

MEMORANDUM

DATE September 4, 2015
TO Gail Payne
City of Alameda
FROM Sarah Sutton, Principal
SUBJECT **Central Avenue Complete Street – Existing Conditions Memo**

This memorandum serves to provide a summary of the previous planning efforts and existing conditions of the Study Area for the Central Avenue Complete Street Conceptual Proposal. This planning effort will address school, transit, truck, and job access; two five-legged intersections (Third/Taylor/Encinal and Sherman/Encinal/Central); bikeway treatments; and the potential reduction of a travel lane.

Study Area

The Study Area focuses on a segment of Central Avenue, the most southern east-west corridor on the west side of Alameda. The Study Area includes 1.7 miles of this arterial from the Pacific/Main/Central intersection to the Sherman/Encinal/Central intersection, as illustrated below. Another component of the study is addressing the gap in the San Francisco Bay Trail (Bay Trail) between the Encinal Boat Ramp and the Crown Avenue area trail entrance, an approximately 1.2 mile long gap in the Bay Trail.



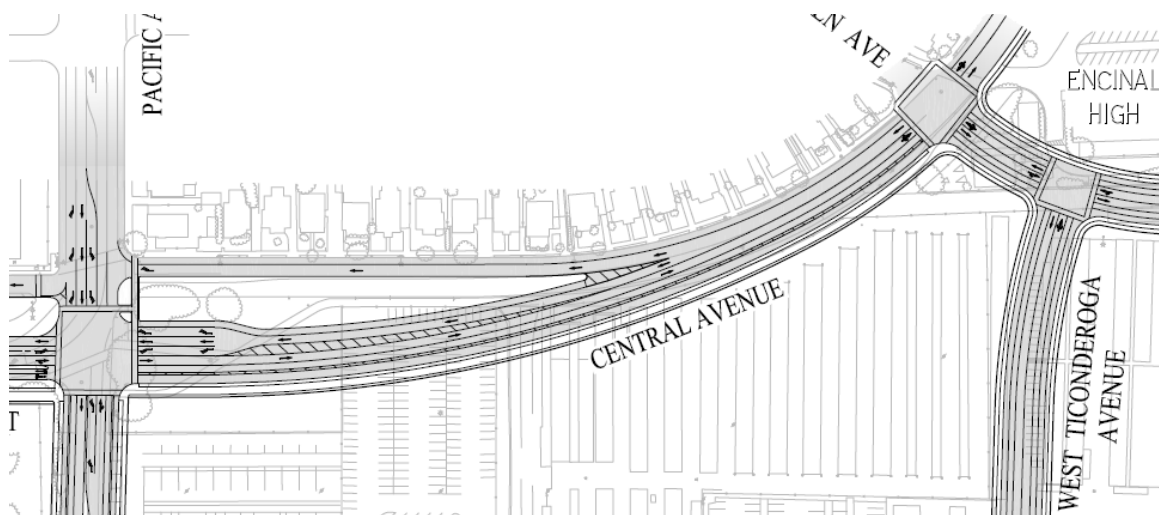
Study Area: Central Avenue between Pacific/Main and Sherman/Encinal

Previous Planning Efforts

Recent planning documents for the Study Area are summarized below in terms of the work done to date and how it impacts the Complete Street Concept Proposal.

ALAMEDA POINT MASTER INFRASTRUCTURE PLAN (2014)

The Alameda Point Master Infrastructure Plan (MIP) was prepared by Carlson, Barbee & Gibson, Inc. to establish a framework for the redevelopment and reuse of Alameda Point, an area of approximately 878 unsubmerged acres of the former Naval Air Station Alameda property located on the west end of the island. The Plan sets requirements and standards for the streets and utilities, and recommends an Adaptive Management Plan to address sea level rise. Alameda Point property abuts Central Avenue and the Encinal Boat Ramp road to the west. The components of the MIP, therefore, affect the concept proposal of the Study Area. The MIP shows a realignment of the road intersections at Pacific/Main/Central and at the Lincoln/Boat Ramp Access, and a redesign of the Central Avenue right-of-way between the two intersections. This planning effort will serve as an opportunity to seek public input on the MIP so as to further refine this preliminary concept.



