersection

Figure 6

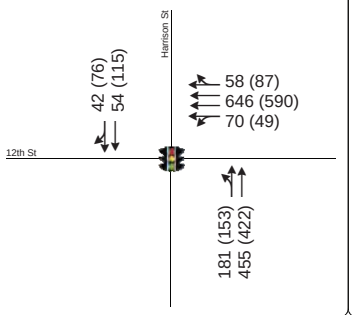
Project Trip Assignment

OK15-0087_7_Ex+ProjVol

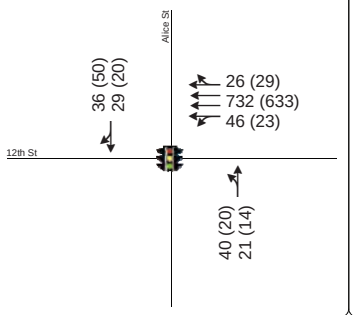
1. Webster St/12th St



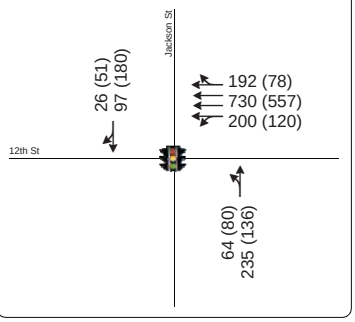
2. Harrison St/12th St



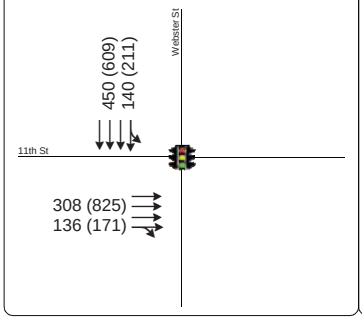
3. Alice St/12th St



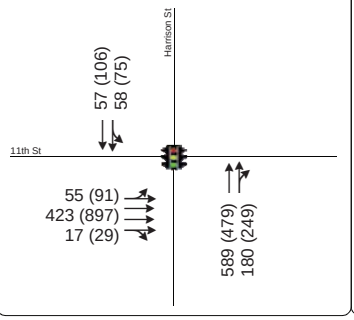
4. Jackson St/12th St



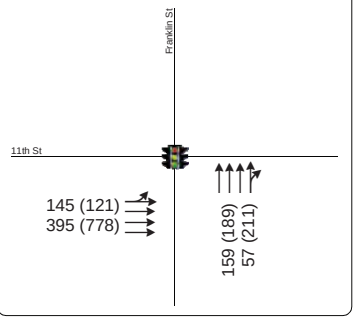
5. Webster St/11th St



6. Harrison St/11th St



7. Franklin St/11th St



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Signalized Intersection

Project Site

Study Intersection

Figure 7

Existing Plus Project
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

2040 Intersection Analysis

Year 2040 traffic volumes for the study intersections are based on information from the most recent Alameda County Transportation Commission's (ACTC) Travel Demand Model (updated June 2015). **Figure 8** shows the traffic volumes for the 2040 No Project and **Figure 9** 2040 Plus Project scenarios.

The 2040 No Project and the 2040 Plus Project conditions also reflect modifications that would be made by the East Bay Rapid Transit Project which will modify the lane configurations of 12th Street and 11th Street. The implementation of this project would convert one of the through lanes to a bus only lane and restrict vehicle movements to right turns.

Table 7 summarizes the intersection LOS calculations for 2040 No Project and 2040 Plus Project conditions. All study intersections would continue to operate at an acceptable LOS. The proposed project would not cause a significant adverse impact at the study intersections under 2040 Plus Project conditions.

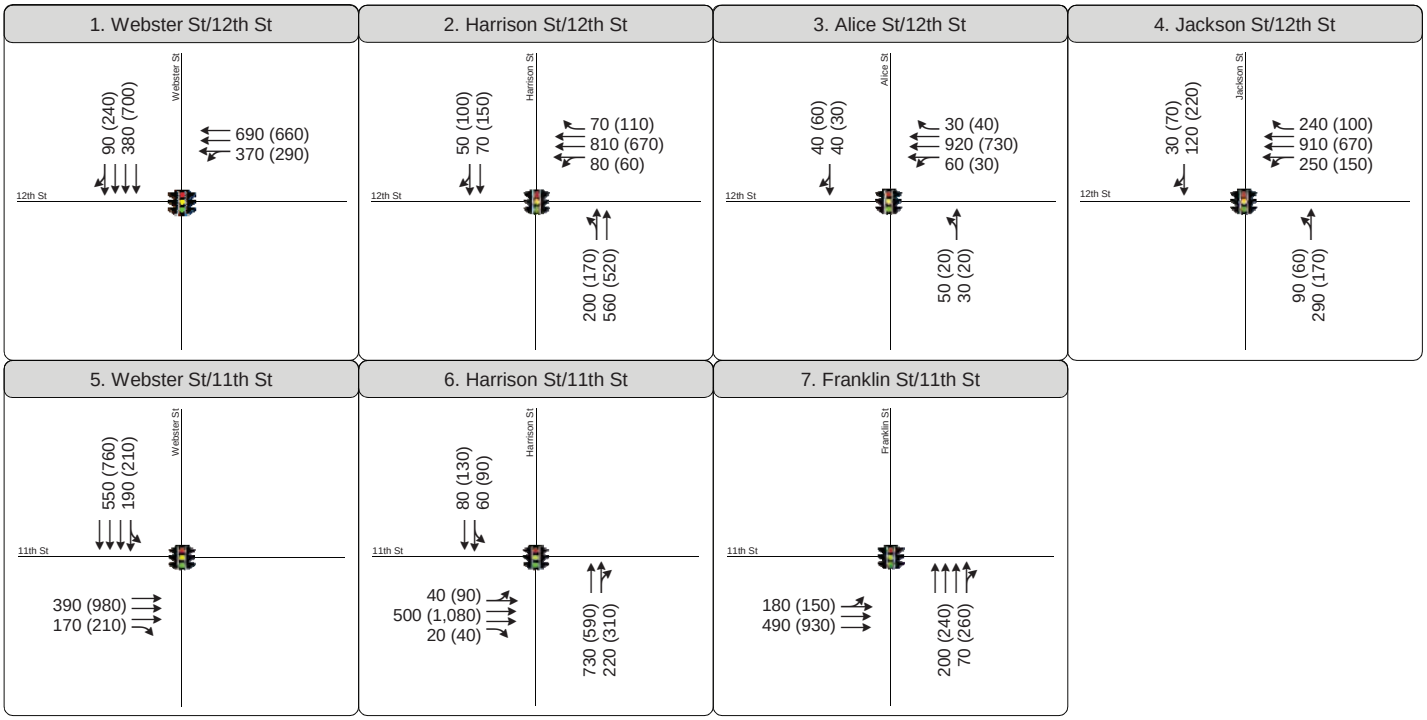
TABLE 7: 2040 NO PROJECT AND 2040 PLUS PROJECT INTERSECTION LEVELS OF SERVICE SUMMARY

Intersection	Control	Peak Hour	2040 No Project		2040 Plus Project		Significant Impact
			Delay	LOS	Delay	LOS	
1. 12th Street/ Webster Street	Signal	AM PM	11.1 13.1	B B	11.0 13.0	B B	No No
2. 12th Street/ Harrison Street	Signal	AM PM	11.4 10.9	B B	10.1 9.7	B A	No No
3. 12th Street/ Alice Street	Signal	AM PM	14.6 13.5	B B	14.5 13.8	B B	No No
4. 12th Street and Jackson Street	Signal	AM PM	11.7 11.4	B B	11.5 12.0	B B	No No
5. 11th Street and Webster Street	Signal	AM PM	15.6 14.9	B B	15,4 19.2	B B	No No
6. 11th Street and Harrison	Signal	AM PM	20.0 21.6	B C	20.2 20.7	C C	No No
7. 11th Street and Franklin Street	Signal	AM PM	14.1 16.6	B B	13.5 15.8	B B	No No

Notes:
1. Signal = intersection is controlled by a traffic signal
2. For signalized intersections, average intersection delay and LOS based on the 2010 HCM method is shown.

Source: Fehr & Peers, 2016

OK15-0087_8_CumuVol



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Signalized Intersection

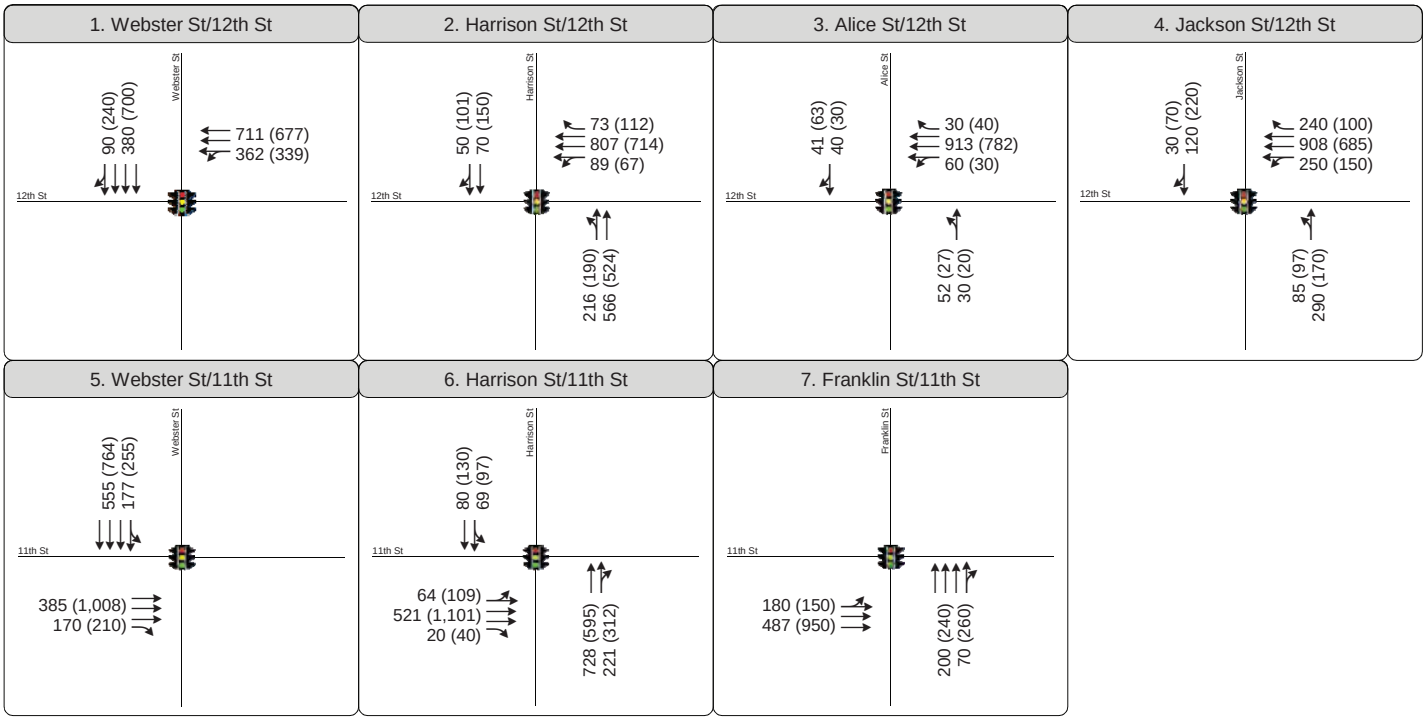
Project Site

Study Intersection

Figure 8

Cumulative Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

OK15-0087_9_Cumu+ProjVol



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Signalized Intersection

Project Site

Study Intersection

Figure 9

Cumulative Plus Project
Peak Hour Traffic Volumes, Lane Configurations and Traffic Control

VEHICLE, BICYCLE, AND PEDESTRIAN ACCESS

This section evaluates access and circulation of all travel modes within the proposed site, based on the site plans dated December 3, 2015.

Vehicle Access and On-Site Circulation

The project proposes two buildings, with the first structure being constructed on the full block bounded by 12th Street, 11th Street, Webster Street and Harrison Street and second building being built on a smaller adjacent parcel in the southeast corner of the Harrison Street/12th Street intersection. Automobile access to the larger parcel would be provided via a full access driveway on 11th Street, about 200 feet east of Webster Street. The smaller parcel would be accessed via a driveway located on 12th street, about 50 feet east of Harrison Street. A total of 324 parking spaces would be provided on the two parcels.

The internal aisles within the garage, as shown on the site plan, would be 22 feet wide, meeting the City of Oakland's minimum required width of 21 feet (17.116.210). The 22-foot driveway meets the minimum required width of 12 feet for commercial zones (12.04.270).

Recommendation 1: While not required to address a CEQA impact, the following should be monitored as part of the final design for the project:

- Ensure that the project driveway would provide adequate sight distance between motorists exiting the driveway and pedestrians on the adjacent sidewalks. This may require redesigning and/or widening the driveway. If adequate sight distance cannot be provided, provide audio/visual warning devices at the driveway.

Bicycle Access and On-Site Circulation

The proposed project would provide 255 bicycle parking spaces on the ground floor. Long-term bicycle spaces would be provided within the parking garage. Short-term bicycle parking spaces would be provided in accordance with City Code requirements.

Pedestrian Access and On-Site Circulation

The project would provide adequate pedestrian facilities throughout the site. For the larger parcel, the primary pedestrian access would be through the main lobby located at the corner of 12th and Webster. Pedestrian access to the building on the smaller parcel would be provided at the northeast corner of 12th Street and Harrison Street. The site plan shows that there would be

continuous sidewalks on both sides of 11th Street, 12th Street, Harrison Street and Webster Street in the vicinity of the project where pedestrians can access the residential units and commercial space directly. The retail spaces would have their own unique access points on 12th Street and Webster Street. These project features ensure safe pedestrian access to and throughout the site.

The City of Oakland *Pedestrian Master Plan* (PMP) recommends nine foot sidewalks with five foot clear pedestrian passage zones for local streets such as 12th and Webster Streets. The existing sidewalks are approximately 12 feet wide on 11th Street, Harrison Street, 12th Street and Webster Street. With the development of the project, the sidewalks along the project frontage will be wide enough to accommodate potential sidewalk encroachment (e.g. bicycle racks and planted trees) and continue to provide five feet of clear sidewalk space for pedestrians.

Recommendation 2: While not required to address a CEQA impact, the following should be considered as part of the final design for the project:

- Explore the feasibility and consider installing Accessible Pedestrian Signals (APS), at the intersections of 12th Street/Harrison Street, 11th Street/Harrison Street, 11th Street Webster Street and 12th Street/Webster Street to decrease waiting time for the pedestrian and increase pedestrian safety.
- Explore the feasibility and consider installing pedestrian bulb outs at the four intersections adjacent to the project site to decrease crossing times and increase pedestrian safety.
- Consider installing high visibility crosswalks at the four intersections adjacent to the project site.
- Ensure that project entrance doors do not open outward toward the sidewalk. All entrance doors of the proposed project should open inside rather than intruding into the sidewalk area.

Transit Access

AC Transit provides transit service to the project site with bus stops on 12th Street, Harrison Street, 12th Street and Jackson Street. The nearest bus stops are within a block of the project site. The bus stops on 12th Street west of Jackson Street provide bus shelters and benches; however the stop at 12th Street west of Harrison Street does not provide a bus shelter or bench. The 12th Street BART station is approximately 0.2 miles from the project site. Many AC Transit routes, including 14, 18, 20, 40, 88, 801 and 840, operate within the project's vicinity. Currently, AC Transit is planning to implement a 14.4 mile long Easy Bay Bus Rapid Transit (BRT) project. The future BRT line alignment

follows 11th and 12th Street from Broadway to Lake Merritt Boulevard. The BRT stops would be within easy walking distance from project at 12th Street and Webster Street.

PARKING CONSIDERATIONS

This section discusses parking supply and demand for the project.

Project Automobile Parking Supply

Based on the proposed site plan, the project would provide 324 parking spaces. All parking spaces would be accessible via the garage driveways on 11th Street and 12th Street. It is expected that residential visitors and retail patrons would use on-street parking.

The streets adjacent to the project site provide metered on-street parking. Currently, there are 39 on-street parking spaces adjacent to the project site. It is expected that proposed project would eliminate multiple driveways on 11th Street, 12th Street, Harrison Street and Webster Street which would increase the number of on-street parking. It is expected that the overall on-street parking supply would increase by about three parking spaces.

City Code Automobile Parking Requirements

The proposed project is located within a City of Oakland Municipal Code's Zone D-LM Zone. The D-LM Zones requires 0.75 automobile parking spaces for every residential unit and no automobile parking spaces for commercial uses. **Table 8** presents the off-street automobile parking requirements for the project per City Code. The proposed project is required to provide a total of 317 spaces and would provide up to 324 spaces, a surplus of seven spaces.

TABLE 8: AUTOMOBILE PARKING REQUIREMENTS

Land Use	Size[1]	Required Parking Supply	Provided Parking Supply	Difference
Apartments/D-LM Zone[2]	422 DU	317	324	**7**
Retail[3]	26.2 KSF	0	0	**0**
Total		**317**	**324**	**7**

1. DU = dwelling unit; KSF = 1,000 square feet
2. City of Oakland off-street parking requirement for residential in zone D-LM is three-quarters space per unit (section 17.116.060).
3. City of Oakland off-street parking requirement for commercial uses in zone D-LM is zero spaces per KSF for retail (section 17.116.080).

Source: Fehr & Peers, 2016

Automobile Parking Demand

This analysis compares proposed parking supply to project parking demand estimated using average vehicle ownership rates from American Community Survey estimates data and the parking demand rates published in *Parking Generation, 4th Edition* (ITE, 2010).

Table 9 summarizes the parking demand of the project. The parking demand values represent average parking demand. Parking demand for the residential portions of the project was determined by using average vehicle ownership rates in downtown Oakland. According to American Community Survey estimates[3], average vehicle ownership in the study area is 0.63 vehicles per multi-family dwelling unit. Based on this data, residential parking demand would be about 266 parking spaces. Based on ITE data for shopping center the adjusted shopping center parking demand would be 30 spaces. Residential visitor demand was estimated using an adjusted Urban Land Institution Shared Parking rate of 0.0675, resulting in a visitor demand of 28 spaces. National parking demand statistics for the residential visitors and commercial uses were adjusted to account for the anticipated 55 percent non-automobile use, as documented in the trip generation calculations.

The parking demand for the retail component of the project was estimated using published data in *Parking Generation* (ITE, 4th Edition). This estimate presents a worse-case scenario in that it assumes most of the retail visitors would be new to the area. Although specific retail tenants have not been determined, it is likely that the retail component of the project would be local-serving with minimal new automobile trips.

[3] Source: American Community Survey 5-Year Estimates, 2013.

TABLE 9: PROJECT PARKING SUPPLY AND DEMAND

Land Use	Units[1]	Rate	Weekday
Apartment (Residents)	422 DU	0.63[2]	266
Apartment (Visitors)	422 DU	0.0675[3]	28
Retail	26.2 KSF	1.15[4]	30
Parking Demand			**324**
Parking Supply			**324**
Parking Deficit			**-**

1. DU = dwelling unit; KSF = 1,000 square feet
2. Based on 2013 ACS average automobile ownership of 0.63 vehicles per residential unit.
3. Based on adjusted (using non-auto reduction of 55%) rate of 0.0675 spaces per DU using ULI Shared Parking
4. Based on adjusted (using non-auto reduction of 55%) rate of 1.15 spaces per KSF using ITE *Parking Generation* (4th Edition

Source: Fehr & Peers, 2016

Recommendation 3: While not required to address a CEQA impact, the following should be considered as part of the final design and implementation of the project:

- Implement a Transportation Demand Management (TDM) plan to encourage employees and residents to use other travel modes and reduce parking demand.

City Code Bicycle Parking Requirements

Chapter 17.117 of the Oakland Municipal Code requires long-term and short-term bicycle parking for new buildings. Long-term bicycle parking includes lockers or locked enclosures and short-term bicycle parking includes bicycle racks. The Code requires one long-term space for every four multi-family dwelling units and one short-term space for every 20 multi-family dwelling units. The Code requires two long and short-term spaces, for the commercial component of the project.

Table 10 presents the bicycle parking requirements for the project. The project would provide 255 bicycle parking spaces for long and short-term usage which exceeds the minimum requirements.

TABLE 10: BICYCLE PARKING REQUIREMENTS

Land Use	Size[1]	Long-Term		Short-Term	
		Spaces per Unit	Spaces	Spaces per Unit	Spaces
Apartments	422 DU	1:4 DU	106	1:20 DU	21
Commercial	26.2 KSF	Min.	2	Min.	2
Total Required Bicycle Spaces			108		23
Total Bicycle Parking Provided			255		
Bicycle Parking Surplus/Deficit			**124 (surplus)**		

1. DU = dwelling unit; KSF = 1,000 square feet
2. Based on Oakland Municipal Code Sections 17.117.090 and 17.117.110

Source: Fehr & Peers, 2016

Loading

City Municipal Code Section 17.116.120 requires off-street loading facilities for residential uses and City Municipal Code Section 17.116.140 requires off-street loading facilities for commercial uses. The requirement for residential facilities that have between 50,000 and 399,999 square feet of floor area is three off-street loading berths. The Code requires one loading berth for commercial uses between 10,000 and 24,999 square feet. Based on City Code, the project is required to provide three off-street loading berths for the residential component of the project and one berth for the commercial component of the project. The proposed project provides two loading docks which does not meets the City's loading requirement.

Appendix A

Intersection Turning Movement Counts

FEHR PEERS

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-001 Webster Street & 12th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	29	6	0	35	21	59	0	0	80	0	0	0	0	0	0	0	0	0	0	115	0
7:15	0	41	21	0	62	24	93	0	0	117	0	0	0	0	0	0	0	0	0	0	179	0
7:30	0	61	13	0	74	53	77	0	0	130	0	0	0	0	0	0	0	0	0	0	204	0
7:45	0	71	17	0	88	89	119	0	0	208	0	0	0	0	0	0	0	0	0	0	296	0
Total	0	202	57	0	259	187	348	0	0	535	0	0	0	0	0	0	0	0	0	0	794	0
8:00	0	63	17	0	80	84	130	0	0	214	0	0	0	0	0	0	0	0	0	0	294	0
8:15	0	83	23	0	106	83	150	0	0	233	0	0	0	0	0	0	0	0	0	0	339	0
8:30	0	82	15	0	97	53	150	0	0	203	0	0	0	0	0	0	0	0	0	0	300	0
8:45	0	61	27	0	88	46	132	0	0	178	0	0	0	0	0	0	0	0	0	0	266	0
Total	0	289	82	0	371	266	562	0	0	828	0	0	0	0	0	0	0	0	0	0	1199	0
16:00	0	113	23	0	136	70	113	0	0	183	0	0	0	0	0	0	0	0	0	0	319	0
16:15	0	114	40	0	154	37	114	0	0	151	0	0	0	0	0	0	0	0	0	0	305	0
16:30	0	120	36	0	156	56	113	0	0	169	0	0	0	0	0	0	0	0	0	0	325	0
16:45	0	126	29	0	155	69	132	0	0	201	0	0	0	0	0	0	0	0	0	0	356	0
Total	0	473	128	0	601	232	472	0	0	704	0	0	0	0	0	0	0	0	0	0	1305	0
17:00	0	184	52	0	236	64	140	0	0	204	0	0	0	0	0	0	0	0	0	0	440	0
17:15	0	135	47	0	182	53	137	0	0	190	0	0	0	0	0	0	0	0	0	0	372	0
17:30	0	121	64	0	185	44	129	0	0	173	0	0	0	0	0	0	0	0	0	0	358	0
17:45	0	105	27	0	132	40	135	0	0	175	0	0	0	0	0	0	0	0	0	0	307	0
Total	0	545	190	0	735	201	541	0	0	742	0	0	0	0	0	0	0	0	0	0	1477	0
Grand Total	0	1509	457	0	1966	886	1923	0	0	2809	0	0	0	0	0	0	0	0	0	0	4775	0
Apprch %	0.0%	76.8%	23.2%	0.0%		31.5%	68.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	31.6%	9.6%	0.0%	41.2%	18.6%	40.3%	0.0%	0.0%	58.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	71	17	0	88	89	119	0	0	208	0	0	0	0	0	0	0	0	0	0	296
8:00	0	63	17	0	80	84	130	0	0	214	0	0	0	0	0	0	0	0	0	0	294
8:15	0	83	23	0	106	83	150	0	0	233	0	0	0	0	0	0	0	0	0	0	339
8:30	0	82	15	0	97	53	150	0	0	203	0	0	0	0	0	0	0	0	0	0	300
Total Volume	0	299	72	0	371	309	549	0	0	858	0	0	0	0	0	0	0	0	0	0	1229
% App Total	0.0%	80.6%	19.4%	0.0%		36.0%	64.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.901	.783	.000	.875	.868	.915	.000	.000	.921	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.906

PM PEAK HOUR	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	126	29	0	155	69	132	0	0	201	0	0	0	0	0	0	0	0	0	0	356
17:00	0	184	52	0	236	64	140	0	0	204	0	0	0	0	0	0	0	0	0	0	440
17:15	0	135	47	0	182	53	137	0	0	190	0	0	0	0	0	0	0	0	0	0	372
17:30	0	121	64	0	185	44	129	0	0	173	0	0	0	0	0	0	0	0	0	0	358
Total Volume	0	566	192	0	758	230	538	0	0	768	0	0	0	0	0	0	0	0	0	0	1526
% App Total	0.0%	74.7%	25.3%	0.0%		29.9%	70.1%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.769	.750	.000	.803	.833	.961	.000	.000	.941	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.867

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-001 Webster Street & 12th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	5	2	8	7	1	2	1	5	4	0	0	0	3	0	0	0	0	8	0	11	24
7:15	0	6	0	14	6	0	1	0	17	1	0	0	0	12	0	0	0	1	7	1	8	50
7:30	0	5	0	23	5	0	4	0	21	4	0	0	0	32	0	0	0	0	21	0	9	97
7:45	0	7	2	25	9	0	5	0	18	5	0	0	0	23	0	0	0	0	9	0	14	75
Total	0	23	4	70	27	1	12	1	61	14	0	0	0	70	0	0	0	1	45	1	42	246
8:00	0	11	2	18	13	0	2	0	20	2	0	0	0	23	0	0	0	0	19	0	15	80
8:15	0	8	3	12	11	1	3	0	12	4	0	0	0	22	0	0	0	0	11	0	15	57
8:30	0	9	2	22	11	0	3	0	34	3	0	0	0	7	0	0	0	0	14	0	14	77
8:45	1	6	3	12	10	1	9	1	15	11	0	0	0	13	0	0	0	0	10	0	21	50
Total	1	34	10	64	45	2	17	1	81	20	0	0	0	65	0	0	0	0	54	0	65	264
16:00	0	2	1	12	3	2	2	0	21	4	0	0	0	29	0	0	2	0	14	2	9	76
16:15	0	5	1	16	6	0	4	0	19	4	0	0	2	12	2	0	0	0	13	0	12	60
16:30	1	2	0	10	3	0	1	0	25	1	0	0	0	23	0	0	0	0	11	0	4	69
16:45	0	3	0	23	3	1	4	0	19	5	1	0	0	27	1	0	1	0	16	1	10	85
Total	1	12	2	61	15	3	11	0	84	14	1	0	2	91	3	0	3	0	54	3	35	290
17:00	0	5	0	24	5	0	6	1	27	7	1	1	0	24	2	0	0	0	25	0	14	100
17:15	0	6	0	15	6	2	4	0	12	6	0	2	0	29	2	0	0	0	23	0	14	79
17:30	0	3	0	18	3	0	1	0	7	1	0	1	0	14	1	0	0	0	19	0	5	58
17:45	0	2	2	9	4	0	0	0	6	0	0	0	0	15	0	0	0	0	14	0	4	44
Total	0	16	2	66	18	2	11	1	52	14	1	4	0	82	5	0	0	0	81	0	37	281
Grand Total	2	85	18	261	105	8	51	3	278	62	2	4	2	308	8	0	3	1	234	4	179	1081
Apprch %	1.9%	81.0%	17.1%			12.9%	82.3%	4.8%			25.0%	50.0%	25.0%			0.0%	75.0%	25.0%				
Total %	1.1%	47.5%	10.1%		58.7%	4.5%	28.5%	1.7%		34.6%	1.1%	2.2%	1.1%		4.5%	0.0%	1.7%	0.6%		2.2%	100.0%	

AM PEAK HOUR	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	7	2	25	9	0	5	0	18	5	0	0	0	23	0	0	0	0	9	0	14
8:00	0	11	2	18	13	0	2	0	20	2	0	0	0	23	0	0	0	0	19	0	15
8:15	0	8	3	12	11	1	3	0	12	4	0	0	0	22	0	0	0	0	11	0	15
8:30	0	9	2	22	11	0	3	0	34	3	0	0	0	7	0	0	0	0	14	0	14
Total Volume	0	35	9	77	44	1	13	0	84	14	0	0	0	75	0	0	0	0	53	0	58
% App Total	0.0%	79.5%	20.5%			7.1%	92.9%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.795	.750		.846	.250	.650	.000		.700	.000	.000	.000		.000	.000	.000	.000		.000	.967

PM PEAK HOUR	Webster Street Southbound					12th Street Westbound					Webster Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	3	0	23	3	1	4	0	19	5	1	0	0	27	1	0	1	0	16	1	10
17:00	0	5	0	24	5	0	6	1	27	7	1	1	0	24	2	0	0	0	25	0	14
17:15	0	6	0	15	6	2	4	0	12	6	0	2	0	29	2	0	0	0	23	0	14
17:30	0	3	0	18	3	0	1	0	7	1	0	1	0	14	1	0	0	0	19	0	5
Total Volume	0	17	0	80	17	3	15	1	65	19	2	4	0	94	6	0	1	0	83	1	43
% App Total	0.0%	100.0%	0.0%			15.8%	78.9%	5.3%			33.3%	66.7%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.708	.000		.708	.375	.625	.250		.679	.500	.500	.000		.750	.000	.250	.000		.250	.768

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-002 Harrison Street & 12th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	5	6	0	11	4	53	8	0	65	22	42	0	0	64	0	0	0	0	0	140	0
7:15	0	8	2	0	10	4	83	10	0	97	24	85	0	0	109	0	0	0	0	0	216	0
7:30	0	5	5	0	10	17	110	11	0	138	23	92	0	0	115	0	0	0	0	0	263	0
7:45	0	15	11	0	26	24	151	13	0	188	45	98	0	0	143	0	0	0	0	0	357	0
Total	0	33	24	0	57	49	397	42	0	488	114	317	0	0	431	0	0	0	0	0	976	0
8:00	0	12	10	0	22	21	165	10	0	196	44	119	0	0	163	0	0	0	0	0	381	0
8:15	0	18	15	0	33	9	171	16	0	196	43	117	0	0	160	0	0	0	0	0	389	0
8:30	0	9	6	0	15	7	162	16	0	185	33	115	0	0	148	0	0	0	0	0	348	0
8:45	0	8	4	0	12	2	146	13	0	161	37	111	0	0	148	0	0	0	0	0	321	0
Total	0	47	35	0	82	39	644	55	0	738	157	462	0	0	619	0	0	0	0	0	1439	0
16:00	0	17	16	0	33	10	125	12	0	147	33	93	0	0	126	0	0	0	0	0	306	0
16:15	0	18	8	0	26	6	117	14	0	137	29	99	0	0	128	0	0	0	0	0	291	0
16:30	0	14	12	0	26	3	130	18	0	151	31	88	0	0	119	0	0	0	0	0	296	0
16:45	0	22	15	0	37	8	145	21	0	174	34	98	0	0	132	0	0	0	0	0	343	0
Total	0	71	51	0	122	27	517	65	0	609	127	378	0	0	505	0	0	0	0	0	1236	0
17:00	0	34	18	0	52	16	153	26	0	195	37	91	0	0	128	0	0	0	0	0	375	0
17:15	0	35	27	0	62	7	135	17	0	159	32	119	0	0	151	0	0	0	0	0	372	0
17:30	0	24	15	0	39	11	113	21	0	145	30	110	0	0	140	0	0	0	0	0	324	0
17:45	0	20	12	0	32	7	120	15	0	142	41	98	0	0	139	0	0	0	0	0	313	0
Total	0	113	72	0	185	41	521	79	0	641	140	418	0	0	558	0	0	0	0	0	1384	0
Grand Total	0	264	182	0	446	156	2079	241	0	2476	538	1575	0	0	2113	0	0	0	0	0	5035	0
Apprch %	0.0%	59.2%	40.8%	0.0%		6.3%	84.0%	9.7%	0.0%		25.5%	74.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	5.2%	3.6%	0.0%	8.9%	3.1%	41.3%	4.8%	0.0%	49.2%	10.7%	31.3%	0.0%	0.0%	42.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	15	11	0	26	24	151	13	0	188	45	98	0	0	143	0	0	0	0	0	357
8:00	0	12	10	0	22	21	165	10	0	196	44	119	0	0	163	0	0	0	0	0	381
8:15	0	18	15	0	33	9	171	16	0	196	43	117	0	0	160	0	0	0	0	0	389
8:30	0	9	6	0	15	7	162	16	0	185	33	115	0	0	148	0	0	0	0	0	348
Total Volume	0	54	42	0	96	61	649	55	0	765	165	449	0	0	614	0	0	0	0	0	1475
% App Total	0.0%	56.3%	43.8%	0.0%		8.0%	84.8%	7.2%	0.0%		26.9%	73.1%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.750	.700	.000	.727	.635	.949	.859	.000	.976	.917	.943	.000	.000	.942	.000	.000	.000	.000	.000	.948

PM PEAK HOUR	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	22	15	0	37	8	145	21	0	174	34	98	0	0	132	0	0	0	0	0	343
17:00	0	34	18	0	52	16	153	26	0	195	37	91	0	0	128	0	0	0	0	0	375
17:15	0	35	27	0	62	7	135	17	0	159	32	119	0	0	151	0	0	0	0	0	372
17:30	0	24	15	0	39	11	113	21	0	145	30	110	0	0	140	0	0	0	0	0	324
Total Volume	0	115	75	0	190	42	546	85	0	673	133	418	0	0	551	0	0	0	0	0	1414
% App Total	0.0%	60.5%	39.5%	0.0%		6.2%	81.1%	12.6%	0.0%		24.1%	75.9%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.821	.694	.000	.766	.656	.892	.817	.000	.863	.899	.878	.000	.000	.912	.000	.000	.000	.000	.000	.943

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-002 Harrison Street & 12th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	3	0	6	3	0	1	0	5	1	0	0	0	4	0	0	0	1	14	1	5	29
7:15	0	0	0	23	0	0	0	0	8	0	2	0	0	7	2	0	0	0	32	0	2	70
7:30	0	0	0	19	0	0	1	0	11	1	3	3	0	9	6	0	0	0	52	0	7	91
7:45	0	1	0	22	1	0	6	1	18	7	0	0	0	14	0	0	0	0	31	0	8	85
Total	0	4	0	70	4	0	8	1	42	9	5	3	0	34	8	0	0	1	129	1	22	275
8:00	0	0	0	25	0	0	4	0	21	4	0	0	0	20	0	0	0	0	30	0	4	96
8:15	0	2	3	32	5	0	3	0	26	3	0	0	0	25	0	0	0	0	35	0	8	118
8:30	0	0	1	25	1	0	2	0	16	2	1	0	0	320	1	0	0	0	39	0	4	400
8:45	0	1	2	28	3	0	8	0	36	8	1	3	0	251	4	0	0	0	33	0	15	348
Total	0	3	6	110	9	0	17	0	99	17	2	3	0	616	5	0	0	0	137	0	31	962
16:00	0	0	0	27	0	0	4	0	34	4	0	1	0	45	1	0	1	0	34	1	6	140
16:15	0	1	0	26	1	1	3	0	18	4	0	1	1	20	2	0	0	0	15	0	7	79
16:30	1	1	0	27	2	1	2	0	30	3	0	2	0	18	2	0	1	1	33	2	9	108
16:45	0	4	0	31	4	0	5	0	27	5	0	2	3	17	5	0	0	1	35	1	15	110
Total	1	6	0	111	7	2	14	0	109	16	0	6	4	100	10	0	2	2	117	4	37	437
17:00	0	1	0	42	1	0	4	0	42	4	0	4	0	28	4	0	1	0	38	1	10	150
17:15	0	3	0	54	3	0	6	0	47	6	0	5	0	48	5	0	0	0	58	0	14	207
17:30	0	5	0	18	5	0	1	0	37	1	0	2	0	29	2	0	0	0	18	0	8	102
17:45	0	1	0	18	1	0	0	0	18	0	0	1	0	8	1	0	1	0	16	1	3	60
Total	0	10	0	132	10	0	11	0	144	11	0	12	0	113	12	0	2	0	130	2	35	519
Grand Total	1	23	6	423	30	2	50	1	394	53	7	24	4	863	35	0	4	3	513	7	125	2193
Apprch %	3.3%	76.7%	20.0%			3.8%	94.3%	1.9%			20.0%	68.6%	11.4%			0.0%	57.1%	42.9%				
Total %	0.8%	18.4%	4.8%		24.0%	1.6%	40.0%	0.8%		42.4%	5.6%	19.2%	3.2%		28.0%	0.0%	3.2%	2.4%		5.6%	100.0%	

AM PEAK HOUR	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	1	0	22	1	0	6	1	18	7	0	0	0	14	0	0	0	0	31	0	8
8:00	0	0	0	25	0	0	4	0	21	4	0	0	0	20	0	0	0	0	30	0	4
8:15	0	2	3	32	5	0	3	0	26	3	0	0	0	25	0	0	0	0	35	0	8
8:30	0	0	1	25	1	0	2	0	16	2	1	0	0	320	1	0	0	0	39	0	4
Total Volume	0	3	4	104	7	0	15	1	81	16	1	0	0	379	1	0	0	0	135	0	24
% App Total	0.0%	42.9%	57.1%			0.0%	93.8%	6.3%			100.0%	0.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.375	.333		.350	.000	.625	.250		.571	.250	.000	.000		.250	.000	.000	.000		.000	.750

PM PEAK HOUR	Harrison Street Southbound					12th Street Westbound					Harrison Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	4	0	31	4	0	5	0	27	5	0	2	3	17	5	0	0	1	35	1	15
17:00	0	1	0	42	1	0	4	0	42	4	0	4	0	28	4	0	1	0	38	1	10
17:15	0	3	0	54	3	0	6	0	47	6	0	5	0	48	5	0	0	0	58	0	14
17:30	0	5	0	18	5	0	1	0	37	1	0	2	0	29	2	0	0	0	18	0	8
Total Volume	0	13	0	145	13	0	16	0	153	16	0	13	3	122	16	0	1	1	149	2	47
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	81.3%	18.8%			0.0%	50.0%	50.0%			
PHF	.000	.650	.000		.650	.000	.667	.000		.667	.000	.650	.250		.800	.000	.250	.250		.500	.783

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-003 Alice Street & 12th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	4	0	4	2	59	3	0	64	0	2	0	0	2	0	0	0	0	0	70	0
7:15	0	3	2	0	5	0	94	5	0	99	1	1	0	0	2	0	0	0	0	0	106	0
7:30	0	1	5	0	6	5	134	9	0	148	3	5	0	0	8	0	0	0	0	0	162	0
7:45	0	5	4	0	9	4	183	5	0	192	9	3	0	0	12	0	0	0	0	0	213	0
Total	0	9	15	0	24	11	470	22	0	503	13	11	0	0	24	0	0	0	0	0	551	0
8:00	0	8	13	0	21	12	186	6	0	204	8	7	0	0	15	0	0	0	0	0	240	0
8:15	0	8	11	0	19	20	186	7	0	213	12	8	0	0	20	0	0	0	0	0	252	0
8:30	0	8	7	0	15	10	184	8	0	202	9	3	0	0	12	0	0	0	0	0	229	0
8:45	0	3	13	0	16	3	160	11	0	174	8	4	0	0	12	0	0	0	0	0	202	0
Total	0	27	44	0	71	45	716	32	0	793	37	22	0	0	59	0	0	0	0	0	923	0
16:00	0	5	10	0	15	3	125	18	0	146	6	4	0	0	10	0	0	0	0	0	171	0
16:15	0	7	9	0	16	4	117	14	0	135	3	4	0	0	7	0	0	0	0	0	158	0
16:30	0	5	17	0	22	6	127	7	0	140	4	2	0	0	6	0	0	0	0	0	168	0
16:45	0	5	12	0	17	8	148	10	0	166	2	3	0	0	5	0	0	0	0	0	188	0
Total	0	22	48	0	70	21	517	49	0	587	15	13	0	0	28	0	0	0	0	0	685	0
17:00	0	6	10	0	16	8	166	7	0	181	4	6	0	0	10	0	0	0	0	0	207	0
17:15	0	4	8	0	12	1	140	5	0	146	3	3	0	0	6	0	0	0	0	0	164	0
17:30	0	6	12	0	18	11	118	0	0	129	2	7	0	0	9	0	0	0	0	0	156	0
17:45	0	3	9	0	12	4	120	7	0	131	3	1	0	0	4	0	0	0	0	0	147	0
Total	0	19	39	0	58	24	544	19	0	587	12	17	0	0	29	0	0	0	0	0	674	0
Grand Total	0	77	146	0	223	101	2247	122	0	2470	77	63	0	0	140	0	0	0	0	0	2833	0
Apprch %	0.0%	34.5%	65.5%	0.0%		4.1%	91.0%	4.9%	0.0%		55.0%	45.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	2.7%	5.2%	0.0%	7.9%	3.6%	79.3%	4.3%	0.0%	87.2%	2.7%	2.2%	0.0%	0.0%	4.9%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	5	4	0	9	4	183	5	0	192	9	3	0	0	12	0	0	0	0	0	213
8:00	0	8	13	0	21	12	186	6	0	204	8	7	0	0	15	0	0	0	0	0	240
8:15	0	8	11	0	19	20	186	7	0	213	12	8	0	0	20	0	0	0	0	0	252
8:30	0	8	7	0	15	10	184	8	0	202	9	3	0	0	12	0	0	0	0	0	229
Total Volume	0	29	35	0	64	46	739	26	0	811	38	21	0	0	59	0	0	0	0	0	934
% App Total	0.0%	45.3%	54.7%	0.0%		5.7%	91.1%	3.2%	0.0%		64.4%	35.6%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.906	.673	.000	.762	.575	.993	.813	.000	.952	.792	.656	.000	.000	.738	.000	.000	.000	.000	.000	.927

PM PEAK HOUR	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	5	17	0	22	6	127	7	0	140	4	2	0	0	6	0	0	0	0	0	168
16:45	0	5	12	0	17	8	148	10	0	166	2	3	0	0	5	0	0	0	0	0	188
17:00	0	6	10	0	16	8	166	7	0	181	4	6	0	0	10	0	0	0	0	0	207
17:15	0	4	8	0	12	1	140	5	0	146	3	3	0	0	6	0	0	0	0	0	164
Total Volume	0	20	47	0	67	23	581	29	0	633	13	14	0	0	27	0	0	0	0	0	727
% App Total	0.0%	29.9%	70.1%	0.0%		3.6%	91.8%	4.6%	0.0%		48.1%	51.9%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.833	.691	.000	.761	.719	.875	.725	.000	.874	.813	.583	.000	.000	.675	.000	.000	.000	.000	.000	.878