Alameda Point MIP: Preliminary Concept for Pacific/Main to Lincoln

ENCINAL HIGH SCHOOL IMPROVEMENTS (2013)

The City completed a study in 2013 for the 5-legged intersection at Third/Taylor/Central in response to collisions involving students. Following two incidents, Encinal High School, Alameda Unified School District (AUSD), Alameda Police Department (APD), and the City joined forces to address improving the intersection with the goals of improving pedestrian/bicycle crossings, improving student drop-off and pick-up, simplifying the intersection layout and operations, minimizing inconvenience to residents, and reducing congestion. An interim improvement was made on the southwestern corner of the intersection where a bulbout was constructed of temporary wheel stops to shorten the crossing distance for pedestrians and to position crossing pedestrians closer to the cone of vision of drivers on

Central. The bulbout also reduces the curb radius, thereby reducing speeds of eastbound vehicles making right turns from Central. Two community meetings were organized to review and discuss other potential improvements, such as restricting left turns, using wheel stops to create pedestrian refuge islands, and installing green bicycle crosswalks. There was little community support for restricting movements to and from Taylor Street, but there was support for loading area improvements, which also were completed.

COUNTYWIDE BIKE AND PEDESTRIAN PLANS (2012)

The Countywide Bicycle Plan defines Central Avenue as a proposed Class II facility west of the Encinal Boat Ramp access road. Between the Encinal Boat Ramp access road and Crown Drive, the proposed Class II facility is designated as part of the Bay Trail. Also as part of the Bay Trail, a proposed Class I spur is shown along the Encinal Boat Ramp access road and an existing Class I spur is shown parallel but west of Crown Drive to Crown Beach. The Countywide Pedestrian Plan indicates that the eastern part of the Study Area, from Paden Elementary School to the Sherman/Encinal intersection, is within a half mile of a transit station/stop/line, providing citywide and regional connectivity for pedestrians.

STATE ROUTE 61 TRANSPORTATION CONCEPT REPORT (2012)

The eastern half of the Study Area from Webster to Sherman/Encinal/Central is the western end of State Route 61. This route is a 7.1 mile long segment with four lanes that begins in the City of San Leandro and runs northwest through the Cities of Oakland and Alameda until it ends at Webster Avenue. The Caltrans' Transportation Concept Report (TCR) published in 2012 provides an overview of the corridors' transit services and bicycle and pedestrian facilities; the issues, such as a lack of and need to upgrade ADA facilities; and the programmed, planned, and conceptual highway improvement projects. Caltrans has since requested to relinquish this state route to local jurisdictions.

CITY OF ALAMEDA BICYCLE PLAN (1999, 2010)

The City's Bicycle Plan was created to enhance the bicycle environment in Alameda by outlining a vision, goals, and policies; defining a bicycle network; and providing an assessment of the bicycle facility network needs with recommendations for projects, programs, and funding for implementation. The network defined in the Plan delineates Central Avenue as a proposed Class III facility between Pacific/Main and Third/Taylor intersections, and as a transitional facility between Third/Taylor and Sherman/Encinal intersections. As a transitional facility, it is proposed as a Class II bike lane if traffic capacity needs can be accommodated, otherwise it is proposed to be a Class III bike route.

The document also references the Regional Bicycle Plan for the San Francisco Region (2009), which shows the Bay Trail as an unimproved on-street facility from the Encinal Boat Ramp to and along Central Avenue to Crown Drive, where it becomes an off-street facility to Crab Cove and along the waterfront heading southeast along Shore Line Drive.