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-003 Alice Street & 12th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	4	0	0	1	0	4	1	0	0	0	1	0	0	0	0	7	0	1	16
7:15	0	0	0	7	0	0	0	0	4	0	0	1	0	7	1	0	0	0	3	0	1	21
7:30	0	0	0	9	0	0	1	0	5	1	0	0	0	8	0	0	0	0	7	0	1	29
7:45	0	1	0	15	1	0	6	0	3	6	0	1	0	6	1	0	0	0	14	0	8	38
Total	0	1	0	35	1	0	8	0	16	8	0	2	0	22	2	0	0	0	31	0	11	104
8:00	0	2	1	12	3	0	2	0	11	2	0	0	0	9	0	0	0	0	24	0	5	56
8:15	0	1	0	12	1	0	4	1	14	5	0	0	0	20	0	0	0	0	31	0	6	77
8:30	0	1	0	17	1	0	2	0	11	2	0	0	0	9	0	0	0	0	26	0	3	63
8:45	0	1	0	17	1	0	9	0	6	9	1	0	1	4	2	0	0	0	14	0	12	41
Total	0	5	1	58	6	0	17	1	42	18	1	0	1	42	2	0	0	0	95	0	26	237
16:00	0	1	1	13	2	1	2	0	8	3	0	1	0	27	1	1	0	0	24	1	7	72
16:15	0	0	0	10	0	0	4	0	7	4	0	2	0	11	2	0	0	0	24	0	6	52
16:30	0	0	0	2	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	5
16:45	0	1	0	16	1	0	3	0	11	3	0	0	0	9	0	2	1	0	12	3	7	48
Total	0	2	1	41	3	1	9	0	27	10	0	3	0	49	3	3	1	0	60	4	20	177
17:00	0	1	0	6	1	0	3	0	15	3	0	0	0	14	0	1	0	0	12	1	5	47
17:15	0	1	0	13	1	0	3	0	7	3	0	0	0	12	0	0	1	0	11	1	5	43
17:30	0	0	0	7	0	1	1	0	4	2	1	0	0	13	1	0	1	0	11	1	4	35
17:45	0	0	0	8	0	1	1	0	10	2	0	0	0	5	0	0	1	0	4	1	3	27
Total	0	2	0	34	2	2	8	0	36	10	1	0	0	44	1	1	3	0	38	4	17	152
Grand Total	0	10	2	168	12	3	42	1	121	46	2	5	1	157	8	4	4	0	224	8	74	670
Apprch %	0.0%	83.3%	16.7%			6.5%	91.3%	2.2%			25.0%	62.5%	12.5%			50.0%	50.0%	0.0%				
Total %	0.0%	13.5%	2.7%		16.2%	4.1%	56.8%	1.4%		62.2%	2.7%	6.8%	1.4%		10.8%	5.4%	5.4%	0.0%		10.8%	100.0%	

AM PEAK HOUR	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	1	0	15	1	0	6	0	3	6	0	1	0	6	1	0	0	0	14	0	8
8:00	0	2	1	12	3	0	2	0	11	2	0	0	0	9	0	0	0	0	24	0	5
8:15	0	1	0	12	1	0	4	1	14	5	0	0	0	20	0	0	0	0	31	0	6
8:30	0	1	0	17	1	0	2	0	11	2	0	0	0	9	0	0	0	0	26	0	3
Total Volume	0	5	1	56	6	0	14	1	39	15	0	1	0	44	1	0	0	0	95	0	22
% App Total	0.0%	83.3%	16.7%			0.0%	93.3%	6.7%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.625	.250		.500	.000	.583	.250		.625	.000	.250	.000		.250	.000	.000	.000		.000	.688

PM PEAK HOUR	Alice Street Southbound					12th Street Westbound					Alice Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	0	0	2	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0
16:45	0	1	0	16	1	0	3	0	11	3	0	0	0	9	0	2	1	0	12	3	7
17:00	0	1	0	6	1	0	3	0	15	3	0	0	0	14	0	1	0	0	12	1	5
17:15	0	1	0	13	1	0	3	0	7	3	0	0	0	12	0	0	1	0	11	1	5
Total Volume	0	3	0	37	3	0	9	0	34	9	0	0	0	37	0	3	2	0	35	5	17
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			60.0%	40.0%	0.0%			
PHF	.000	.750	.000		.750	.000	.750	.000		.750	.000	.000	.000		.000	.375	.500	.000		.417	.607

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-004 Jackson Street & 12th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	15	1	0	16	5	60	35	0	100	0	14	0	0	14	0	0	0	0	0	130	0
7:15	0	24	1	0	25	28	95	32	0	155	8	23	0	0	31	0	0	0	0	0	211	0
7:30	0	26	2	0	28	23	138	44	0	205	13	40	0	1	54	0	0	0	0	0	287	1
7:45	0	26	7	0	33	64	177	49	0	290	15	59	0	1	75	0	0	0	0	0	398	1
Total	0	91	11	0	102	120	470	160	0	750	36	136	0	2	174	0	0	0	0	0	1026	2
8:00	0	20	6	0	26	66	185	56	0	307	17	61	0	0	78	0	0	0	0	0	411	0
8:15	0	34	8	0	42	49	200	40	0	289	23	58	0	0	81	0	0	0	0	0	412	0
8:30	0	17	5	0	22	21	170	47	0	238	13	57	0	0	70	0	0	0	0	0	330	0
8:45	0	23	5	0	28	16	143	35	0	194	17	50	0	0	67	0	0	0	0	0	289	0
Total	0	94	24	0	118	152	698	178	0	1028	70	226	0	0	296	0	0	0	0	0	1442	0
16:00	0	21	10	0	31	23	119	14	0	156	10	28	0	0	38	0	0	0	0	0	225	0
16:15	0	32	13	0	45	40	111	16	0	167	14	37	0	0	51	0	0	0	0	0	263	0
16:30	0	38	12	0	50	42	120	19	0	181	7	35	0	0	42	0	0	0	0	0	273	0
16:45	0	45	11	0	56	27	146	22	0	195	14	32	0	0	46	0	0	0	0	0	297	0
Total	0	136	46	0	182	132	496	71	0	699	45	132	0	0	177	0	0	0	0	0	1058	0
17:00	0	47	15	0	62	27	145	17	0	189	12	37	0	0	49	0	0	0	0	0	300	0
17:15	0	50	13	0	63	24	131	20	0	175	10	32	0	0	42	0	0	0	0	0	280	0
17:30	0	47	9	0	56	12	122	15	0	149	8	37	0	0	45	0	0	0	0	0	250	0
17:45	0	37	6	0	43	9	109	14	0	132	11	45	0	0	56	0	0	0	0	0	231	0
Total	0	181	43	0	224	72	507	66	0	645	41	151	0	0	192	0	0	0	0	0	1061	0
Grand Total	0	502	124	0	626	476	2171	475	0	3122	192	645	0	2	839	0	0	0	0	0	4587	2
Apprch %	0.0%	80.2%	19.8%	0.0%		15.2%	69.5%	15.2%	0.0%		22.9%	76.9%	0.0%	0.2%		0.0%	0.0%	0.0%	0.0%			
Total %	0.0%	10.9%	2.7%	0.0%	13.6%	10.4%	47.3%	10.4%	0.0%	68.1%	4.2%	14.1%	0.0%	0.0%	18.3%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

AM PEAK HOUR	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	26	7	0	33	64	177	49	0	290	15	59	0	1	75	0	0	0	0	0	398
8:00	0	20	6	0	26	66	185	56	0	307	17	61	0	0	78	0	0	0	0	0	411
8:15	0	34	8	0	42	49	200	40	0	289	23	58	0	0	81	0	0	0	0	0	412
8:30	0	17	5	0	22	21	170	47	0	238	13	57	0	0	70	0	0	0	0	0	330
Total Volume	0	97	26	0	123	200	732	192	0	1124	68	235	0	1	304	0	0	0	0	0	1551
% App Total	0.0%	78.9%	21.1%	0.0%		17.8%	65.1%	17.1%	0.0%		22.4%	77.3%	0.0%	0.3%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.713	.813	.000	.732	.758	.915	.857	.000	.915	.739	.963	.000	.250	.938	.000	.000	.000	.000	.000	.941

PM PEAK HOUR	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	0	38	12	0	50	42	120	19	0	181	7	35	0	0	42	0	0	0	0	0	273
16:45	0	45	11	0	56	27	146	22	0	195	14	32	0	0	46	0	0	0	0	0	297
17:00	0	47	15	0	62	27	145	17	0	189	12	37	0	0	49	0	0	0	0	0	300
17:15	0	50	13	0	63	24	131	20	0	175	10	32	0	0	42	0	0	0	0	0	280
Total Volume	0	180	51	0	231	120	542	78	0	740	43	136	0	0	179	0	0	0	0	0	1150
% App Total	0.0%	77.9%	22.1%	0.0%		16.2%	73.2%	10.5%	0.0%		24.0%	76.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.000	.900	.850	.000	.917	.714	.928	.886	.000	.949	.768	.919	.000	.000	.913	.000	.000	.000	.000	.000	.958

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-004 Jackson Street & 12th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	5	0	9	5	1	1	0	8	2	0	0	0	3	0	0	1	0	7	1	8	27
7:15	0	3	0	10	3	2	0	0	8	2	0	1	0	13	1	0	0	0	10	0	6	41
7:30	0	6	0	12	6	0	1	0	8	1	0	1	0	11	1	0	0	0	8	0	8	39
7:45	0	2	0	16	2	0	4	0	15	4	1	2	0	25	3	0	0	0	19	0	9	75
Total	0	16	0	47	16	3	6	0	39	9	1	4	0	52	5	0	1	0	44	1	31	182
8:00	0	3	0	15	3	0	3	1	8	4	0	1	1	24	2	0	0	0	28	0	9	75
8:15	0	6	1	18	7	0	3	0	12	3	0	0	0	28	0	0	0	0	35	0	10	93
8:30	0	5	0	17	5	1	2	0	8	3	0	1	0	7	1	0	0	0	15	0	9	47
8:45	0	4	0	18	4	0	10	1	13	11	1	1	0	14	2	0	1	0	9	1	18	54
Total	0	18	1	68	19	1	18	2	41	21	1	3	1	73	5	0	1	0	87	1	46	269
16:00	0	0	1	23	1	1	3	1	16	5	2	2	0	34	4	0	0	0	20	0	10	93
16:15	0	2	0	13	2	1	2	0	21	3	1	4	0	26	5	0	0	0	6	0	10	66
16:30	1	3	1	20	5	2	3	0	16	5	0	2	0	37	2	0	2	0	13	2	14	86
16:45	0	4	0	20	4	1	2	1	18	4	0	3	0	27	3	0	0	1	12	1	12	77
Total	1	9	2	76	12	5	10	2	71	17	3	11	0	124	14	0	2	1	51	3	46	322
17:00	0	1	1	10	2	0	2	0	10	2	0	4	0	19	4	0	0	0	18	0	8	57
17:15	0	0	0	27	0	0	1	1	21	2	1	5	0	25	6	0	1	0	21	1	9	94
17:30	0	0	0	4	0	0	2	0	5	2	0	2	0	8	2	0	0	0	10	0	4	27
17:45	1	0	0	13	1	1	0	1	18	2	0	6	0	4	6	0	1	0	14	1	10	49
Total	1	1	1	54	3	1	5	2	54	8	1	17	0	56	18	0	2	0	63	2	31	227
Grand Total	2	44	4	245	50	10	39	6	205	55	6	35	1	305	42	0	6	1	245	7	154	1000
Apprch %	4.0%	88.0%	8.0%			18.2%	70.9%	10.9%			14.3%	83.3%	2.4%			0.0%	85.7%	14.3%				
Total %	1.3%	28.6%	2.6%		32.5%	6.5%	25.3%	3.9%		35.7%	3.9%	22.7%	0.6%		27.3%	0.0%	3.9%	0.6%		4.5%	100.0%	

AM PEAK HOUR	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	2	0	16	2	0	4	0	15	4	1	2	0	25	3	0	0	0	19	0	9
8:00	0	3	0	15	3	0	3	1	8	4	0	1	1	24	2	0	0	0	28	0	9
8:15	0	6	1	18	7	0	3	0	12	3	0	0	0	28	0	0	0	0	35	0	10
8:30	0	5	0	17	5	1	2	0	8	3	0	1	0	7	1	0	0	0	15	0	9
Total Volume	0	16	1	66	17	1	12	1	43	14	1	4	1	84	6	0	0	0	97	0	37
% App Total	0.0%	94.1%	5.9%			7.1%	85.7%	7.1%			16.7%	66.7%	16.7%			0.0%	0.0%	0.0%			
PHF	.000	.667	.250		.607	.250	.750	.250		.875	.250	.500	.250		.500	.000	.000	.000		.000	.925

PM PEAK HOUR	Jackson Street Southbound					12th Street Westbound					Jackson Street Northbound					12th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	1	3	1	20	5	2	3	0	16	5	0	2	0	37	2	0	2	0	13	2	14
16:45	0	4	0	20	4	1	2	1	18	4	0	3	0	27	3	0	0	1	12	1	12
17:00	0	1	1	10	2	0	2	0	10	2	0	4	0	19	4	0	0	0	18	0	8
17:15	0	0	0	27	0	0	1	1	21	2	1	5	0	25	6	0	1	0	21	1	9
Total Volume	1	8	2	77	11	3	8	2	65	13	1	14	0	108	15	0	3	1	64	4	43
% App Total	9.1%	72.7%	18.2%			23.1%	61.5%	15.4%			6.7%	93.3%	0.0%			0.0%	75.0%	25.0%			
PHF	.250	.500	.500		.550	.375	.667	.500		.650	.250	.700	.000		.625	.000	.375	.250		.500	.768

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-005 Webster Street & 11th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	5	43	0	0	48	0	0	0	0	0	0	0	0	0	0	0	32	22	0	54	102	0
7:15	8	55	0	0	63	0	0	0	0	0	0	0	0	0	0	0	31	39	0	70	133	0
7:30	30	87	0	0	117	0	0	0	0	0	0	0	0	0	0	0	44	34	0	78	195	0
7:45	60	91	0	0	151	0	0	0	0	0	0	0	0	0	0	0	80	33	0	113	264	0
Total	103	276	0	0	379	0	0	0	0	0	0	0	0	0	0	0	187	128	0	315	694	0
8:00	43	108	0	0	151	0	0	0	0	0	0	0	0	0	0	0	89	40	0	129	280	0
8:15	35	124	0	0	159	0	0	0	0	0	0	0	0	0	0	0	86	42	0	128	287	0
8:30	15	122	0	0	137	0	0	0	0	0	0	0	0	0	0	0	58	21	0	79	216	0
8:45	12	89	0	0	101	0	0	0	0	0	0	0	0	0	0	0	57	30	0	87	188	0
Total	105	443	0	0	548	0	0	0	0	0	0	0	0	0	0	0	290	133	0	423	971	0
16:00	42	146	0	0	188	0	0	0	0	0	0	0	0	0	0	0	101	44	0	145	333	0
16:15	30	124	0	0	154	0	0	0	0	0	0	0	0	0	0	0	112	44	0	156	310	0
16:30	28	153	0	0	181	0	0	0	0	0	0	0	0	0	0	0	130	46	0	176	357	0
16:45	47	154	0	0	201	0	0	0	0	0	0	0	0	0	0	0	159	44	0	203	404	0
Total	147	577	0	0	724	0	0	0	0	0	0	0	0	0	0	0	502	178	0	680	1404	0
17:00	35	178	0	0	213	0	0	0	0	0	0	0	0	0	0	0	225	51	0	276	489	0
17:15	39	156	0	0	195	0	0	0	0	0	0	0	0	0	0	0	207	44	0	251	446	0
17:30	45	117	0	0	162	0	0	0	0	0	0	0	0	0	0	0	206	32	0	238	400	0
17:45	31	124	0	0	155	0	0	0	0	0	0	0	0	0	0	0	182	31	0	213	368	0
Total	150	575	0	0	725	0	0	0	0	0	0	0	0	0	0	0	820	158	0	978	1703	0
Grand Total	505	1871	0	0	2376	0	0	0	0	0	0	0	0	0	0	0	1799	597	0	2396	4772	0
Apprch %	21.3%	78.7%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	75.1%	24.9%	0.0%			
Total %	10.6%	39.2%	0.0%	0.0%	49.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	37.7%	12.5%	0.0%	50.2%	100.0%	

AM PEAK HOUR	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	60	91	0	0	151	0	0	0	0	0	0	0	0	0	0	0	80	33	0	113	264
8:00	43	108	0	0	151	0	0	0	0	0	0	0	0	0	0	0	89	40	0	129	280
8:15	35	124	0	0	159	0	0	0	0	0	0	0	0	0	0	0	86	42	0	128	287
8:30	15	122	0	0	137	0	0	0	0	0	0	0	0	0	0	0	58	21	0	79	216
Total Volume	153	445	0	0	598	0	0	0	0	0	0	0	0	0	0	0	313	136	0	449	1047
% App Total	25.6%	74.4%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	69.7%	30.3%	0.0%		
PHF	.638	.897	.000	.000	.940	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.879	.810	.000	.870	.912

PM PEAK HOUR	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	47	154	0	0	201	0	0	0	0	0	0	0	0	0	0	0	159	44	0	203	404
17:00	35	178	0	0	213	0	0	0	0	0	0	0	0	0	0	0	225	51	0	276	489
17:15	39	156	0	0	195	0	0	0	0	0	0	0	0	0	0	0	207	44	0	251	446
17:30	45	117	0	0	162	0	0	0	0	0	0	0	0	0	0	0	206	32	0	238	400
Total Volume	166	605	0	0	771	0	0	0	0	0	0	0	0	0	0	0	797	171	0	968	1739
% App Total	21.5%	78.5%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	82.3%	17.7%	0.0%		
PHF	.883	.850	.000	.000	.905	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.886	.838	.000	.877	.889

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-005 Webster Street & 11th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	2	5	0	11	7	0	0	0	3	0	0	0	0	7	0	0	1	0	18	1	8	39
7:15	0	6	0	8	6	0	0	0	13	0	0	0	0	13	0	0	2	1	13	3	9	47
7:30	0	6	0	7	6	0	0	0	16	0	0	0	0	24	0	0	0	0	10	0	6	57
7:45	1	6	0	13	7	0	0	0	19	0	0	1	0	12	1	0	1	1	13	2	10	57
Total	3	23	0	39	26	0	0	0	51	0	0	1	0	56	1	0	4	2	54	6	33	200
8:00	3	6	0	14	9	0	0	0	22	0	0	0	0	17	0	0	3	0	29	3	12	82
8:15	2	6	0	18	8	0	0	0	20	0	0	0	0	9	0	0	0	0	14	0	8	61
8:30	2	7	0	9	9	0	1	0	30	1	0	0	0	26	0	0	0	0	24	0	10	89
8:45	0	8	0	13	8	0	0	0	27	0	0	0	0	28	0	0	4	1	15	5	13	83
Total	7	27	0	54	34	0	1	0	99	1	0	0	0	80	0	0	7	1	82	8	43	315
16:00	0	5	0	9	5	0	2	0	32	2	0	0	0	21	0	0	1	0	25	1	8	87
16:15	0	5	1	10	6	0	0	0	35	0	0	2	1	37	3	0	1	0	32	1	10	114
16:30	0	3	0	8	3	0	0	0	30	0	1	0	1	29	2	0	5	0	24	5	10	91
16:45	1	3	0	17	4	0	0	0	24	0	1	1	0	21	2	0	3	1	27	4	10	89
Total	1	16	1	44	18	0	2	0	121	2	2	3	2	108	7	0	10	1	108	11	38	381
17:00	1	3	0	12	4	0	0	0	38	0	5	1	1	34	7	0	4	0	30	4	15	114
17:15	2	6	0	12	8	0	0	0	27	0	0	1	0	19	1	1	1	0	21	2	11	79
17:30	0	1	0	16	1	0	1	0	34	1	0	1	0	30	1	0	2	0	21	2	5	101
17:45	0	3	1	20	4	0	1	0	29	1	0	2	0	20	2	0	4	2	11	6	13	80
Total	3	13	1	60	17	0	2	0	128	2	5	5	1	103	11	1	11	2	83	14	44	374
Grand Total	14	79	2	197	95	0	5	0	399	5	7	9	3	347	19	1	32	6	327	39	158	1270
Apprch %	14.7%	83.2%	2.1%			0.0%	100.0%	0.0%			36.8%	47.4%	15.8%			2.6%	82.1%	15.4%				
Total %	8.9%	50.0%	1.3%		60.1%	0.0%	3.2%	0.0%		3.2%	4.4%	5.7%	1.9%		12.0%	0.6%	20.3%	3.8%		24.7%	100.0%	

AM PEAK HOUR	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	1	6	0	13	7	0	0	0	19	0	0	1	0	12	1	0	1	1	13	2	10
8:00	3	6	0	14	9	0	0	0	22	0	0	0	0	17	0	0	3	0	29	3	12
8:15	2	6	0	18	8	0	0	0	20	0	0	0	0	9	0	0	0	0	14	0	8
8:30	2	7	0	9	9	0	1	0	30	1	0	0	0	26	0	0	0	0	24	0	10
Total Volume	8	25	0	54	33	0	1	0	91	1	0	1	0	64	1	0	4	1	80	5	40
% App Total	24.2%	75.8%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	80.0%	20.0%			
PHF	.667	.893	.000		.917	.000	.250	.000		.250	.000	.250	.000		.250	.000	.333	.250		.417	.833

PM PEAK HOUR	Webster Street Southbound					11th Street Westbound					Webster Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	1	3	0	17	4	0	0	0	24	0	1	1	0	21	2	0	3	1	27	4	10
17:00	1	3	0	12	4	0	0	0	38	0	5	1	1	34	7	0	4	0	30	4	15
17:15	2	6	0	12	8	0	0	0	27	0	0	1	0	19	1	1	1	0	21	2	11
17:30	0	1	0	16	1	0	1	0	34	1	0	1	0	30	1	0	2	0	21	2	5
Total Volume	4	13	0	57	17	0	1	0	123	1	6	4	1	104	11	1	10	1	99	12	41
% App Total	23.5%	76.5%	0.0%			0.0%	100.0%	0.0%			54.5%	36.4%	9.1%			8.3%	83.3%	8.3%			
PHF	.500	.542	.000		.531	.000	.250	.000		.250	.300	1.000	.250		.393	.250	.625	.250		.750	.683

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-006 Harrison Street & 11th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	3	5	0	0	8	0	0	0	0	0	0	59	9	0	68	9	27	0	0	36	112	0
7:15	5	3	0	0	8	0	0	0	0	0	0	103	8	0	111	7	31	0	0	38	157	0
7:30	6	10	0	0	16	0	0	0	0	0	0	113	15	0	128	5	62	4	0	71	215	0
7:45	13	20	0	0	33	0	0	0	0	0	0	136	34	0	170	14	110	9	0	133	336	0
Total	27	38	0	0	65	0	0	0	0	0	0	411	66	0	477	35	230	13	0	278	820	0
8:00	14	18	0	0	32	0	0	0	0	0	0	154	57	0	211	6	119	3	0	128	371	0
8:15	15	13	0	0	28	0	0	0	0	0	0	158	47	0	205	4	109	2	0	115	348	0
8:30	7	6	0	0	13	0	0	0	0	0	0	143	41	0	184	7	64	3	0	74	271	0
8:45	2	9	0	0	11	0	0	0	0	0	0	140	31	0	171	9	55	0	0	64	246	0
Total	38	46	0	0	84	0	0	0	0	0	0	595	176	0	771	26	347	8	0	381	1236	0
16:00	15	17	0	0	32	0	0	0	0	0	0	114	43	0	157	12	129	1	0	142	331	0
16:15	10	18	0	0	28	0	0	0	0	0	0	105	45	0	150	22	116	0	0	138	316	0
16:30	9	9	0	0	18	0	0	0	0	0	0	101	50	0	151	17	138	4	0	159	328	0
16:45	14	18	0	0	32	0	0	0	0	0	0	115	49	0	164	15	187	8	0	210	406	0
Total	48	62	0	0	110	0	0	0	0	0	0	435	187	0	622	66	570	13	0	649	1381	0
17:00	23	26	0	0	49	0	0	0	0	0	0	105	62	0	167	19	232	4	0	255	471	0
17:15	17	34	0	0	51	0	0	0	0	0	0	136	71	0	207	17	217	9	0	243	501	0
17:30	19	25	0	0	44	0	0	0	0	0	0	120	63	0	183	16	234	11	0	261	488	0
17:45	9	21	0	0	30	0	0	0	0	0	0	113	51	0	164	20	193	5	0	218	412	0
Total	68	106	0	0	174	0	0	0	0	0	0	474	247	0	721	72	876	29	0	977	1872	0
Grand Total	181	252	0	0	433	0	0	0	0	0	0	1915	676	0	2591	199	2023	63	0	2285	5309	0
Apprch %	41.8%	58.2%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	73.9%	26.1%	0.0%		8.7%	88.5%	2.8%	0.0%			
Total %	3.4%	4.7%	0.0%	0.0%	8.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	36.1%	12.7%	0.0%	48.8%	3.7%	38.1%	1.2%	0.0%	43.0%	100.0%	

AM PEAK HOUR	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	13	20	0	0	33	0	0	0	0	0	0	136	34	0	170	14	110	9	0	133	336
8:00	14	18	0	0	32	0	0	0	0	0	0	154	57	0	211	6	119	3	0	128	371
8:15	15	13	0	0	28	0	0	0	0	0	0	158	47	0	205	4	109	2	0	115	348
8:30	7	6	0	0	13	0	0	0	0	0	0	143	41	0	184	7	64	3	0	74	271
Total Volume	49	57	0	0	106	0	0	0	0	0	0	591	179	0	770	31	402	17	0	450	1326
% App Total	46.2%	53.8%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	76.8%	23.2%	0.0%		6.9%	89.3%	3.8%	0.0%		
PHF	.817	.713	.000	.000	.803	.000	.000	.000	.000	.000	.000	.935	.785	.000	.912	.554	.845	.472	.000	.846	.894

PM PEAK HOUR	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	23	26	0	0	49	0	0	0	0	0	0	105	62	0	167	19	232	4	0	255	471
17:15	17	34	0	0	51	0	0	0	0	0	0	136	71	0	207	17	217	9	0	243	501
17:30	19	25	0	0	44	0	0	0	0	0	0	120	63	0	183	16	234	11	0	261	488
17:45	9	21	0	0	30	0	0	0	0	0	0	113	51	0	164	20	193	5	0	218	412
Total Volume	68	106	0	0	174	0	0	0	0	0	0	474	247	0	721	72	876	29	0	977	1872
% App Total	39.1%	60.9%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	65.7%	34.3%	0.0%		7.4%	89.7%	3.0%	0.0%		
PHF	.739	.779	.000	.000	.853	.000	.000	.000	.000	.000	.000	.871	.870	.000	.871	.900	.936	.659	.000	.936	.934

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-006 Harrison Street & 11th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	1	2	0	9	3	0	0	0	7	0	0	1	1	5	2	0	3	0	7	3	8	28
7:15	0	0	0	12	0	0	0	0	15	0	0	0	0	8	0	0	0	2	31	2	2	66
7:30	0	0	0	9	0	0	0	0	14	0	0	6	0	19	6	0	0	0	38	0	6	80
7:45	0	0	0	19	0	0	0	0	17	0	0	1	0	22	1	0	3	0	46	3	4	104
Total	1	2	0	49	3	0	0	0	53	0	0	8	1	54	9	0	6	2	122	8	20	278
8:00	0	0	0	21	0	0	0	0	38	0	0	0	0	16	0	0	6	0	57	6	6	132
8:15	0	1	0	25	1	0	0	0	27	0	0	0	0	26	0	1	3	0	37	4	5	115
8:30	0	1	0	20	1	0	1	0	30	1	0	0	0	18	0	0	2	0	37	2	4	105
8:45	1	0	0	18	1	0	0	0	60	0	0	2	0	21	2	0	2	0	88	2	5	187
Total	1	2	0	84	3	0	1	0	155	1	0	2	0	81	2	1	13	0	219	14	20	539
16:00	0	0	0	35	0	0	0	0	43	0	1	1	0	46	2	0	1	0	61	1	3	185
16:15	0	1	1	14	2	0	0	0	26	0	0	0	3	23	3	0	2	0	23	2	7	86
16:30	1	2	0	16	3	0	0	0	27	0	0	4	0	35	4	1	4	0	48	5	12	126
16:45	2	3	0	17	5	1	0	0	30	1	0	3	0	31	3	1	3	0	50	4	13	128
Total	3	6	1	82	10	1	0	0	126	1	1	8	3	135	12	2	10	0	182	12	35	525
17:00	0	0	0	21	0	0	0	0	34	0	0	0	0	38	0	3	2	2	55	7	7	148
17:15	0	3	0	23	3	0	0	0	50	0	0	4	0	33	4	0	3	0	55	3	10	161
17:30	1	4	0	51	5	0	0	0	49	0	0	2	1	33	3	0	3	0	46	3	11	179
17:45	1	0	0	12	1	0	1	0	24	1	0	2	0	29	2	0	4	0	27	4	8	92
Total	2	7	0	107	9	0	1	0	157	1	0	8	1	133	9	3	12	2	183	17	36	580
Grand Total	7	17	1	322	25	1	2	0	491	3	1	26	5	403	32	6	41	4	706	51	111	1922
Apprch %	28.0%	68.0%	4.0%			33.3%	66.7%	0.0%			3.1%	81.3%	15.6%			11.8%	80.4%	7.8%				
Total %	6.3%	15.3%	0.9%		22.5%	0.9%	1.8%	0.0%		2.7%	0.9%	23.4%	4.5%		28.8%	5.4%	36.9%	3.6%		45.9%	100.0%	

AM PEAK HOUR	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	19	0	0	0	0	17	0	0	1	0	22	1	0	3	0	46	3	4
8:00	0	0	0	21	0	0	0	0	38	0	0	0	0	16	0	0	6	0	57	6	6
8:15	0	1	0	25	1	0	0	0	27	0	0	0	0	26	0	1	3	0	37	4	5
8:30	0	1	0	20	1	0	1	0	30	1	0	0	0	18	0	0	2	0	37	2	4
Total Volume	0	2	0	85	2	0	1	0	112	1	0	1	0	82	1	1	14	0	177	15	19
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			6.7%	93.3%	0.0%			
PHF	.000	.500	.000		.500	.000	.250	.000		.250	.000	.250	.000		.250	.250	.583	.000		.625	.792

PM PEAK HOUR	Harrison Street Southbound					11th Street Westbound					Harrison Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	21	0	0	0	0	34	0	0	0	0	38	0	3	2	2	55	7	7
17:15	0	3	0	23	3	0	0	0	50	0	0	4	0	33	4	0	3	0	55	3	10
17:30	1	4	0	51	5	0	0	0	49	0	0	2	1	33	3	0	3	0	46	3	11
17:45	1	0	0	12	1	0	1	0	24	1	0	2	0	29	2	0	4	0	27	4	8
Total Volume	2	7	0	107	9	0	1	0	157	1	0	8	1	133	9	3	12	2	183	17	36
% App Total	22.2%	77.8%	0.0%			0.0%	100.0%	0.0%			0.0%	88.9%	11.1%			17.6%	70.6%	11.8%			
PHF	.500	.438	.000		.450	.000	.250	.000		.250	.000	.500	.250		.563	.250	.750	.250		.607	.818

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-007 Franklin Street & 11th Street
Date : 11/18/2015

Unshifted Count = All Vehicles & Uturns

	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturns Total
7:00	0	0	0	0	0	0	0	0	0	0	0	5	4	0	9	15	51	0	0	66	75	0
7:15	0	0	0	0	0	0	0	0	0	0	0	20	16	0	36	28	53	0	0	81	117	0
7:30	0	0	0	0	0	0	0	0	0	0	0	23	12	0	35	35	69	0	0	104	139	0
7:45	0	0	0	0	0	0	0	0	0	0	0	40	15	0	55	35	97	0	0	132	187	0
Total	0	0	0	0	0	0	0	0	0	0	0	88	47	0	135	113	270	0	0	383	518	0
8:00	0	0	0	0	0	0	0	0	0	0	0	29	18	0	47	38	112	0	0	150	197	0
8:15	0	0	0	0	0	0	0	0	0	0	0	34	14	0	48	41	118	0	0	159	207	0
8:30	0	0	0	0	0	0	0	0	0	0	0	56	10	0	66	31	71	0	0	102	168	0
8:45	0	0	0	0	0	0	0	0	0	0	0	33	15	0	48	45	73	0	0	118	166	0
Total	0	0	0	0	0	0	0	0	0	0	0	152	57	0	209	155	374	0	0	529	738	0
16:00	0	0	0	0	0	0	0	0	0	0	0	45	35	0	80	26	115	0	0	141	221	0
16:15	0	0	0	0	0	0	0	0	0	0	0	35	33	0	68	31	120	0	0	151	219	0
16:30	0	0	0	0	0	0	0	0	0	0	0	51	31	0	82	33	145	0	0	178	260	0
16:45	0	0	0	0	0	0	0	0	0	0	0	32	43	0	75	36	156	0	0	192	267	0
Total	0	0	0	0	0	0	0	0	0	0	0	163	142	0	305	126	536	0	0	662	967	0
17:00	0	0	0	0	0	0	0	0	0	0	0	42	54	0	96	30	212	0	0	242	338	0
17:15	0	0	0	0	0	0	0	0	0	0	0	49	64	0	113	39	190	0	0	229	342	0
17:30	0	0	0	0	0	0	0	0	0	0	0	57	49	0	106	24	194	0	0	218	324	0
17:45	0	0	0	0	0	0	0	0	0	0	0	41	44	0	85	28	162	0	0	190	275	0
Total	0	0	0	0	0	0	0	0	0	0	0	189	211	0	400	121	758	0	0	879	1279	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	592	457	0	1049	515	1938	0	0	2453	3502	0
Apprch %	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	56.4%	43.6%	0.0%		21.0%	79.0%	0.0%	0.0%			
Total %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.9%	13.0%	0.0%	30.0%	14.7%	55.3%	0.0%	0.0%	70.0%	100.0%	

AM PEAK HOUR	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	0	0	0	0	0	0	0	0	0	40	15	0	55	35	97	0	0	132	187
8:00	0	0	0	0	0	0	0	0	0	0	0	29	18	0	47	38	112	0	0	150	197
8:15	0	0	0	0	0	0	0	0	0	0	0	34	14	0	48	41	118	0	0	159	207
8:30	0	0	0	0	0	0	0	0	0	0	0	56	10	0	66	31	71	0	0	102	168
Total Volume	0	0	0	0	0	0	0	0	0	0	0	159	57	0	216	145	398	0	0	543	759
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	73.6%	26.4%	0.0%		26.7%	73.3%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.710	.792	.000	.818	.884	.843	.000	.000	.854	.917

PM PEAK HOUR	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	0	0	0	0	0	42	54	0	96	30	212	0	0	242	338
17:15	0	0	0	0	0	0	0	0	0	0	0	49	64	0	113	39	190	0	0	229	342
17:30	0	0	0	0	0	0	0	0	0	0	0	57	49	0	106	24	194	0	0	218	324
17:45	0	0	0	0	0	0	0	0	0	0	0	41	44	0	85	28	162	0	0	190	275
Total Volume	0	0	0	0	0	0	0	0	0	0	0	189	211	0	400	121	758	0	0	879	1279
% App Total	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	47.3%	52.8%	0.0%		13.8%	86.2%	0.0%	0.0%		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.829	.824	.000	.885	.776	.894	.000	.000	.908	.935

ALL TRAFFIC DATA

City of Oakland
All Vehicles & Uturns On Unshifted
Bikes & Peds On Bank 1
Nothing On Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 15-7921-007 Franklin Street & 11th Street
Date : 11/18/2015

Bank 1 Count = Bikes & Peds

	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Peds Total
7:00	0	0	0	21	0	0	0	0	18	0	0	1	0	22	1	0	1	1	17	2	3	78
7:15	0	0	0	30	0	0	0	0	24	0	0	0	0	35	0	0	3	0	28	3	3	117
7:30	0	1	0	42	1	0	0	0	30	0	0	0	0	30	0	0	0	0	29	0	1	131
7:45	0	0	1	29	1	1	0	0	29	1	0	1	0	41	1	0	4	0	35	4	7	134
Total	0	1	1	122	2	1	0	0	101	1	0	2	0	128	2	0	8	1	109	9	14	460
8:00	0	1	1	28	2	0	0	0	21	0	0	0	0	33	0	0	3	0	29	3	5	111
8:15	0	2	0	25	2	0	0	0	27	0	0	2	0	24	2	0	0	0	31	0	4	107
8:30	0	1	1	28	2	0	1	0	26	1	0	0	0	39	0	1	0	0	34	1	4	127
8:45	0	0	0	34	0	1	0	0	35	1	0	0	2	29	2	0	3	0	27	3	6	125
Total	0	4	2	115	6	1	1	0	109	2	0	2	2	125	4	1	6	0	121	7	19	470
16:00	0	0	0	24	0	0	0	2	30	2	0	6	0	34	6	2	1	0	37	3	11	125
16:15	0	1	0	39	1	0	0	0	22	0	0	3	0	42	3	1	1	0	31	2	6	134
16:30	0	1	0	34	1	0	1	0	39	1	0	3	0	57	3	0	5	0	39	5	10	169
16:45	0	1	1	36	2	1	0	0	37	1	0	4	0	59	4	1	3	0	53	4	11	185
Total	0	3	1	133	4	1	1	2	128	4	0	16	0	192	16	4	10	0	160	14	38	613
17:00	0	1	0	33	1	0	3	1	46	4	0	16	0	58	16	3	3	0	64	6	27	201
17:15	0	3	0	28	3	0	0	0	37	0	0	1	0	29	1	0	1	0	42	1	5	136
17:30	0	0	0	35	0	0	1	0	39	1	1	3	0	47	4	0	2	0	41	2	7	162
17:45	1	1	0	33	2	0	1	0	25	1	0	3	2	30	5	0	3	0	35	3	11	123
Total	1	5	0	129	6	0	5	1	147	6	1	23	2	164	26	3	9	0	182	12	50	622
Grand Total	1	13	4	499	18	3	7	3	485	13	1	43	4	609	48	8	33	1	572	42	121	2165
Apprch %	5.6%	72.2%	22.2%			23.1%	53.8%	23.1%			2.1%	89.6%	8.3%			19.0%	78.6%	2.4%				
Total %	0.8%	10.7%	3.3%		14.9%	2.5%	5.8%	2.5%		10.7%	0.8%	35.5%	3.3%		39.7%	6.6%	27.3%	0.8%		34.7%	100.0%	

AM PEAK HOUR	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
7:45	0	0	1	29	1	1	0	0	29	1	0	1	0	41	1	0	4	0	35	4	7
8:00	0	1	1	28	2	0	0	0	21	0	0	0	0	33	0	0	3	0	29	3	5
8:15	0	2	0	25	2	0	0	0	27	0	0	2	0	24	2	0	0	0	31	0	4
8:30	0	1	1	28	2	0	1	0	26	1	0	0	0	39	0	1	0	0	34	1	4
Total Volume	0	4	3	110	7	1	1	0	103	2	0	3	0	137	3	1	7	0	129	8	20
% App Total	0.0%	57.1%	42.9%			50.0%	50.0%	0.0%			0.0%	100.0%	0.0%			12.5%	87.5%	0.0%			
PHF	.000	.500	.750		.875	.250	.250	.000		.500	.000	.375	.000		.375	.250	.438	.000		.500	.714

PM PEAK HOUR	Franklin Street Southbound					11th Street Westbound					Franklin Street Northbound					11th Street Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	1	0	33	1	0	3	1	46	4	0	16	0	58	16	3	3	0	64	6	27
17:15	0	3	0	28	3	0	0	0	37	0	0	1	0	29	1	0	1	0	42	1	5
17:30	0	0	0	35	0	0	1	0	39	1	1	3	0	47	4	0	2	0	41	2	7
17:45	1	1	0	33	2	0	1	0	25	1	0	3	2	30	5	0	3	0	35	3	11
Total Volume	1	5	0	129	6	0	5	1	147	6	1	23	2	164	26	3	9	0	182	12	50
% App Total	16.7%	83.3%	0.0%			0.0%	83.3%	16.7%			3.8%	88.5%	7.7%			25.0%	75.0%	0.0%			
PHF	.250	.417	.000		.500	.000	.417	.250		.375	.250	.359	.250		.406	.250	.750	.000		.500	.463

Appendix B

Synchro Output Reports

FEHR PEERS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	309	549	0	0	0	0	0	299	72
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	0				0	1863	1900
Adj Flow Rate, veh/h				309	549	0				0	299	22
Adj No. of Lanes				0	4	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				885	2369	0				0	1883	133
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1412	4611	0				0	6369	433
Grp Volume(v), veh/h				309	549	0				0	233	88
Grp Sat Flow(s),veh/h/ln				1412	1458	0				0	1602	1735
Q Serve(g_s), s				7.7	3.9	0.0				0.0	2.1	2.2
Cycle Q Clear(g_c), s				7.7	3.9	0.0				0.0	2.1	2.2
Prop In Lane				1.00		0.00				0.00		0.25
Lane Grp Cap(c), veh/h				885	2369	0				0	1482	535
V/C Ratio(X)				0.35	0.23	0.00				0.00	0.16	0.16
Avail Cap(c_a), veh/h				885	2369	0				0	1482	535
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.1	7.2	0.0				0.0	15.1	15.1
Incr Delay (d2), s/veh				1.1	0.2	0.0				0.0	0.2	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.2	1.6	0.0				0.0	1.0	1.2
LnGrp Delay(d),s/veh				9.2	7.4	0.0				0.0	15.3	15.8
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					858						321	
Approach Delay, s/veh					8.1						15.4	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				4.2		9.7		
Green Ext Time (p_c), s				1.2		4.2		

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	61	649	55	165	449	0	0	54	42
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.74	0.91		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				61	649	29	165	449	0	0	54	16
Adj No. of Lanes				0	4	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				238	2714	121	386	941	0	0	1035	284
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				523	5958	266	680	2505	0	0	2753	729
Grp Volume(v), veh/h				214	338	186	315	299	0	0	34	36
Grp Sat Flow(s),veh/h/ln				1837	1602	1706	1490	1610	0	0	1770	1620
Q Serve(g_s), s				3.2	2.9	3.0	5.2	6.3	0.0	0.0	0.5	0.6
Cycle Q Clear(g_c), s				3.2	2.9	3.0	7.0	6.3	0.0	0.0	0.5	0.6
Prop In Lane				0.28		0.16	0.52		0.00	0.00		0.45
Lane Grp Cap(c), veh/h				837	1460	777	701	626	0	0	688	630
V/C Ratio(X)				0.26	0.23	0.24	0.45	0.48	0.00	0.00	0.05	0.06
Avail Cap(c_a), veh/h				837	1460	777	701	626	0	0	688	630
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.6	7.5	7.5	10.4	10.3	0.0	0.0	8.6	8.6
Incr Delay (d2), s/veh				0.7	0.4	0.7	2.1	2.6	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	1.3	1.6	3.4	3.2	0.0	0.0	0.3	0.3
LnGrp Delay(d),s/veh				8.3	7.8	8.2	12.5	12.9	0.0	0.0	8.7	8.8
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					739			614			70	
Approach Delay, s/veh					8.1			12.7			8.7	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				2.6		5.2		9.0
Green Ext Time (p_c), s				2.7		3.0		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	46	739	26	38	21	0	0	29	35
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.92	0.90		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				46	739	19	38	21	0	0	29	9
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				217	3747	98	315	154	0	0	340	105
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				367	6333	166	836	595	0	0	1315	408
Grp Volume(v), veh/h				231	364	208	59	0	0	0	0	38
Grp Sat Flow(s),veh/h/ln				1844	1602	1818	1431	0	0	0	0	1723
Q Serve(g_s), s				6.3	5.7	5.8	0.5	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s				6.3	5.7	5.8	1.6	0.0	0.0	0.0	0.0	1.0
Prop In Lane				0.20		0.09	0.64		0.00	0.00		0.24
Lane Grp Cap(c), veh/h				1091	1896	1075	468	0	0	0	0	445
V/C Ratio(X)				0.21	0.19	0.19	0.13	0.00	0.00	0.00	0.00	0.09
Avail Cap(c_a), veh/h				1091	1896	1075	468	0	0	0	0	445
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				12.4	12.2	12.2	17.1	0.0	0.0	0.0	0.0	16.9
Incr Delay (d2), s/veh				0.4	0.2	0.4	0.6	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.4	2.6	3.0	0.8	0.0	0.0	0.0	0.0	0.5
LnGrp Delay(d),s/veh				12.8	12.4	12.6	17.6	0.0	0.0	0.0	0.0	17.3
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					804			59			38	
Approach Delay, s/veh					12.6			17.6			17.3	
Approach LOS					B			B			B	