GENERAL PLAN (1991, 2009)

The Transportation Element of the General Plan defines Central Avenue as a truck route, transit priority street, and a bicycle priority street. It shows the corridor as two separate street types, an island arterial from Pacific/Main to Webster and a regional arterial from Webster to Sherman/Encinal. Island arterials provide intra-island connectivity generally through residential neighborhoods with less traffic volume and narrower width than regional arterials. Alameda's street grid network allows traffic to be distributed along multiple routes without separating neighborhoods with higher traffic volumes of regional arterials. The General Plan Land Use Element shows a variety of land uses along the 1.7 mile long corridor, including school and recreation zones (Main/Pacific/Central to McKay, and between Eighth to Ninth Streets), a commercial main street (McKay to Eighth), and residential corridor streets (Third to Fourth and Ninth to Sherman/Encinal).

PEDESTRIAN PLAN (2009)

The City's Pedestrian Plan guides City staff, residents, developers, and decision-makers on how to improve pedestrian access on the island. The Plan presents an overall vision and a list of goals and corresponding policies; summarizes the existing pedestrian facilities; and prioritizes proposed pedestrian projects. The only high-priority project in the Study Area vicinity is the Pedestrian District along Webster Street, which has since been addressed through sidewalk and streetscape improvements. There are a number of designated medium-priority projects in the Study Area, including sidewalk improvements along Central Avenue between the Encinal Boat Ramp and Crown Drive, and improvements to six intersections: Lincoln/Encinal Boat Ramp access road/Central, Third/Taylor/Central, Sixth Street/Central, Webster/Central, and Eighth/Central.

LOCAL ACTION PLAN FOR CLIMATE PROTECTION (2008)

The City of Alameda's climate action plan presents climate protection initiatives that reflect the existing emissions inventory and reduction targets, which will assist the City in achieving the goal of reducing its greenhouse gas (GHG) emissions by at least 25% below 2005 levels by 2020. The plan was prepared by the City of Alameda Climate Protection Task Force and the Planning and Building Department, and adopted by the City Council in February 2008. The initiatives are organized into four categories: 1) transportation and land use; 2) energy; 3) waste and recycling; and 4) community outreach and education. Initiatives pertaining to transportation, the greatest contributor of GHG emissions (54%), are designed to:

- Reduce the number of automobile trips by implementing initiatives that encourage Alameda residents, employees, and visitors to use alternative modes of transportation, such as public transit, cycling, and walking.
- Promote land development that makes transit, bicycling, and walking more attractive alternatives.
- Encourage the use of cleaner-running vehicles and alternative fuel vehicles.

One of the eight transportation initiatives is to “develop and fund alternative transportation strategies in the City's budget” for projects like the Central Avenue Complete Street Concept Proposal.

BAY TRAIL

The Bay Trail follows the south side of Alameda Island, but there is a gap in the trail from the Encinal Boat Ramp to Crab Cove. Currently, pedestrians and cyclists connect from Central Avenue using the bike path just west of Crown Drive or using the bike route on McKay Avenue to reach Crab Cove. This study will explore addressing the gap and formalizing the alignment.

Existing Conditions

The right-of-way and context of the corridor changes over the 1.7 mile long Study Area. In the Study Area, the following is occurring:

- Speeds between 30-33mph
- 68 injury collisions over the past 10 years, which includes 18 pedestrian-involved injury collisions (almost 2 per year) and 20 bike-involved collisions (2 per year), but no fatalities.
- Approximately 4,500 students go to school in the West End, and most of the schools have a citywide catchment.

The corridor is divided into three segments based on characteristics, and the existing conditions of each are described below from west to east.