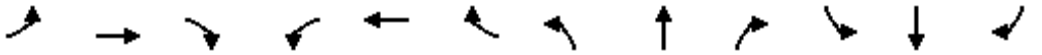
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.0		8.3		3.6
Green Ext Time (p_c), s				0.2		3.8		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	200	732	192	69	235	0	0	97	26
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.90	0.93		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1863	0	0	1870	1900
Adj Flow Rate, veh/h				200	732	130	69	235	0	0	97	10
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				632	2510	442	164	495	0	0	563	58
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1167	4633	815	265	1450	0	0	1647	170
Grp Volume(v), veh/h				309	496	256	304	0	0	0	0	107
Grp Sat Flow(s),veh/h/ln				1804	1602	1607	1715	0	0	0	0	1817
Q Serve(g_s), s				5.7	5.0	5.2	1.9	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s				5.7	5.0	5.2	8.0	0.0	0.0	0.0	0.0	2.5
Prop In Lane				0.65		0.51	0.23		0.00	0.00		0.09
Lane Grp Cap(c), veh/h				977	1735	870	659	0	0	0	0	621
V/C Ratio(X)				0.32	0.29	0.29	0.46	0.00	0.00	0.00	0.00	0.17
Avail Cap(c_a), veh/h				977	1735	870	659	0	0	0	0	621
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.6	7.5	7.5	15.6	0.0	0.0	0.0	0.0	13.8
Incr Delay (d2), s/veh				0.9	0.4	0.9	2.3	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	2.3	2.5	4.4	0.0	0.0	0.0	0.0	1.3
LnGrp Delay(d),s/veh				8.5	7.9	8.4	17.9	0.0	0.0	0.0	0.0	14.4
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					1062			304			107	
Approach Delay, s/veh					8.2			17.9			14.4	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				4.5		7.7		10.0
Green Ext Time (p_c), s				1.6		5.4		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	313	136	0	0	0	0	0	0	153	445	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900							1900	1863	0
Adj Flow Rate, veh/h	0	313	88							153	445	0
Adj No. of Lanes	0	4	0							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	2750	698							525	1584	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5337	1288							1213	4873	0
Grp Volume(v), veh/h	0	295	106							182	416	0
Grp Sat Flow(s),veh/h/ln	0	1602	1558							1475	1458	0
Q Serve(g_s), s	0.0	1.8	2.0							6.4	5.2	0.0
Cycle Q Clear(g_c), s	0.0	1.8	2.0							6.8	5.2	0.0
Prop In Lane	0.00		0.83							0.84		0.00
Lane Grp Cap(c), veh/h	0	2603	844							615	1494	0
V/C Ratio(X)	0.00	0.11	0.13							0.30	0.28	0.00
Avail Cap(c_a), veh/h	0	2603	844							615	1494	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.7	6.8							20.5	19.8	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							1.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.9							3.0	2.2	0.0
LnGrp Delay(d),s/veh	0.0	6.8	7.1							21.7	20.3	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		401									598	
Approach Delay, s/veh		6.9									20.7	
Approach LOS		A									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		4.0		8.8				
Green Ext Time (p_c), s		2.0		2.2				

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	402	17	0	0	0	0	591	179	49	57	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.90	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	31	402	9				0	591	131	49	57	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	228	3191	72				0	1033	228	261	590	0
Arrive On Green	0.17	0.17	0.17				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	449	6278	143				0	2911	622	385	1695	0
Grp Volume(v), veh/h	127	200	115				0	370	352	49	57	0
Grp Sat Flow(s),veh/h/ln	1840	1602	1825				0	1770	1670	385	1610	0
Q Serve(g_s), s	3.5	3.2	3.2				0.0	10.1	10.1	3.5	1.4	0.0
Cycle Q Clear(g_c), s	3.5	3.2	3.2				0.0	10.1	10.1	13.7	1.4	0.0
Prop In Lane	0.24		0.08				0.00		0.37	1.00		0.00
Lane Grp Cap(c), veh/h	935	1629	928				0	649	612	261	590	0
V/C Ratio(X)	0.14	0.12	0.12				0.00	0.57	0.57	0.19	0.10	0.00
Avail Cap(c_a), veh/h	935	1629	928				0	649	612	261	590	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.7	13.6	13.6				0.0	15.2	15.2	20.7	12.5	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.3				0.0	3.6	3.9	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.4	1.7				0.0	5.5	5.3	0.8	0.7	0.0
LnGrp Delay(d),s/veh	14.0	13.8	13.9				0.0	18.8	19.1	22.3	12.8	0.0
LnGrp LOS	B	B	B					B	B	C	B	
Approach Vol, veh/h		442						722			106	
Approach Delay, s/veh		13.9						19.0			17.2	
Approach LOS		B						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		34.5		25.5				25.5
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		30.5		22.0				22.0
Max Q Clear Time (g_c+I1), s		5.5		15.7				12.1
Green Ext Time (p_c), s		1.9		2.2				2.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	145	398	0	0	0	0	0	159	57	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.88			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0				0	1863	1900			
Adj Flow Rate, veh/h	145	398	0				0	159	30			
Adj No. of Lanes	0	4	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	540	1567	0				0	2864	477			
Arrive On Green	0.34	0.34	0.00				0.00	0.52	0.52			
Sat Flow, veh/h	1251	4822	0				0	5717	909			
Grp Volume(v), veh/h	166	377	0				0	138	51			
Grp Sat Flow(s),veh/h/ln	1463	1458	0				0	1602	1559			
Q Serve(g_s), s	4.7	3.7	0.0				0.0	0.8	1.0			
Cycle Q Clear(g_c), s	5.0	3.7	0.0				0.0	0.8	1.0			
Prop In Lane	0.87		0.00				0.00		0.58			
Lane Grp Cap(c), veh/h	612	1494	0				0	2523	819			
V/C Ratio(X)	0.27	0.25	0.00				0.00	0.05	0.06			
Avail Cap(c_a), veh/h	612	1494	0				0	2523	819			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.6	14.2	0.0				0.0	7.0	7.0			
Incr Delay (d2), s/veh	1.1	0.4	0.0				0.0	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.2	1.6	0.0				0.0	0.4	0.4			
LnGrp Delay(d),s/veh	15.7	14.6	0.0				0.0	7.0	7.1			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		543						189				
Approach Delay, s/veh		15.0						7.0				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		24.0		36.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		20.5		31.5				
Max Q Clear Time (g_c+I1), s		7.0		3.0				
Green Ext Time (p_c), s		2.2		0.9				

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	230	538	0	0	0	0	0	566	192
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	0				0	1863	1900
Adj Flow Rate, veh/h				230	538	0				0	566	90
Adj No. of Lanes				0	4	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				885	2369	0				0	1717	259
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1412	4611	0				0	5831	839
Grp Volume(v), veh/h				230	538	0				0	484	172
Grp Sat Flow(s),veh/h/ln				1412	1458	0				0	1602	1603
Q Serve(g_s), s				5.4	3.9	0.0				0.0	4.6	5.0
Cycle Q Clear(g_c), s				5.4	3.9	0.0				0.0	4.6	5.0
Prop In Lane				1.00		0.00				0.00		0.52
Lane Grp Cap(c), veh/h				885	2369	0				0	1482	494
V/C Ratio(X)				0.26	0.23	0.00				0.00	0.33	0.35
Avail Cap(c_a), veh/h				885	2369	0				0	1482	494
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				7.5	7.2	0.0				0.0	16.0	16.1
Incr Delay (d2), s/veh				0.7	0.2	0.0				0.0	0.6	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.2	1.6	0.0				0.0	2.1	2.5
LnGrp Delay(d),s/veh				8.2	7.4	0.0				0.0	16.5	18.0
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					768						656	
Approach Delay, s/veh					7.7						16.9	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				7.0		7.4		
Green Ext Time (p_c), s				2.6		3.8		

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	42	546	85	133	418	0	0	115	75
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.89	0.91		1.00	1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1872	0	0	1863	1900
Adj Flow Rate, veh/h				42	546	39	133	418	0	0	115	29
Adj No. of Lanes				0	4	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				194	2698	192	347	978	0	0	1069	254
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				426	5923	422	590	2599	0	0	2842	653
Grp Volume(v), veh/h				182	286	159	281	270	0	0	72	72
Grp Sat Flow(s),veh/h/ln				1841	1602	1726	1486	1618	0	0	1770	1632
Q Serve(g_s), s				2.7	2.4	2.5	3.7	5.5	0.0	0.0	1.2	1.3
Cycle Q Clear(g_c), s				2.7	2.4	2.5	5.9	5.5	0.0	0.0	1.2	1.3
Prop In Lane				0.23		0.24	0.47		0.00	0.00		0.40
Lane Grp Cap(c), veh/h				839	1460	786	696	629	0	0	688	635
V/C Ratio(X)				0.22	0.20	0.20	0.40	0.43	0.00	0.00	0.10	0.11
Avail Cap(c_a), veh/h				839	1460	786	696	629	0	0	688	635
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.4	7.3	7.3	10.1	10.1	0.0	0.0	8.8	8.8
Incr Delay (d2), s/veh				0.6	0.3	0.6	1.7	2.1	0.0	0.0	0.3	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.5	1.1	1.3	2.9	2.8	0.0	0.0	0.6	0.6
LnGrp Delay(d),s/veh				8.0	7.6	7.9	11.8	12.2	0.0	0.0	9.1	9.2
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					627			551			144	
Approach Delay, s/veh					7.8			12.0			9.1	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				3.3		4.7		7.9
Green Ext Time (p_c), s				2.7		2.5		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	23	581	29	13	14	0	0	20	47
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	0.96		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				23	581	18	13	14	0	0	20	12
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				141	3803	120	256	246	0	0	276	165
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				238	6428	202	645	952	0	0	1067	640
Grp Volume(v), veh/h				179	281	161	27	0	0	0	0	32
Grp Sat Flow(s),veh/h/ln				1851	1602	1813	1598	0	0	0	0	1707
Q Serve(g_s), s				4.8	4.4	4.4	0.0	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear(g_c), s				4.8	4.4	4.4	0.7	0.0	0.0	0.0	0.0	0.9
Prop In Lane				0.13		0.11	0.48		0.00	0.00		0.37
Lane Grp Cap(c), veh/h				1095	1896	1073	502	0	0	0	0	441
V/C Ratio(X)				0.16	0.15	0.15	0.05	0.00	0.00	0.00	0.00	0.07
Avail Cap(c_a), veh/h				1095	1896	1073	502	0	0	0	0	441
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				11.8	11.6	11.6	16.7	0.0	0.0	0.0	0.0	16.8
Incr Delay (d2), s/veh				0.3	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	2.0	2.3	0.4	0.0	0.0	0.0	0.0	0.4
LnGrp Delay(d),s/veh				12.1	11.8	11.9	16.9	0.0	0.0	0.0	0.0	17.1
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					622			27			32	
Approach Delay, s/veh					11.9			16.9			17.1	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				2.9		6.8		2.7
Green Ext Time (p_c), s				0.1		2.8		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	120	542	78	43	136	0	0	180	51
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.87	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1900	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				120	542	44	43	136	0	0	180	34
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	2	0	2	2	0	0	2	2
Cap, veh/h				579	2838	228	168	481	0	0	513	97
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1068	5240	422	274	1408	0	0	1502	284
Grp Volume(v), veh/h				203	324	179	179	0	0	0	0	214
Grp Sat Flow(s),veh/h/ln				1809	1602	1717	1682	0	0	0	0	1786
Q Serve(g_s), s				3.5	3.1	3.2	0.0	0.0	0.0	0.0	0.0	5.4
Cycle Q Clear(g_c), s				3.5	3.1	3.2	4.2	0.0	0.0	0.0	0.0	5.4
Prop In Lane				0.59		0.25	0.24		0.00	0.00		0.16
Lane Grp Cap(c), veh/h				980	1735	930	649	0	0	0	0	610
V/C Ratio(X)				0.21	0.19	0.19	0.28	0.00	0.00	0.00	0.00	0.35
Avail Cap(c_a), veh/h				980	1735	930	649	0	0	0	0	610
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.1	7.0	7.0	14.4	0.0	0.0	0.0	0.0	14.8
Incr Delay (d2), s/veh				0.5	0.2	0.5	1.1	0.0	0.0	0.0	0.0	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	1.4	1.6	2.3	0.0	0.0	0.0	0.0	2.9
LnGrp Delay(d),s/veh				7.6	7.2	7.5	15.4	0.0	0.0	0.0	0.0	16.4
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					706			179			214	
Approach Delay, s/veh					7.4			15.4			16.4	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				7.4		5.5		6.2
Green Ext Time (p_c), s				1.4		3.3		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	797	171	0	0	0	0	0	0	166	605	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900							1900	1863	0
Adj Flow Rate, veh/h	0	797	150							166	605	0
Adj No. of Lanes	0	4	0							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	2935	534							464	1655	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5679	986							1054	5083	0
Grp Volume(v), veh/h	0	704	243							229	542	0
Grp Sat Flow(s),veh/h/ln	0	1602	1598							1526	1458	0
Q Serve(g_s), s	0.0	4.7	4.9							7.5	6.9	0.0
Cycle Q Clear(g_c), s	0.0	4.7	4.9							8.3	6.9	0.0
Prop In Lane	0.00		0.62							0.72		0.00
Lane Grp Cap(c), veh/h	0	2603	865							625	1494	0
V/C Ratio(X)	0.00	0.27	0.28							0.37	0.36	0.00
Avail Cap(c_a), veh/h	0	2603	865							625	1494	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.4	7.4							21.1	20.6	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.8							1.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.4							3.8	2.9	0.0
LnGrp Delay(d),s/veh	0.0	7.6	8.2							22.8	21.3	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		947									771	
Approach Delay, s/veh		7.8									21.7	
Approach LOS		A									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		6.9		10.3				
Green Ext Time (p_c), s		5.1		2.8				

Intersection Summary	
HCM 2010 Ctrl Delay	14.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	72	876	29	0	0	0	0	474	247	68	106	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90				1.00		0.86	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	72	876	22				0	474	213	68	106	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	242	3164	81				0	828	367	254	606	0
Arrive On Green	0.17	0.17	0.17				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	475	6224	159				0	2352	1001	378	1738	0
Grp Volume(v), veh/h	279	440	251				0	370	317	73	101	0
Grp Sat Flow(s),veh/h/ln	1839	1602	1815				0	1770	1491	421	1610	0
Q Serve(g_s), s	8.0	7.2	7.2				0.0	10.0	10.3	4.7	2.5	0.0
Cycle Q Clear(g_c), s	8.0	7.2	7.2				0.0	10.0	10.3	15.0	2.5	0.0
Prop In Lane	0.26		0.09				0.00		0.67	0.93		0.00
Lane Grp Cap(c), veh/h	935	1629	923				0	649	547	270	590	0
V/C Ratio(X)	0.30	0.27	0.27				0.00	0.57	0.58	0.27	0.17	0.00
Avail Cap(c_a), veh/h	935	1629	923				0	649	547	270	590	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.6	15.3	15.3				0.0	15.2	15.3	20.5	12.8	0.0
Incr Delay (d2), s/veh	0.8	0.4	0.7				0.0	3.6	4.4	2.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	3.3	3.8				0.0	5.5	4.8	1.2	1.2	0.0
LnGrp Delay(d),s/veh	16.4	15.7	16.0				0.0	18.8	19.7	22.9	13.5	0.0
LnGrp LOS	B	B	B					B	B	C	B	
Approach Vol, veh/h		970						687			174	
Approach Delay, s/veh		16.0						19.2			17.5	
Approach LOS		B						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		34.5		25.5				25.5
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		30.5		22.0				22.0
Max Q Clear Time (g_c+I1), s		10.0		17.0				12.3
Green Ext Time (p_c), s		4.5		2.0				3.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	121	758	0	0	0	0	0	189	211	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.83			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0				0	1863	1900			
Adj Flow Rate, veh/h	121	758	0				0	189	204			
Adj No. of Lanes	0	4	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	318	1827	0				0	2523	687			
Arrive On Green	0.34	0.34	0.00				0.00	0.52	0.52			
Sat Flow, veh/h	673	5585	0				0	5067	1309			
Grp Volume(v), veh/h	259	620	0				0	189	204			
Grp Sat Flow(s),veh/h/ln	1648	1458	0				0	1602	1309			
Q Serve(g_s), s	4.8	6.5	0.0				0.0	1.2	5.3			
Cycle Q Clear(g_c), s	7.1	6.5	0.0				0.0	1.2	5.3			
Prop In Lane	0.47		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	651	1494	0				0	2523	687			
V/C Ratio(X)	0.40	0.41	0.00				0.00	0.07	0.30			
Avail Cap(c_a), veh/h	651	1494	0				0	2523	687			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	15.3	15.1	0.0				0.0	7.0	8.0			
Incr Delay (d2), s/veh	1.8	0.9	0.0				0.0	0.1	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	2.7	0.0				0.0	0.5	2.1			
LnGrp Delay(d),s/veh	17.1	16.0	0.0				0.0	7.1	9.1			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		879						393				
Approach Delay, s/veh		16.3						8.1				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		24.0		36.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		20.5		31.5				
Max Q Clear Time (g_c+I1), s		9.1		7.3				
Green Ext Time (p_c), s		3.4		2.1				

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	301	570	0	0	0	0	0	299	72
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	0				0	1900	1900
Adj Flow Rate, veh/h				301	570	0				0	299	22
Adj No. of Lanes				0	4	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				900	2416	0				0	1921	136
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1440	4703	0				0	6497	441
Grp Volume(v), veh/h				301	570	0				0	233	88
Grp Sat Flow(s),veh/h/ln				1440	1487	0				0	1634	1770
Q Serve(g_s), s				7.3	4.0	0.0				0.0	2.1	2.2
Cycle Q Clear(g_c), s				7.3	4.0	0.0				0.0	2.1	2.2
Prop In Lane				1.00		0.00				0.00		0.25
Lane Grp Cap(c), veh/h				900	2416	0				0	1511	546
V/C Ratio(X)				0.33	0.24	0.00				0.00	0.15	0.16
Avail Cap(c_a), veh/h				900	2416	0				0	1511	546
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.0	7.2	0.0				0.0	15.1	15.1
Incr Delay (d2), s/veh				1.0	0.2	0.0				0.0	0.2	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.1	1.7	0.0				0.0	1.0	1.2
LnGrp Delay(d),s/veh				9.0	7.5	0.0				0.0	15.3	15.7
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					871						321	
Approach Delay, s/veh					8.0						15.4	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				4.2		9.3		
Green Ext Time (p_c), s				1.2		4.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	70	646	58	181	455	0	0	54	42
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.74	0.91		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				70	646	30	181	455	0	0	54	16
Adj No. of Lanes				0	4	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				276	2729	126	411	933	0	0	1055	289
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				605	5991	277	738	2486	0	0	2808	744
Grp Volume(v), veh/h				216	342	188	325	311	0	0	34	36
Grp Sat Flow(s),veh/h/ln				1870	1634	1736	1495	1643	0	0	1805	1652
Q Serve(g_s), s				3.2	2.9	3.0	5.7	6.4	0.0	0.0	0.5	0.6
Cycle Q Clear(g_c), s				3.2	2.9	3.0	7.3	6.4	0.0	0.0	0.5	0.6
Prop In Lane				0.32		0.16	0.56		0.00	0.00		0.45
Lane Grp Cap(c), veh/h				852	1489	791	706	639	0	0	702	643
V/C Ratio(X)				0.25	0.23	0.24	0.46	0.49	0.00	0.00	0.05	0.06
Avail Cap(c_a), veh/h				852	1489	791	706	639	0	0	702	643
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.99	0.99	0.99	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.5	7.4	7.5	10.5	10.4	0.0	0.0	8.6	8.6
Incr Delay (d2), s/veh				0.7	0.4	0.7	0.1	0.2	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	1.4	1.6	3.1	2.9	0.0	0.0	0.3	0.3
LnGrp Delay(d),s/veh				8.2	7.8	8.2	10.6	10.5	0.0	0.0	8.7	8.8
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					746			636			70	
Approach Delay, s/veh					8.0			10.6			8.7	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				2.6		5.2		9.3
Green Ext Time (p_c), s				2.8		2.9		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	9.2
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	46	732	26	40	21	0	0	29	36
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.92	0.90		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				46	732	19	40	21	0	0	29	9
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				223	3819	101	324	151	0	0	346	108
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				377	6455	170	868	584	0	0	1341	416
Grp Volume(v), veh/h				229	361	207	61	0	0	0	0	38
Grp Sat Flow(s),veh/h/ln				1881	1634	1854	1452	0	0	0	0	1757
Q Serve(g_s), s				6.1	5.5	5.6	0.6	0.0	0.0	0.0	0.0	1.0
Cycle Q Clear(g_c), s				6.1	5.5	5.6	1.6	0.0	0.0	0.0	0.0	1.0
Prop In Lane				0.20		0.09	0.66		0.00	0.00		0.24
Lane Grp Cap(c), veh/h				1113	1934	1097	474	0	0	0	0	454
V/C Ratio(X)				0.21	0.19	0.19	0.13	0.00	0.00	0.00	0.00	0.08
Avail Cap(c_a), veh/h				1113	1934	1097	474	0	0	0	0	454
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.95	0.95	0.95	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				12.3	12.1	12.1	17.1	0.0	0.0	0.0	0.0	16.9
Incr Delay (d2), s/veh				0.4	0.2	0.4	0.6	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.3	2.6	3.0	0.9	0.0	0.0	0.0	0.0	0.5
LnGrp Delay(d),s/veh				12.7	12.3	12.5	17.6	0.0	0.0	0.0	0.0	17.2
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					797			61			38	
Approach Delay, s/veh					12.5			17.6			17.2	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.0		8.1		3.6
Green Ext Time (p_c), s				0.2		3.5		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	200	730	192	64	235	0	0	97	26
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.90	0.93		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				200	730	130	64	235	0	0	97	10
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				646	2557	451	158	516	0	0	572	59
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1192	4722	833	250	1510	0	0	1673	173
Grp Volume(v), veh/h				309	496	256	299	0	0	0	0	107
Grp Sat Flow(s),veh/h/ln				1840	1634	1638	1760	0	0	0	0	1846
Q Serve(g_s), s				5.5	4.9	5.1	1.2	0.0	0.0	0.0	0.0	2.4
Cycle Q Clear(g_c), s				5.5	4.9	5.1	7.5	0.0	0.0	0.0	0.0	2.4
Prop In Lane				0.65		0.51	0.21		0.00	0.00		0.09
Lane Grp Cap(c), veh/h				997	1770	887	674	0	0	0	0	631
V/C Ratio(X)				0.31	0.28	0.29	0.44	0.00	0.00	0.00	0.00	0.17
Avail Cap(c_a), veh/h				997	1770	887	674	0	0	0	0	631
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.6	7.4	7.5	15.4	0.0	0.0	0.0	0.0	13.8
Incr Delay (d2), s/veh				0.8	0.4	0.8	2.1	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	2.3	2.5	4.2	0.0	0.0	0.0	0.0	1.3
LnGrp Delay(d),s/veh				8.4	7.8	8.3	17.5	0.0	0.0	0.0	0.0	14.4
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					1060			299			107	
Approach Delay, s/veh					8.1			17.5			14.4	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				4.4		7.5		9.5
Green Ext Time (p_c), s				1.4		5.0		1.2

Intersection Summary	
HCM 2010 Ctrl Delay	10.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	308	136	0	0	0	0	0	0	140	450	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900							1900	1900	0
Adj Flow Rate, veh/h	0	308	89							140	450	0
Adj No. of Lanes	0	4	0							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0							0	0	0
Cap, veh/h	0	2788	725							503	1650	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5414	1338							1160	5073	0
Grp Volume(v), veh/h	0	292	105							178	412	0
Grp Sat Flow(s),veh/h/ln	0	1634	1583							1529	1487	0
Q Serve(g_s), s	0.0	1.7	2.0							5.8	5.1	0.0
Cycle Q Clear(g_c), s	0.0	1.7	2.0							6.4	5.1	0.0
Prop In Lane	0.00		0.84							0.78		0.00
Lane Grp Cap(c), veh/h	0	2655	858							630	1524	0
V/C Ratio(X)	0.00	0.11	0.12							0.28	0.27	0.00
Avail Cap(c_a), veh/h	0	2655	858							630	1524	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.7	6.8							20.3	19.8	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							1.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.9							2.9	2.1	0.0
LnGrp Delay(d),s/veh	0.0	6.8	7.0							21.4	20.2	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		397									590	
Approach Delay, s/veh		6.9									20.6	
Approach LOS		A									C	

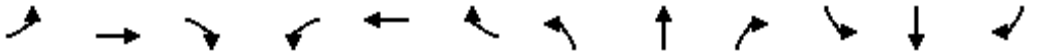
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		4.0		8.4				
Green Ext Time (p_c), s		2.0		2.2				

Intersection Summary	
HCM 2010 Ctrl Delay	15.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	423	17	0	0	0	0	589	180	58	57	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.90	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	55	423	9				0	589	132	58	57	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	379	3167	68				0	1027	229	259	589	0
Arrive On Green	0.17	0.17	0.17				0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	734	6131	132				0	2960	639	389	1729	0
Grp Volume(v), veh/h	140	220	127				0	370	351	58	57	0
Grp Sat Flow(s),veh/h/ln	1863	1634	1866				0	1805	1700	389	1643	0
Q Serve(g_s), s	3.8	3.4	3.5				0.0	9.9	10.0	4.2	1.4	0.0
Cycle Q Clear(g_c), s	3.8	3.4	3.5				0.0	9.9	10.0	14.2	1.4	0.0
Prop In Lane	0.39		0.07				0.00		0.38	1.00		0.00
Lane Grp Cap(c), veh/h	963	1688	964				0	647	609	259	589	0
V/C Ratio(X)	0.14	0.13	0.13				0.00	0.57	0.58	0.22	0.10	0.00
Avail Cap(c_a), veh/h	963	1688	964				0	647	609	259	589	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.6	13.5	13.5				0.0	15.5	15.6	21.3	12.8	0.0
Incr Delay (d2), s/veh	0.3	0.2	0.3				0.0	3.7	3.9	2.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.6	1.9				0.0	5.6	5.3	1.0	0.7	0.0
LnGrp Delay(d),s/veh	13.9	13.6	13.7				0.0	19.2	19.5	23.3	13.1	0.0
LnGrp LOS	B	B	B					B	B	C	B	
Approach Vol, veh/h		487						721			115	
Approach Delay, s/veh		13.7						19.3			18.3	
Approach LOS		B						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		35.0		25.0				25.0
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		31.0		21.5				21.5
Max Q Clear Time (g_c+I1), s		5.8		16.2				12.0
Green Ext Time (p_c), s		2.0		2.0				2.9

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	145	395	0	0	0	0	0	159	57	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.88			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0				0	1900	1900			
Adj Flow Rate, veh/h	145	395	0				0	159	29			
Adj No. of Lanes	0	4	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	575	1669	0				0	2843	459			
Arrive On Green	0.36	0.36	0.00				0.00	0.51	0.51			
Sat Flow, veh/h	1290	4901	0				0	5859	903			
Grp Volume(v), veh/h	165	375	0				0	137	51			
Grp Sat Flow(s),veh/h/ln	1488	1487	0				0	1634	1594			
Q Serve(g_s), s	4.5	3.5	0.0				0.0	0.8	1.0			
Cycle Q Clear(g_c), s	4.7	3.5	0.0				0.0	0.8	1.0			
Prop In Lane	0.88		0.00				0.00		0.57			
Lane Grp Cap(c), veh/h	646	1598	0				0	2492	810			
V/C Ratio(X)	0.25	0.23	0.00				0.00	0.05	0.06			
Avail Cap(c_a), veh/h	646	1598	0				0	2492	810			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	13.8	13.5	0.0				0.0	7.5	7.5			
Incr Delay (d2), s/veh	0.9	0.3	0.0				0.0	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.1	1.5	0.0				0.0	0.4	0.5			
LnGrp Delay(d),s/veh	14.8	13.8	0.0				0.0	7.5	7.6			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		540						188				
Approach Delay, s/veh		14.1						7.5				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		25.0		35.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		21.5		30.5				
Max Q Clear Time (g_c+I1), s		6.7		3.0				
Green Ext Time (p_c), s		2.1		0.8				

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	279	555	0	0	0	0	0	566	192
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	0				0	1900	1900
Adj Flow Rate, veh/h				279	555	0				0	566	90
Adj No. of Lanes				0	4	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				900	2416	0				0	1752	264
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1440	4703	0				0	5947	856
Grp Volume(v), veh/h				279	555	0				0	484	172
Grp Sat Flow(s),veh/h/ln				1440	1487	0				0	1634	1635
Q Serve(g_s), s				6.6	3.9	0.0				0.0	4.5	4.9
Cycle Q Clear(g_c), s				6.6	3.9	0.0				0.0	4.5	4.9
Prop In Lane				1.00		0.00				0.00		0.52
Lane Grp Cap(c), veh/h				900	2416	0				0	1511	504
V/C Ratio(X)				0.31	0.23	0.00				0.00	0.32	0.34
Avail Cap(c_a), veh/h				900	2416	0				0	1511	504
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				7.8	7.2	0.0				0.0	15.9	16.0
Incr Delay (d2), s/veh				0.9	0.2	0.0				0.0	0.6	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	1.6	0.0				0.0	2.1	2.5
LnGrp Delay(d),s/veh				8.7	7.4	0.0				0.0	16.5	17.9
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					834						656	
Approach Delay, s/veh					7.9						16.8	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				6.9		8.6		
Green Ext Time (p_c), s				2.4		3.8		

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	49	590	87	153	422	0	0	115	76
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.89	0.91		1.00	1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				49	590	40	153	422	0	0	115	30
Adj No. of Lanes				0	4	0	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				213	2749	186	381	949	0	0	1082	265
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				468	6034	409	666	2527	0	0	2877	682
Grp Volume(v), veh/h				197	310	173	291	284	0	0	72	73
Grp Sat Flow(s),veh/h/ln				1877	1634	1767	1464	1643	0	0	1805	1659
Q Serve(g_s), s				2.9	2.6	2.7	4.5	5.7	0.0	0.0	1.1	1.3
Cycle Q Clear(g_c), s				2.9	2.6	2.7	6.4	5.7	0.0	0.0	1.1	1.3
Prop In Lane				0.25		0.23	0.53		0.00	0.00		0.41
Lane Grp Cap(c), veh/h				855	1489	805	691	639	0	0	702	645
V/C Ratio(X)				0.23	0.21	0.21	0.42	0.44	0.00	0.00	0.10	0.11
Avail Cap(c_a), veh/h				855	1489	805	691	639	0	0	702	645
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.99	0.99	0.99	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.4	7.4	7.4	10.2	10.2	0.0	0.0	8.8	8.8
Incr Delay (d2), s/veh				0.6	0.3	0.6	0.1	0.1	0.0	0.0	0.3	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	1.2	1.4	2.7	2.6	0.0	0.0	0.6	0.6
LnGrp Delay(d),s/veh				8.1	7.7	8.0	10.3	10.3	0.0	0.0	9.0	9.1
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					679			575			145	
Approach Delay, s/veh					7.9			10.3			9.1	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				3.3		4.9		8.4
Green Ext Time (p_c), s				2.9		2.6		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	23	633	29	20	14	0	0	20	50
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	0.96		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				23	633	22	20	14	0	0	20	23
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				131	3873	137	306	192	0	0	202	232
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				222	6547	231	814	741	0	0	782	899
Grp Volume(v), veh/h				196	307	175	34	0	0	0	0	43
Grp Sat Flow(s),veh/h/ln				1889	1634	1843	1556	0	0	0	0	1681
Q Serve(g_s), s				5.2	4.7	4.7	0.0	0.0	0.0	0.0	0.0	1.2
Cycle Q Clear(g_c), s				5.2	4.7	4.7	0.8	0.0	0.0	0.0	0.0	1.2
Prop In Lane				0.12		0.13	0.59		0.00	0.00		0.53
Lane Grp Cap(c), veh/h				1118	1934	1090	497	0	0	0	0	434
V/C Ratio(X)				0.17	0.16	0.16	0.07	0.00	0.00	0.00	0.00	0.10
Avail Cap(c_a), veh/h				1118	1934	1090	497	0	0	0	0	434
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.98	0.98	0.98	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				11.9	11.7	11.8	16.8	0.0	0.0	0.0	0.0	16.9
Incr Delay (d2), s/veh				0.3	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	2.2	2.5	0.5	0.0	0.0	0.0	0.0	0.6
LnGrp Delay(d),s/veh				12.3	11.9	12.1	17.1	0.0	0.0	0.0	0.0	17.4
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					678			34			43	
Approach Delay, s/veh					12.1			17.1			17.4	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.2		7.2		2.8
Green Ext Time (p_c), s				0.2		2.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	12.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	120	557	78	80	136	0	0	180	51
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.87	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				120	557	16	80	136	0	0	180	35
Adj No. of Lanes				0	4	0	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				606	3073	89	226	350	0	0	521	101
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1119	5673	164	420	1026	0	0	1524	296
Grp Volume(v), veh/h				198	315	180	216	0	0	0	0	215
Grp Sat Flow(s),veh/h/ln				1844	1634	1843	1445	0	0	0	0	1820
Q Serve(g_s), s				3.3	2.9	3.0	2.5	0.0	0.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s				3.3	2.9	3.0	7.8	0.0	0.0	0.0	0.0	5.3
Prop In Lane				0.61		0.09	0.37		0.00	0.00		0.16
Lane Grp Cap(c), veh/h				999	1770	998	576	0	0	0	0	622
V/C Ratio(X)				0.20	0.18	0.18	0.38	0.00	0.00	0.00	0.00	0.35
Avail Cap(c_a), veh/h				999	1770	998	576	0	0	0	0	622
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.1	7.0	7.0	15.3	0.0	0.0	0.0	0.0	14.7
Incr Delay (d2), s/veh				0.4	0.2	0.4	1.9	0.0	0.0	0.0	0.0	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	1.4	1.6	3.1	0.0	0.0	0.0	0.0	2.9
LnGrp Delay(d),s/veh				7.5	7.2	7.4	17.1	0.0	0.0	0.0	0.0	16.3
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					693			216			215	
Approach Delay, s/veh					7.3			17.1			16.3	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				7.3		5.3		9.8
Green Ext Time (p_c), s				1.5		3.0		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	825	171	0	0	0	0	0	0	211	609	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900							1900	1900	0
Adj Flow Rate, veh/h	0	825	124							211	609	0
Adj No. of Lanes	0	4	0							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0							0	0	0
Cap, veh/h	0	3108	455							545	1602	0
Arrive On Green	0.00	0.18	0.18							0.11	0.11	0.00
Sat Flow, veh/h	0	6003	839							1267	4932	0
Grp Volume(v), veh/h	0	702	247							244	576	0
Grp Sat Flow(s),veh/h/ln	0	1634	1674							1495	1487	0
Q Serve(g_s), s	0.0	7.4	7.7							8.8	7.2	0.0
Cycle Q Clear(g_c), s	0.0	7.4	7.7							9.1	7.2	0.0
Prop In Lane	0.00		0.50							0.86		0.00
Lane Grp Cap(c), veh/h	0	2655	907							623	1524	0
V/C Ratio(X)	0.00	0.26	0.27							0.39	0.38	0.00
Avail Cap(c_a), veh/h	0	2655	907							623	1524	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	14.3	14.4							21.5	20.7	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.7							1.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	3.7							4.1	3.1	0.0
LnGrp Delay(d),s/veh	0.0	14.6	15.2							23.4	21.4	0.0
LnGrp LOS		B	B							C	C	
Approach Vol, veh/h		949									820	
Approach Delay, s/veh		14.7									22.0	
Approach LOS		B									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		9.7		11.1				
Green Ext Time (p_c), s		4.9		2.8				

Intersection Summary	
HCM 2010 Ctrl Delay	18.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	91	897	29	0	0	0	0	479	249	75	106	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91				1.00		0.85	0.97		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	91	897	21				0	479	201	75	106	0
Adj No. of Lanes	0	4	0				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	304	3233	77				0	846	350	262	592	0
Arrive On Green	0.17	0.17	0.17				0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	589	6257	149				0	2455	977	398	1740	0
Grp Volume(v), veh/h	289	458	262				0	365	315	76	105	0
Grp Sat Flow(s),veh/h/ln	1871	1634	1856				0	1805	1532	409	1643	0
Q Serve(g_s), s	8.1	7.3	7.4				0.0	9.8	10.0	5.3	2.6	0.0
Cycle Q Clear(g_c), s	8.1	7.3	7.4				0.0	9.8	10.0	15.3	2.6	0.0
Prop In Lane	0.31		0.08				0.00		0.64	0.98		0.00
Lane Grp Cap(c), veh/h	966	1688	959				0	647	549	266	589	0
V/C Ratio(X)	0.30	0.27	0.27				0.00	0.56	0.57	0.29	0.18	0.00
Avail Cap(c_a), veh/h	966	1688	959				0	647	549	266	589	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.4	15.1	15.1				0.0	15.5	15.6	21.5	13.2	0.0
Incr Delay (d2), s/veh	0.8	0.4	0.7				0.0	3.5	4.3	2.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	3.4	4.0				0.0	5.4	4.9	1.3	1.3	0.0
LnGrp Delay(d),s/veh	16.2	15.5	15.8				0.0	19.0	19.9	24.3	13.9	0.0
LnGrp LOS	B	B	B					B	B	C	B	
Approach Vol, veh/h		1009						680			181	
Approach Delay, s/veh		15.8						19.4			18.2	
Approach LOS		B						B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		35.0		25.0				25.0
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		31.0		21.5				21.5
Max Q Clear Time (g_c+I1), s		10.1		17.3				12.0
Green Ext Time (p_c), s		4.4		1.7				3.1

Intersection Summary	
HCM 2010 Ctrl Delay	17.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	121	778	0	0	0	0	0	189	211	8	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.82			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0				0	1900	1900			
Adj Flow Rate, veh/h	121	778	0				0	189	183			
Adj No. of Lanes	0	4	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	330	1959	0				0	2492	675			
Arrive On Green	0.36	0.36	0.00				0.00	0.51	0.51			
Sat Flow, veh/h	677	5710	0				0	5168	1328			
Grp Volume(v), veh/h	264	635	0				0	189	183			
Grp Sat Flow(s),veh/h/ln	1684	1487	0				0	1634	1328			
Q Serve(g_s), s	4.5	6.4	0.0				0.0	1.2	4.7			
Cycle Q Clear(g_c), s	6.9	6.4	0.0				0.0	1.2	4.7			
Prop In Lane	0.46		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	691	1598	0				0	2492	675			
V/C Ratio(X)	0.38	0.40	0.00				0.00	0.08	0.27			
Avail Cap(c_a), veh/h	691	1598	0				0	2492	675			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.5	14.4	0.0				0.0	7.5	8.4			
Incr Delay (d2), s/veh	1.6	0.7	0.0				0.0	0.1	1.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.6	2.7	0.0				0.0	0.5	1.9			
LnGrp Delay(d),s/veh	16.1	15.1	0.0				0.0	7.6	9.4			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		899						372				
Approach Delay, s/veh		15.4						8.5				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		25.0		35.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		21.5		30.5				
Max Q Clear Time (g_c+I1), s		8.9		6.7				
Green Ext Time (p_c), s		3.4		1.8				

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	370	690	0	0	0	0	0	380	90
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	0				0	1863	1900
Adj Flow Rate, veh/h				370	690	0				0	380	40
Adj No. of Lanes				0	3	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				883	1673	0				0	1820	183
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1410	3240	0				0	6163	592
Grp Volume(v), veh/h				371	689	0				0	306	114
Grp Sat Flow(s),veh/h/ln				1412	1543	0				0	1602	1688
Q Serve(g_s), s				9.8	7.9	0.0				0.0	2.8	3.0
Cycle Q Clear(g_c), s				9.8	7.9	0.0				0.0	2.8	3.0
Prop In Lane				1.00		0.00				0.00		0.35
Lane Grp Cap(c), veh/h				885	1671	0				0	1482	520
V/C Ratio(X)				0.42	0.41	0.00				0.00	0.21	0.22
Avail Cap(c_a), veh/h				885	1671	0				0	1482	520
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.5	8.1	0.0				0.0	15.3	15.4
Incr Delay (d2), s/veh				1.5	0.8	0.0				0.0	0.3	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	3.5	0.0				0.0	1.3	1.5
LnGrp Delay(d),s/veh				10.0	8.9	0.0				0.0	15.6	16.4
LnGrp LOS				B	A						B	B
Approach Vol, veh/h					1060						420	
Approach Delay, s/veh					9.3						15.8	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				5.0		11.8		
Green Ext Time (p_c), s				1.7		5.2		

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	80	810	70	200	560	0	0	70	50
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.74	0.91		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				80	810	44	200	560	0	0	70	24
Adj No. of Lanes				0	3	1	0	2	0	0	2	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				202	2181	533	392	924	0	0	995	313
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				442	4788	1171	696	2460	0	0	2651	806
Grp Volume(v), veh/h				333	557	44	383	377	0	0	47	47
Grp Sat Flow(s),veh/h/ln				1841	1695	1171	1461	1610	0	0	1770	1594
Q Serve(g_s), s				5.4	4.8	1.0	8.4	8.4	0.0	0.0	0.7	0.8
Cycle Q Clear(g_c), s				5.4	4.8	1.0	9.6	8.4	0.0	0.0	0.7	0.8
Prop In Lane				0.24		1.00	0.52		0.00	0.00		0.51
Lane Grp Cap(c), veh/h				839	1544	533	690	626	0	0	688	620
V/C Ratio(X)				0.40	0.36	0.08	0.56	0.60	0.00	0.00	0.07	0.08
Avail Cap(c_a), veh/h				839	1544	533	690	626	0	0	688	620
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				8.1	8.0	6.9	11.2	11.0	0.0	0.0	8.6	8.7
Incr Delay (d2), s/veh				1.4	0.7	0.3	3.2	4.2	0.0	0.0	0.2	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	2.4	0.4	4.4	4.4	0.0	0.0	0.4	0.4
LnGrp Delay(d),s/veh				9.5	8.6	7.2	14.4	15.2	0.0	0.0	8.8	8.9
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					934			760			94	
Approach Delay, s/veh					8.9			14.8			8.9	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				2.8		7.4		11.6
Green Ext Time (p_c), s				3.5		3.7		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	60	920	30	50	30	0	0	40	40
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.92	0.91		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				60	920	23	50	30	0	0	40	14
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				179	2920	866	302	160	0	0	327	115
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				302	4936	1464	793	620	0	0	1267	443
Grp Volume(v), veh/h				367	613	23	80	0	0	0	0	54
Grp Sat Flow(s),veh/h/ln				1848	1695	1464	1412	0	0	0	0	1710
Q Serve(g_s), s				10.3	9.3	0.8	1.1	0.0	0.0	0.0	0.0	1.5
Cycle Q Clear(g_c), s				10.3	9.3	0.8	2.5	0.0	0.0	0.0	0.0	1.5
Prop In Lane				0.16		1.00	0.62		0.00	0.00		0.26
Lane Grp Cap(c), veh/h				1093	2006	866	462	0	0	0	0	442
V/C Ratio(X)				0.34	0.31	0.03	0.17	0.00	0.00	0.00	0.00	0.12
Avail Cap(c_a), veh/h				1093	2006	866	462	0	0	0	0	442
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				14.0	13.6	10.2	17.4	0.0	0.0	0.0	0.0	17.0
Incr Delay (d2), s/veh				0.8	0.4	0.1	0.8	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.5	4.5	0.3	1.1	0.0	0.0	0.0	0.0	0.7
LnGrp Delay(d),s/veh				14.8	14.0	10.2	18.2	0.0	0.0	0.0	0.0	17.6
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					1003			80			54	
Approach Delay, s/veh					14.2			18.2			17.6	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.5		12.3		4.5
Green Ext Time (p_c), s				0.4		4.9		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	250	910	240	90	290	0	0	120	30
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.90	0.94		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1863	0	0	1870	1900
Adj Flow Rate, veh/h				250	910	178	90	290	0	0	120	14
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				571	2245	768	176	475	0	0	554	65
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1055	4145	1417	297	1390	0	0	1621	189
Grp Volume(v), veh/h				429	731	178	380	0	0	0	0	134
Grp Sat Flow(s),veh/h/ln				1810	1695	1417	1687	0	0	0	0	1811
Q Serve(g_s), s				8.5	7.6	3.9	6.3	0.0	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s				8.5	7.6	3.9	11.1	0.0	0.0	0.0	0.0	3.2
Prop In Lane				0.58		1.00	0.24		0.00	0.00		0.10
Lane Grp Cap(c), veh/h				980	1836	768	651	0	0	0	0	619
V/C Ratio(X)				0.44	0.40	0.23	0.58	0.00	0.00	0.00	0.00	0.22
Avail Cap(c_a), veh/h				980	1836	768	651	0	0	0	0	619
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.3	8.0	7.2	16.5	0.0	0.0	0.0	0.0	14.0
Incr Delay (d2), s/veh				1.4	0.6	0.7	3.8	0.0	0.0	0.0	0.0	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	3.6	1.7	6.0	0.0	0.0	0.0	0.0	1.7
LnGrp Delay(d),s/veh				9.7	8.7	7.9	20.3	0.0	0.0	0.0	0.0	14.8
LnGrp LOS				A	A	A	C					B
Approach Vol, veh/h					1338			380			134	
Approach Delay, s/veh					8.9			20.3			14.8	
Approach LOS					A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				5.2		10.5		13.1
Green Ext Time (p_c), s				2.0		6.5		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	390	170	0	0	0	0	0	0	190	550	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863							1900	1863	0
Adj Flow Rate, veh/h	0	390	122							190	550	0
Adj No. of Lanes	0	3	1							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	2755	816							532	1576	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5253	1506							1230	4850	0
Grp Volume(v), veh/h	0	390	122							222	518	0
Grp Sat Flow(s),veh/h/ln	0	1695	1506							1470	1458	0
Q Serve(g_s), s	0.0	2.3	2.4							8.1	6.6	0.0
Cycle Q Clear(g_c), s	0.0	2.3	2.4							8.4	6.6	0.0
Prop In Lane	0.00		1.00							0.85		0.00
Lane Grp Cap(c), veh/h	0	2755	816							613	1494	0
V/C Ratio(X)	0.00	0.14	0.15							0.36	0.35	0.00
Avail Cap(c_a), veh/h	0	2755	816							613	1494	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.8	6.9							21.2	20.4	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.4							1.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.1							3.7	2.7	0.0
LnGrp Delay(d),s/veh	0.0	6.9	7.2							22.9	21.1	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		512									740	
Approach Delay, s/veh		7.0									21.6	
Approach LOS		A									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		4.4		10.4				
Green Ext Time (p_c), s		2.2		2.6				

Intersection Summary	
HCM 2010 Ctrl Delay	15.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	500	20	0	0	0	0	730	220	60	80	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.90	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	40	500	12				0	730	172	60	80	0
Adj No. of Lanes	0	3	1				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	185	2476	751				0	1018	240	206	590	0
Arrive On Green	0.17	0.17	0.17				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	364	4870	1477				0	2869	654	233	1695	0
Grp Volume(v), veh/h	203	337	12				0	465	437	60	80	0
Grp Sat Flow(s),veh/h/ln	1845	1695	1477				0	1770	1660	233	1610	0
Q Serve(g_s), s	5.7	5.1	0.4				0.0	13.6	13.6	5.6	2.0	0.0
Cycle Q Clear(g_c), s	5.7	5.1	0.4				0.0	13.6	13.6	19.2	2.0	0.0
Prop In Lane	0.20		1.00				0.00		0.39	1.00		0.00
Lane Grp Cap(c), veh/h	938	1723	751				0	649	609	206	590	0
V/C Ratio(X)	0.22	0.20	0.02				0.00	0.72	0.72	0.29	0.14	0.00
Avail Cap(c_a), veh/h	938	1723	751				0	649	609	206	590	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.6	14.4	12.4				0.0	16.3	16.3	24.6	12.7	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	6.7	7.1	3.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.5	0.2				0.0	7.8	7.4	1.2	0.9	0.0
LnGrp Delay(d),s/veh	15.2	14.7	12.5				0.0	23.0	23.4	28.2	13.1	0.0
LnGrp LOS	B	B	B					C	C	C	B	
Approach Vol, veh/h		552						902			140	
Approach Delay, s/veh		14.8						23.2			19.6	
Approach LOS		B						C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		34.5		25.5				25.5
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		30.5		22.0				22.0
Max Q Clear Time (g_c+I1), s		7.7		21.2				15.6
Green Ext Time (p_c), s		2.5		0.5				2.9

Intersection Summary	
HCM 2010 Ctrl Delay	20.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	490	0	0	0	0	0	200	70	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.88			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0				0	1863	1900			
Adj Flow Rate, veh/h	180	490	0				0	200	43			
Adj No. of Lanes	0	3	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	463	1217	0				0	2798	527			
Arrive On Green	0.34	0.34	0.00				0.00	0.52	0.52			
Sat Flow, veh/h	1051	3713	0				0	5591	1004			
Grp Volume(v), veh/h	249	421	0				0	178	65			
Grp Sat Flow(s),veh/h/ln	1527	1543	0				0	1602	1528			
Q Serve(g_s), s	6.8	6.2	0.0				0.0	1.1	1.3			
Cycle Q Clear(g_c), s	7.6	6.2	0.0				0.0	1.1	1.3			
Prop In Lane	0.72		0.00				0.00		0.66			
Lane Grp Cap(c), veh/h	625	1054	0				0	2523	802			
V/C Ratio(X)	0.40	0.40	0.00				0.00	0.07	0.08			
Avail Cap(c_a), veh/h	625	1054	0				0	2523	802			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	15.4	15.1	0.0				0.0	7.0	7.1			
Incr Delay (d2), s/veh	1.9	1.1	0.0				0.0	0.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	2.8	0.0				0.0	0.5	0.6			
LnGrp Delay(d),s/veh	17.3	16.2	0.0				0.0	7.1	7.3			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		670						243				
Approach Delay, s/veh		16.6						7.1				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		24.0		36.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		20.5		31.5				
Max Q Clear Time (g_c+I1), s		9.6		3.3				
Green Ext Time (p_c), s		2.4		1.2				

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	290	660	0	0	0	0	0	700	240
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	0				0	1863	1900
Adj Flow Rate, veh/h				290	660	0				0	700	137
Adj No. of Lanes				0	3	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				2	2	0				0	2	2
Cap, veh/h				794	1780	0				0	1653	308
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1259	3439	0				0	5622	998
Grp Volume(v), veh/h				335	615	0				0	624	213
Grp Sat Flow(s),veh/h/ln				1461	1543	0				0	1602	1553
Q Serve(g_s), s				8.0	6.8	0.0				0.0	6.2	6.6
Cycle Q Clear(g_c), s				8.1	6.8	0.0				0.0	6.2	6.6
Prop In Lane				0.87		0.00				0.00		0.64
Lane Grp Cap(c), veh/h				903	1671	0				0	1482	479
V/C Ratio(X)				0.37	0.37	0.00				0.00	0.42	0.44
Avail Cap(c_a), veh/h				903	1671	0				0	1482	479
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.2	7.9	0.0				0.0	16.5	16.6
Incr Delay (d2), s/veh				1.2	0.6	0.0				0.0	0.9	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	3.1	0.0				0.0	2.8	3.2
LnGrp Delay(d),s/veh				9.3	8.5	0.0				0.0	17.4	19.6
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					950						837	
Approach Delay, s/veh					8.8						17.9	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				8.6		10.1		
Green Ext Time (p_c), s				3.1		4.7		

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	60	670	110	170	520	0	0	150	100
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	0.92		1.00	1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1872	0	0	1863	1900
Adj Flow Rate, veh/h				60	670	0	170	520	0	0	150	60
Adj No. of Lanes				0	3	1	0	2	0	0	2	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				184	2200	721	354	945	0	0	942	348
Arrive On Green				0.46	0.46	0.00	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				404	4828	1583	602	2516	0	0	2515	895
Grp Volume(v), veh/h				273	457	0	344	346	0	0	106	104
Grp Sat Flow(s),veh/h/ln				1843	1695	1583	1415	1618	0	0	1770	1547
Q Serve(g_s), s				4.3	3.8	0.0	6.5	7.5	0.0	0.0	1.8	2.0
Cycle Q Clear(g_c), s				4.3	3.8	0.0	8.5	7.5	0.0	0.0	1.8	2.0
Prop In Lane				0.22		1.00	0.49		0.00	0.00		0.58
Lane Grp Cap(c), veh/h				839	1544	721	670	629	0	0	688	601
V/C Ratio(X)				0.33	0.30	0.00	0.51	0.55	0.00	0.00	0.15	0.17
Avail Cap(c_a), veh/h				839	1544	721	670	629	0	0	688	601
HCM Platoon Ratio				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	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.8	7.7	0.0	10.8	10.7	0.0	0.0	8.9	9.0
Incr Delay (d2), s/veh				1.0	0.5	0.0	2.8	3.4	0.0	0.0	0.5	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	1.9	0.0	3.9	3.9	0.0	0.0	0.9	0.9
LnGrp Delay(d),s/veh				8.9	8.2	0.0	13.6	14.1	0.0	0.0	9.4	9.6
LnGrp LOS				A	A		B	B			A	A
Approach Vol, veh/h					730			690			210	
Approach Delay, s/veh					8.4			13.9			9.5	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				4.0		6.3		10.5
Green Ext Time (p_c), s				3.6		3.0		2.5

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	30	730	40	20	20	0	0	30	60
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	0.96		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				30	730	24	20	20	0	0	30	15
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				115	2987	884	263	235	0	0	297	148
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				195	5048	1495	669	909	0	0	1148	574
Grp Volume(v), veh/h				285	475	24	40	0	0	0	0	45
Grp Sat Flow(s),veh/h/ln				1853	1695	1495	1578	0	0	0	0	1723
Q Serve(g_s), s				7.8	7.1	0.8	0.0	0.0	0.0	0.0	0.0	1.2
Cycle Q Clear(g_c), s				7.8	7.1	0.8	1.0	0.0	0.0	0.0	0.0	1.2
Prop In Lane				0.11		1.00	0.50		0.00	0.00		0.33
Lane Grp Cap(c), veh/h				1096	2006	884	498	0	0	0	0	445
V/C Ratio(X)				0.26	0.24	0.03	0.08	0.00	0.00	0.00	0.00	0.10
Avail Cap(c_a), veh/h				1096	2006	884	498	0	0	0	0	445
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				13.0	12.7	10.2	16.9	0.0	0.0	0.0	0.0	16.9
Incr Delay (d2), s/veh				0.6	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	3.4	0.3	0.5	0.0	0.0	0.0	0.0	0.6
LnGrp Delay(d),s/veh				13.6	13.0	10.2	17.2	0.0	0.0	0.0	0.0	17.4
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					784			40			45	
Approach Delay, s/veh					13.1			17.2			17.4	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.2		9.8		3.0
Green Ext Time (p_c), s				0.2		3.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	150	670	100	60	170	0	0	220	70
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.87	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1863	1863	1900	1863	0	0	1863	1900
Adj Flow Rate, veh/h				150	670	54	60	170	0	0	220	51
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				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	0	0	2	2
Cap, veh/h				485	2336	750	166	425	0	0	492	114
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				895	4313	1384	266	1245	0	0	1439	334
Grp Volume(v), veh/h				305	515	54	230	0	0	0	0	271
Grp Sat Flow(s),veh/h/ln				1818	1695	1384	1511	0	0	0	0	1773
Q Serve(g_s), s				5.5	4.9	1.1	0.5	0.0	0.0	0.0	0.0	7.1
Cycle Q Clear(g_c), s				5.5	4.9	1.1	7.6	0.0	0.0	0.0	0.0	7.1
Prop In Lane				0.49		1.00	0.26		0.00	0.00		0.19
Lane Grp Cap(c), veh/h				985	1836	750	592	0	0	0	0	606
V/C Ratio(X)				0.31	0.28	0.07	0.39	0.00	0.00	0.00	0.00	0.45
Avail Cap(c_a), veh/h				985	1836	750	592	0	0	0	0	606
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.6	7.4	6.6	14.9	0.0	0.0	0.0	0.0	15.3
Incr Delay (d2), s/veh				0.8	0.4	0.2	1.9	0.0	0.0	0.0	0.0	2.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.9	2.4	0.5	3.1	0.0	0.0	0.0	0.0	3.9
LnGrp Delay(d),s/veh				8.4	7.8	6.7	16.8	0.0	0.0	0.0	0.0	17.7
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					874			230			271	
Approach Delay, s/veh					7.9			16.8			17.7	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				9.1		7.5		9.6
Green Ext Time (p_c), s				1.7		4.2		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	11.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	980	210	0	0	0	0	0	0	210	760	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863							1900	1863	0
Adj Flow Rate, veh/h	0	980	199							210	760	0
Adj No. of Lanes	0	3	1							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							2	2	0
Cap, veh/h	0	2755	795							478	1637	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5253	1468							1094	5030	0
Grp Volume(v), veh/h	0	980	199							284	686	0
Grp Sat Flow(s),veh/h/ln	0	1695	1468							1513	1458	0
Q Serve(g_s), s	0.0	6.6	4.3							10.3	8.8	0.0
Cycle Q Clear(g_c), s	0.0	6.6	4.3							10.6	8.8	0.0
Prop In Lane	0.00		1.00							0.74		0.00
Lane Grp Cap(c), veh/h	0	2755	795							621	1494	0
V/C Ratio(X)	0.00	0.36	0.25							0.46	0.46	0.00
Avail Cap(c_a), veh/h	0	2755	795							621	1494	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.8	7.3							22.2	21.4	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.8							2.4	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	1.9							4.9	3.7	0.0
LnGrp Delay(d),s/veh	0.0	8.2	8.0							24.6	22.4	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		1179									970	
Approach Delay, s/veh		8.1									23.1	
Approach LOS		A									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		8.6		12.6				
Green Ext Time (p_c), s		5.9		3.0				

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	90	1080	40	0	0	0	0	590	310	90	130	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90				1.00		0.86	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863				0	1863	1900	1900	1863	0
Adj Flow Rate, veh/h	90	1080	3				0	590	307	90	130	0
Adj No. of Lanes	0	3	1				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	193	2468	728				0	778	404	195	590	0
Arrive On Green	0.17	0.17	0.17				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	379	4855	1432				0	2214	1102	203	1695	0
Grp Volume(v), veh/h	438	732	3				0	492	405	90	130	0
Grp Sat Flow(s),veh/h/ln	1844	1695	1432				0	1770	1453	203	1610	0
Q Serve(g_s), s	12.9	11.6	0.1				0.0	14.6	14.7	7.3	3.3	0.0
Cycle Q Clear(g_c), s	12.9	11.6	0.1				0.0	14.6	14.7	22.0	3.3	0.0
Prop In Lane	0.21		1.00				0.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h	937	1723	728				0	649	533	195	590	0
V/C Ratio(X)	0.47	0.42	0.00				0.00	0.76	0.76	0.46	0.22	0.00
Avail Cap(c_a), veh/h	937	1723	728				0	649	533	195	590	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	17.1	12.3				0.0	16.7	16.7	27.0	13.1	0.0
Incr Delay (d2), s/veh	1.7	0.8	0.0				0.0	8.1	9.8	7.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	5.6	0.0				0.0	8.6	7.3	1.9	1.6	0.0
LnGrp Delay(d),s/veh	19.3	17.9	12.3				0.0	24.8	26.5	34.7	13.9	0.0
LnGrp LOS	B	B	B					C	C	C	B	
Approach Vol, veh/h		1173						897			220	
Approach Delay, s/veh		18.4						25.5			22.4	
Approach LOS		B						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		34.5		25.5				25.5
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		30.5		22.0				22.0
Max Q Clear Time (g_c+I1), s		14.9		24.0				16.7
Green Ext Time (p_c), s		5.3		0.0				2.8

Intersection Summary	
HCM 2010 Ctrl Delay	21.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	930	0	0	0	0	0	240	260	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.83			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0				0	1863	1900			
Adj Flow Rate, veh/h	150	930	0				0	240	257			
Adj No. of Lanes	0	3	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	280	1430	0				0	2523	687			
Arrive On Green	0.34	0.34	0.00				0.00	0.52	0.52			
Sat Flow, veh/h	577	4339	0				0	5067	1309			
Grp Volume(v), veh/h	395	685	0				0	240	257			
Grp Sat Flow(s),veh/h/ln	1678	1543	0				0	1602	1309			
Q Serve(g_s), s	10.3	11.3	0.0				0.0	1.5	7.0			
Cycle Q Clear(g_c), s	12.1	11.3	0.0				0.0	1.5	7.0			
Prop In Lane	0.38		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	656	1054	0				0	2523	687			
V/C Ratio(X)	0.60	0.65	0.00				0.00	0.10	0.37			
Avail Cap(c_a), veh/h	656	1054	0				0	2523	687			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	16.9	16.7	0.0				0.0	7.1	8.4			
Incr Delay (d2), s/veh	4.1	3.1	0.0				0.0	0.1	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.3	5.2	0.0				0.0	0.7	2.8			
LnGrp Delay(d),s/veh	21.0	19.8	0.0				0.0	7.2	10.0			
LnGrp LOS	C	B						A	A			
Approach Vol, veh/h		1080						497				
Approach Delay, s/veh		20.2						8.6				
Approach LOS		C						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		24.0		36.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		20.5		31.5				
Max Q Clear Time (g_c+I1), s		14.1		9.0				
Green Ext Time (p_c), s		2.9		2.7				

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	362	711	0	0	0	0	0	380	90
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.91
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	0				0	1900	1900
Adj Flow Rate, veh/h				362	711	0				0	380	28
Adj No. of Lanes				0	3	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				878	1731	0				0	1920	137
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1403	3351	0				0	6494	443
Grp Volume(v), veh/h				374	699	0				0	296	112
Grp Sat Flow(s),veh/h/ln				1452	1573	0				0	1634	1769
Q Serve(g_s), s				9.6	7.8	0.0				0.0	2.7	2.8
Cycle Q Clear(g_c), s				9.6	7.8	0.0				0.0	2.7	2.8
Prop In Lane				0.97		0.00				0.00		0.25
Lane Grp Cap(c), veh/h				904	1705	0				0	1511	546
V/C Ratio(X)				0.41	0.41	0.00				0.00	0.20	0.20
Avail Cap(c_a), veh/h				904	1705	0				0	1511	546
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.5	8.1	0.0				0.0	15.3	15.3
Incr Delay (d2), s/veh				1.4	0.7	0.0				0.0	0.3	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	3.6	0.0				0.0	1.2	1.5
LnGrp Delay(d),s/veh				9.9	8.8	0.0				0.0	15.6	16.2
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					1073						408	
Approach Delay, s/veh					9.2						15.7	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				4.8		11.6		
Green Ext Time (p_c), s				1.5		5.0		

Intersection Summary	
HCM 2010 Ctrl Delay	11.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	89	807	73	216	566	0	0	70	50
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.74	0.91		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				89	807	33	216	566	0	0	70	19
Adj No. of Lanes				0	3	1	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				227	2203	544	417	917	0	0	1077	273
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				498	4835	1194	754	2444	0	0	2864	702
Grp Volume(v), veh/h				335	561	33	393	389	0	0	44	45
Grp Sat Flow(s),veh/h/ln				1875	1729	1194	1469	1643	0	0	1805	1666
Q Serve(g_s), s				5.3	4.7	0.7	9.0	8.5	0.0	0.0	0.7	0.8
Cycle Q Clear(g_c), s				5.3	4.7	0.7	9.9	8.5	0.0	0.0	0.7	0.8
Prop In Lane				0.27		1.00	0.55		0.00	0.00		0.42
Lane Grp Cap(c), veh/h				854	1575	544	695	639	0	0	702	648
V/C Ratio(X)				0.39	0.36	0.06	0.56	0.61	0.00	0.00	0.06	0.07
Avail Cap(c_a), veh/h				854	1575	544	695	639	0	0	702	648
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.96	0.96	0.96	0.57	0.57	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				8.1	8.0	6.9	11.3	11.0	0.0	0.0	8.6	8.6
Incr Delay (d2), s/veh				1.3	0.6	0.2	0.4	0.7	0.0	0.0	0.2	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	2.4	0.3	4.0	3.9	0.0	0.0	0.4	0.4
LnGrp Delay(d),s/veh				9.4	8.6	7.1	11.7	11.7	0.0	0.0	8.8	8.8
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					929			782			89	
Approach Delay, s/veh					8.8			11.7			8.8	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				2.8		7.3		11.9
Green Ext Time (p_c), s				3.6		3.5		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	10.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	60	913	30	52	30	0	0	40	41
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.92	0.90		1.00	1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				60	913	18	52	30	0	0	40	11
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				183	2978	884	311	160	0	0	358	99
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				310	5032	1493	826	618	0	0	1387	382
Grp Volume(v), veh/h				365	608	18	82	0	0	0	0	51
Grp Sat Flow(s),veh/h/ln				1884	1729	1493	1443	0	0	0	0	1769
Q Serve(g_s), s				10.0	9.0	0.6	1.2	0.0	0.0	0.0	0.0	1.3
Cycle Q Clear(g_c), s				10.0	9.0	0.6	2.5	0.0	0.0	0.0	0.0	1.3
Prop In Lane				0.16		1.00	0.63		0.00	0.00		0.22
Lane Grp Cap(c), veh/h				1115	2046	884	471	0	0	0	0	457
V/C Ratio(X)				0.33	0.30	0.02	0.17	0.00	0.00	0.00	0.00	0.11
Avail Cap(c_a), veh/h				1115	2046	884	471	0	0	0	0	457
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.90	0.90	0.90	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				13.9	13.5	10.1	17.4	0.0	0.0	0.0	0.0	17.0
Incr Delay (d2), s/veh				0.7	0.3	0.0	0.8	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.4	4.4	0.3	1.2	0.0	0.0	0.0	0.0	0.7
LnGrp Delay(d),s/veh				14.6	13.8	10.1	18.2	0.0	0.0	0.0	0.0	17.5
LnGrp LOS				B	B	B	B					B
Approach Vol, veh/h					991			82			51	
Approach Delay, s/veh					14.0			18.2			17.5	
Approach LOS					B			B			B	

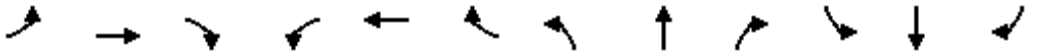
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.3		12.0		4.5
Green Ext Time (p_c), s				0.4		4.6		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	14.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	250	908	240	85	290	0	0	120	30
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.90	0.94		1.00	1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				250	908	130	85	290	0	0	120	15
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				584	2289	783	172	493	0	0	558	70
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1078	4226	1446	287	1444	0	0	1632	204
Grp Volume(v), veh/h				428	730	130	375	0	0	0	0	135
Grp Sat Flow(s),veh/h/ln				1846	1729	1446	1731	0	0	0	0	1836
Q Serve(g_s), s				8.3	7.4	2.7	5.5	0.0	0.0	0.0	0.0	3.1
Cycle Q Clear(g_c), s				8.3	7.4	2.7	10.5	0.0	0.0	0.0	0.0	3.1
Prop In Lane				0.58		1.00	0.23		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				1000	1873	783	665	0	0	0	0	627
V/C Ratio(X)				0.43	0.39	0.17	0.56	0.00	0.00	0.00	0.00	0.22
Avail Cap(c_a), veh/h				1000	1873	783	665	0	0	0	0	627
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.2	8.0	6.9	16.3	0.0	0.0	0.0	0.0	14.0
Incr Delay (d2), s/veh				1.3	0.6	0.5	3.4	0.0	0.0	0.0	0.0	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	3.6	1.2	5.7	0.0	0.0	0.0	0.0	1.7
LnGrp Delay(d),s/veh				9.5	8.6	7.4	19.8	0.0	0.0	0.0	0.0	14.8
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					1288			375			135	
Approach Delay, s/veh					8.8			19.8			14.8	
Approach LOS					A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				5.1		10.3		12.5
Green Ext Time (p_c), s				1.9		5.9		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.5
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	385	170	0	0	0	0	0	0	177	555	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900							1900	1900	0
Adj Flow Rate, veh/h	0	385	139							177	555	0
Adj No. of Lanes	0	3	1							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0							0	0	0
Cap, veh/h	0	2810	832							516	1636	0
Arrive On Green	0.00	0.54	0.54							0.11	0.11	0.00
Sat Flow, veh/h	0	5358	1536							1192	5029	0
Grp Volume(v), veh/h	0	385	139							219	513	0
Grp Sat Flow(s),veh/h/ln	0	1729	1536							1519	1487	0
Q Serve(g_s), s	0.0	2.2	2.7							7.5	6.4	0.0
Cycle Q Clear(g_c), s	0.0	2.2	2.7							8.0	6.4	0.0
Prop In Lane	0.00		1.00							0.81		0.00
Lane Grp Cap(c), veh/h	0	2810	832							628	1524	0
V/C Ratio(X)	0.00	0.14	0.17							0.35	0.34	0.00
Avail Cap(c_a), veh/h	0	2810	832							628	1524	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	6.8	6.9							21.0	20.3	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.4							1.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.3							3.7	2.7	0.0
LnGrp Delay(d),s/veh	0.0	6.9	7.4							22.5	20.9	0.0
LnGrp LOS		A	A							C	C	
Approach Vol, veh/h		524									732	
Approach Delay, s/veh		7.0									21.4	
Approach LOS		A									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		4.7		10.0				
Green Ext Time (p_c), s		2.2		2.7				

Intersection Summary	
HCM 2010 Ctrl Delay	15.4
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	64	521	20	0	0	0	0	728	221	69	80	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93				1.00		0.90	0.99		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	64	521	12				0	728	174	69	80	0
Adj No. of Lanes	0	3	1				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	283	2471	779				0	1010	241	204	589	0
Arrive On Green	0.17	0.17	0.17				0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	547	4783	1508				0	2915	674	234	1729	0
Grp Volume(v), veh/h	219	366	12				0	466	436	69	80	0
Grp Sat Flow(s),veh/h/ln	1873	1729	1508				0	1805	1689	234	1643	0
Q Serve(g_s), s	6.1	5.5	0.4				0.0	13.4	13.4	6.5	2.0	0.0
Cycle Q Clear(g_c), s	6.1	5.5	0.4				0.0	13.4	13.4	19.9	2.0	0.0
Prop In Lane	0.29		1.00				0.00		0.40	1.00		0.00
Lane Grp Cap(c), veh/h	968	1787	779				0	647	605	204	589	0
V/C Ratio(X)	0.23	0.20	0.02				0.00	0.72	0.72	0.34	0.14	0.00
Avail Cap(c_a), veh/h	968	1787	779				0	647	605	204	589	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.5	14.3	12.2				0.0	16.6	16.7	25.3	13.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	6.8	7.3	4.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.7	0.2				0.0	7.8	7.4	1.4	1.0	0.0
LnGrp Delay(d),s/veh	15.1	14.6	12.2				0.0	23.4	23.9	29.7	13.5	0.0
LnGrp LOS	B	B	B					C	C	C	B	
Approach Vol, veh/h		597						902			149	
Approach Delay, s/veh		14.7						23.7			21.0	
Approach LOS		B						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		35.0		25.0				25.0
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		31.0		21.5				21.5
Max Q Clear Time (g_c+I1), s		8.1		21.9				15.4
Green Ext Time (p_c), s		2.5		0.0				2.8

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	487	0	0	0	0	0	200	70	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.88			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0				0	1900	1900			
Adj Flow Rate, veh/h	180	487	0				0	200	39			
Adj No. of Lanes	0	3	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	492	1296	0				0	2809	484			
Arrive On Green	0.36	0.36	0.00				0.00	0.51	0.51			
Sat Flow, veh/h	1084	3773	0				0	5792	953			
Grp Volume(v), veh/h	247	420	0				0	174	65			
Grp Sat Flow(s),veh/h/ln	1554	1573	0				0	1634	1577			
Q Serve(g_s), s	6.4	5.9	0.0				0.0	1.1	1.3			
Cycle Q Clear(g_c), s	7.1	5.9	0.0				0.0	1.1	1.3			
Prop In Lane	0.73		0.00				0.00		0.60			
Lane Grp Cap(c), veh/h	660	1128	0				0	2492	802			
V/C Ratio(X)	0.37	0.37	0.00				0.00	0.07	0.08			
Avail Cap(c_a), veh/h	660	1128	0				0	2492	802			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.6	14.3	0.0				0.0	7.5	7.6			
Incr Delay (d2), s/veh	1.6	0.9	0.0				0.0	0.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.4	2.7	0.0				0.0	0.5	0.6			
LnGrp Delay(d),s/veh	16.2	15.2	0.0				0.0	7.6	7.8			
LnGrp LOS	B	B						A	A			
Approach Vol, veh/h		667						239				
Approach Delay, s/veh		15.6						7.6				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		25.0		35.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		21.5		30.5				
Max Q Clear Time (g_c+I1), s		9.1		3.3				
Green Ext Time (p_c), s		2.4		1.1				

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	339	677	0	0	0	0	0	700	240
Number				1	6	16				7	4	14
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.90
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	0				0	1900	1900
Adj Flow Rate, veh/h				339	677	0				0	700	142
Adj No. of Lanes				0	3	0				0	4	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				869	1741	0				0	1674	323
Arrive On Green				0.54	0.54	0.00				0.00	0.31	0.31
Sat Flow, veh/h				1388	3371	0				0	5697	1047
Grp Volume(v), veh/h				356	660	0				0	628	214
Grp Sat Flow(s),veh/h/ln				1456	1573	0				0	1634	1576
Q Serve(g_s), s				8.9	7.3	0.0				0.0	6.1	6.5
Cycle Q Clear(g_c), s				8.9	7.3	0.0				0.0	6.1	6.5
Prop In Lane				0.95		0.00				0.00		0.66
Lane Grp Cap(c), veh/h				906	1705	0				0	1511	486
V/C Ratio(X)				0.39	0.39	0.00				0.00	0.42	0.44
Avail Cap(c_a), veh/h				906	1705	0				0	1511	486
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.3	8.0	0.0				0.0	16.5	16.6
Incr Delay (d2), s/veh				1.3	0.7	0.0				0.0	0.8	2.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.9	3.3	0.0				0.0	2.9	3.2
LnGrp Delay(d),s/veh				9.6	8.6	0.0				0.0	17.3	19.5
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					1016						842	
Approach Delay, s/veh					9.0						17.9	
Approach LOS					A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		
Phs Duration (G+Y+Rc), s				23.0		37.0		
Change Period (Y+Rc), s				4.5		4.5		
Max Green Setting (Gmax), s				18.5		32.5		
Max Q Clear Time (g_c+I1), s				8.5		10.9		
Green Ext Time (p_c), s				3.0		4.7		

Intersection Summary	
HCM 2010 Ctrl Delay	13.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	67	714	112	190	524	0	0	150	101
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.89	0.92		1.00	1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				67	714	78	190	524	0	0	150	66
Adj No. of Lanes				0	3	1	0	2	0	0	2	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				196	2235	653	375	912	0	0	932	376
Arrive On Green				0.46	0.46	0.46	0.39	0.39	0.00	0.00	0.39	0.39
Sat Flow, veh/h				431	4906	1434	648	2431	0	0	2491	968
Grp Volume(v), veh/h				292	489	78	351	363	0	0	110	106
Grp Sat Flow(s),veh/h/ln				1878	1729	1434	1350	1643	0	0	1805	1558
Q Serve(g_s), s				4.5	4.0	1.4	7.7	7.8	0.0	0.0	1.8	2.0
Cycle Q Clear(g_c), s				4.5	4.0	1.4	9.7	7.8	0.0	0.0	1.8	2.0
Prop In Lane				0.23		1.00	0.54		0.00	0.00		0.62
Lane Grp Cap(c), veh/h				856	1575	653	648	639	0	0	702	606
V/C Ratio(X)				0.34	0.31	0.12	0.54	0.57	0.00	0.00	0.16	0.18
Avail Cap(c_a), veh/h				856	1575	653	648	639	0	0	702	606
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.97	0.97	0.97	0.54	0.54	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.9	7.8	7.1	11.3	10.8	0.0	0.0	8.9	9.0
Incr Delay (d2), s/veh				1.1	0.5	0.4	0.3	0.4	0.0	0.0	0.5	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	2.0	0.6	3.6	3.6	0.0	0.0	1.0	1.0
LnGrp Delay(d),s/veh				9.0	8.3	7.4	11.6	11.2	0.0	0.0	9.4	9.6
LnGrp LOS				A	A	A	B	B			A	A
Approach Vol, veh/h					859			714			216	
Approach Delay, s/veh					8.4			11.4			9.5	
Approach LOS					A			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				21.0		24.0		21.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				17.5		20.5		17.5
Max Q Clear Time (g_c+I1), s				4.0		6.5		11.7
Green Ext Time (p_c), s				3.8		3.2		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	9.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	30	782	40	27	20	0	0	30	63
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.94	0.97		1.00	1.00		0.95
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				30	782	6	27	20	0	0	30	28
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				110	3055	902	297	197	0	0	227	212
Arrive On Green				0.20	0.20	0.20	0.26	0.26	0.00	0.00	0.26	0.26
Sat Flow, veh/h				186	5163	1524	783	761	0	0	879	821
Grp Volume(v), veh/h				305	507	6	47	0	0	0	0	58
Grp Sat Flow(s),veh/h/ln				1891	1729	1524	1544	0	0	0	0	1700
Q Serve(g_s), s				8.2	7.4	0.2	0.0	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear(g_c), s				8.2	7.4	0.2	1.6	0.0	0.0	0.0	0.0	1.6
Prop In Lane				0.10		1.00	0.57		0.00	0.00		0.48
Lane Grp Cap(c), veh/h				1119	2046	902	493	0	0	0	0	439
V/C Ratio(X)				0.27	0.25	0.01	0.10	0.00	0.00	0.00	0.00	0.13
Avail Cap(c_a), veh/h				1119	2046	902	493	0	0	0	0	439
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.96	0.96	0.96	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				13.2	12.9	9.9	16.9	0.0	0.0	0.0	0.0	17.1
Incr Delay (d2), s/veh				0.6	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.5	3.6	0.1	0.6	0.0	0.0	0.0	0.0	0.8
LnGrp Delay(d),s/veh				13.7	13.1	9.9	17.3	0.0	0.0	0.0	0.0	17.7
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h					818			47			58	
Approach Delay, s/veh					13.3			17.3			17.7	
Approach LOS					B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.0		40.0		20.0
Change Period (Y+Rc), s				4.5		4.5		4.5
Max Green Setting (Gmax), s				15.5		35.5		15.5
Max Q Clear Time (g_c+I1), s				3.6		10.2		3.6
Green Ext Time (p_c), s				0.2		3.7		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	150	685	100	97	170	0	0	220	70
Number				1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.87	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				150	685	54	97	170	0	0	220	51
Adj No. of Lanes				0	3	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				486	2392	765	205	325	0	0	502	116
Arrive On Green				0.54	0.54	0.54	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h				897	4417	1412	359	952	0	0	1468	340
Grp Volume(v), veh/h				310	525	54	267	0	0	0	0	271
Grp Sat Flow(s),veh/h/ln				1855	1729	1412	1311	0	0	0	0	1808
Q Serve(g_s), s				5.5	4.9	1.1	4.7	0.0	0.0	0.0	0.0	7.0
Cycle Q Clear(g_c), s				5.5	4.9	1.1	11.7	0.0	0.0	0.0	0.0	7.0
Prop In Lane				0.48		1.00	0.36		0.00	0.00		0.19
Lane Grp Cap(c), veh/h				1005	1873	765	530	0	0	0	0	618
V/C Ratio(X)				0.31	0.28	0.07	0.50	0.00	0.00	0.00	0.00	0.44
Avail Cap(c_a), veh/h				1005	1873	765	530	0	0	0	0	618
HCM Platoon Ratio				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	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.6	7.4	6.6	16.7	0.0	0.0	0.0	0.0	15.3
Incr Delay (d2), s/veh				0.8	0.4	0.2	3.4	0.0	0.0	0.0	0.0	2.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.0	2.4	0.5	4.2	0.0	0.0	0.0	0.0	3.9
LnGrp Delay(d),s/veh				8.4	7.8	6.7	20.1	0.0	0.0	0.0	0.0	17.6
LnGrp LOS				A	A	A	C					B
Approach Vol, veh/h					889			267			271	
Approach Delay, s/veh					7.9			20.1			17.6	
Approach LOS					A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				24.0		36.0		24.0
Change Period (Y+Rc), s				3.5		3.5		3.5
Max Green Setting (Gmax), s				20.5		32.5		20.5
Max Q Clear Time (g_c+I1), s				9.0		7.5		13.7
Green Ext Time (p_c), s				1.8		3.9		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1008	210	0	0	0	0	0	0	255	764	0
Number	5	2	12							7	4	14
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1900							1900	1900	0
Adj Flow Rate, veh/h	0	1008	199							255	764	0
Adj No. of Lanes	0	3	1							0	4	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0							0	0	0
Cap, veh/h	0	2810	811							547	1598	0
Arrive On Green	0.00	0.18	0.18							0.11	0.11	0.00
Sat Flow, veh/h	0	5358	1497							1275	4920	0
Grp Volume(v), veh/h	0	1008	199							298	721	0
Grp Sat Flow(s),veh/h/ln	0	1729	1497							1493	1487	0
Q Serve(g_s), s	0.0	10.2	6.8							11.4	9.1	0.0
Cycle Q Clear(g_c), s	0.0	10.2	6.8							11.4	9.1	0.0
Prop In Lane	0.00		1.00							0.85		0.00
Lane Grp Cap(c), veh/h	0	2810	811							621	1524	0
V/C Ratio(X)	0.00	0.36	0.25							0.48	0.47	0.00
Avail Cap(c_a), veh/h	0	2810	811							621	1524	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	15.5	14.1							22.6	21.6	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.7							2.6	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.0	3.0							5.2	3.9	0.0
LnGrp Delay(d),s/veh	0.0	15.9	14.8							25.2	22.6	0.0
LnGrp LOS		B	B							C	C	
Approach Vol, veh/h		1207									1019	
Approach Delay, s/veh		15.7									23.4	
Approach LOS		B									C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		36.0		24.0				
Change Period (Y+Rc), s		3.5		3.5				
Max Green Setting (Gmax), s		32.5		20.5				
Max Q Clear Time (g_c+I1), s		12.2		13.4				
Green Ext Time (p_c), s		5.8		2.9				

Intersection Summary	
HCM 2010 Ctrl Delay	19.2
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	109	1101	40	0	0	0	0	595	312	97	130	0
Number	5	2	12				3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91				1.00		0.85	0.98		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	109	1101	32				0	595	265	97	130	0
Adj No. of Lanes	0	3	1				0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	234	2523	756				0	824	366	206	589	0
Arrive On Green	0.17	0.17	0.17				0.00	0.36	0.36	0.36	0.36	0.00
Sat Flow, veh/h	453	4883	1463				0	2394	1022	239	1729	0
Grp Volume(v), veh/h	452	758	32				0	467	393	97	130	0
Grp Sat Flow(s),veh/h/ln	1877	1729	1463				0	1805	1516	239	1643	0
Q Serve(g_s), s	13.0	11.8	1.1				0.0	13.4	13.5	8.0	3.3	0.0
Cycle Q Clear(g_c), s	13.0	11.8	1.1				0.0	13.4	13.5	21.5	3.3	0.0
Prop In Lane	0.24		1.00				0.00		0.67	1.00		0.00
Lane Grp Cap(c), veh/h	970	1787	756				0	647	543	206	589	0
V/C Ratio(X)	0.47	0.42	0.04				0.00	0.72	0.72	0.47	0.22	0.00
Avail Cap(c_a), veh/h	970	1787	756				0	647	543	206	589	0
HCM Platoon Ratio	0.33	0.33	0.33				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.4	16.9	12.5				0.0	16.7	16.7	26.5	13.4	0.0
Incr Delay (d2), s/veh	1.6	0.7	0.1				0.0	6.8	8.2	7.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	5.8	0.5				0.0	7.8	6.8	2.0	1.6	0.0
LnGrp Delay(d),s/veh	19.0	17.6	12.6				0.0	23.5	24.8	34.0	14.3	0.0
LnGrp LOS	B	B	B					C	C	C	B	
Approach Vol, veh/h		1242						860			227	
Approach Delay, s/veh		18.0						24.1			22.7	
Approach LOS		B						C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		35.0		25.0				25.0
Change Period (Y+Rc), s		4.0		3.5				3.5
Max Green Setting (Gmax), s		31.0		21.5				21.5
Max Q Clear Time (g_c+I1), s		15.0		23.5				15.5
Green Ext Time (p_c), s		5.3		0.0				2.9

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	950	0	0	0	0	0	240	260	8	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.82			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0				0	1900	1900			
Adj Flow Rate, veh/h	150	950	0				0	240	256			
Adj No. of Lanes	0	3	0				0	4	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	0	0	0				0	0	0			
Cap, veh/h	289	1536	0				0	2492	675			
Arrive On Green	0.36	0.36	0.00				0.00	0.51	0.51			
Sat Flow, veh/h	577	4441	0				0	5168	1328			
Grp Volume(v), veh/h	402	698	0				0	240	256			
Grp Sat Flow(s),veh/h/ln	1716	1573	0				0	1634	1328			
Q Serve(g_s), s	9.7	11.0	0.0				0.0	1.5	7.0			
Cycle Q Clear(g_c), s	11.6	11.0	0.0				0.0	1.5	7.0			
Prop In Lane	0.37		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	697	1128	0				0	2492	675			
V/C Ratio(X)	0.58	0.62	0.00				0.00	0.10	0.38			
Avail Cap(c_a), veh/h	697	1128	0				0	2492	675			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	16.0	15.9	0.0				0.0	7.6	9.0			
Incr Delay (d2), s/veh	3.5	2.6	0.0				0.0	0.1	1.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.1	5.2	0.0				0.0	0.7	2.9			
LnGrp Delay(d),s/veh	19.5	18.4	0.0				0.0	7.7	10.6			
LnGrp LOS	B	B						A	B			
Approach Vol, veh/h		1100						496				
Approach Delay, s/veh		18.8						9.2				
Approach LOS		B						A				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				
Phs Duration (G+Y+Rc), s		25.0		35.0				
Change Period (Y+Rc), s		3.5		4.5				
Max Green Setting (Gmax), s		21.5		30.5				
Max Q Clear Time (g_c+I1), s		13.6		9.0				
Green Ext Time (p_c), s		3.2		2.5				

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B