PACIFIC/MAIN/CENTRAL TO CRAB COVE CONNECTION AT MCKAY

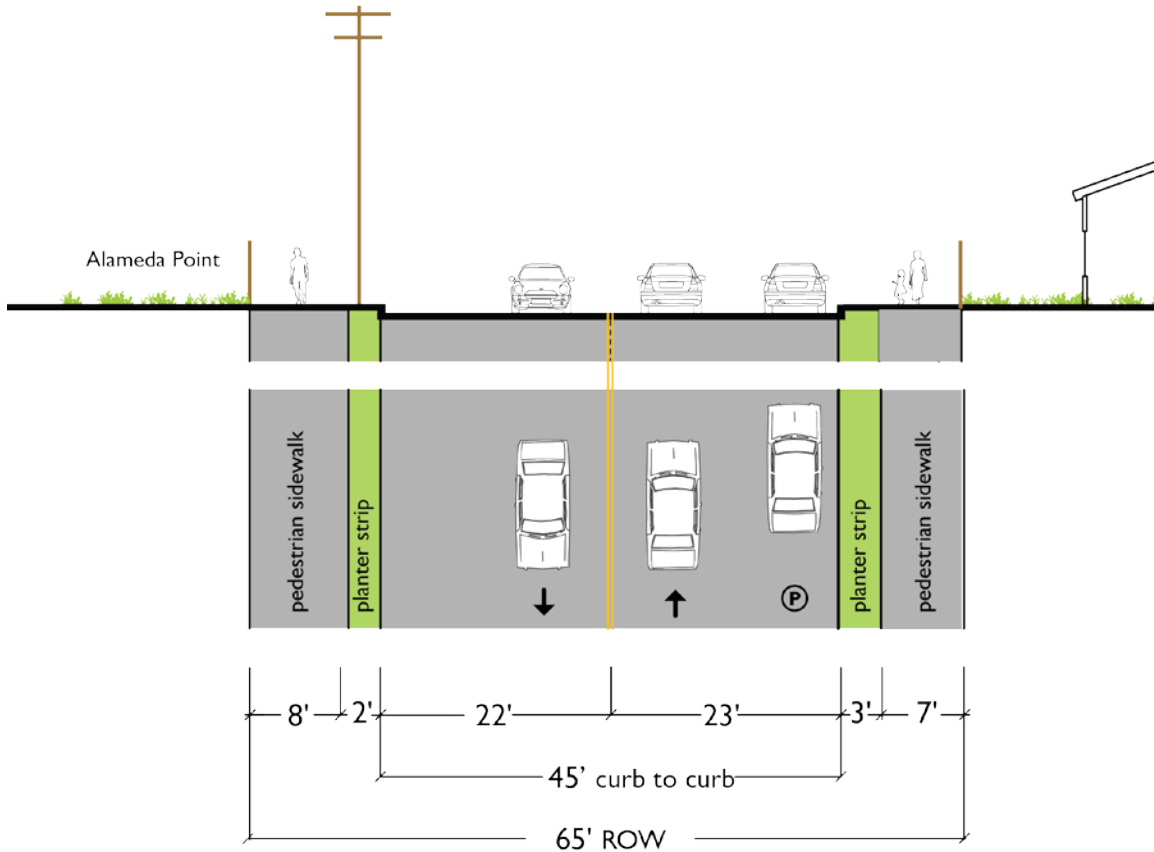
The first segment of Central Avenue from the Pacific/Main intersection to the Crab Cove connection at McKay Avenue includes three schools as well as the missing link in the Bay Trail. There are two signalized intersections, one at Pacific/Main and another at Fourth Street; the intersection with Fifth Street has stop signs in all three directions.

This segment of Central Avenue starts as a two-lane road with parking on one-side and ends as a four-lane road with parking on both sides.

Pacific/Main Intersection

The signalized, offset intersection of Central Avenue, where it meets Pacific Avenue and Main Street, creates a wide and potentially confusing intersection with no indication of lane positioning for bicyclists. The intersection operates at an automobile level of service (LOS) B during the AM and PM peak hours with all movements operating below capacity. Approximately one-third of the overall intersection automobile capacity is utilized during the peak hours.

Central Avenue is a wide two-lane road as it heads south and begins to curve to the southeast at the Encinal Boat Ramp access road. On-street parking is restricted on the west side of Central. The Alameda Point MIP proposes to realign the streets to remove the offset at Pacific/Main, as well as the offset further south on Central Avenue by Lincoln Street and the access road down to the Encinal Boat Ramp, as shown in the previous figure. These proposed improvements have not been vetted with the adjacent property owners and community members so this planning effort will refine the Alameda Point MIP preliminary concept.



Existing Street Section: Central Avenue between Pacific/Main and Lincoln

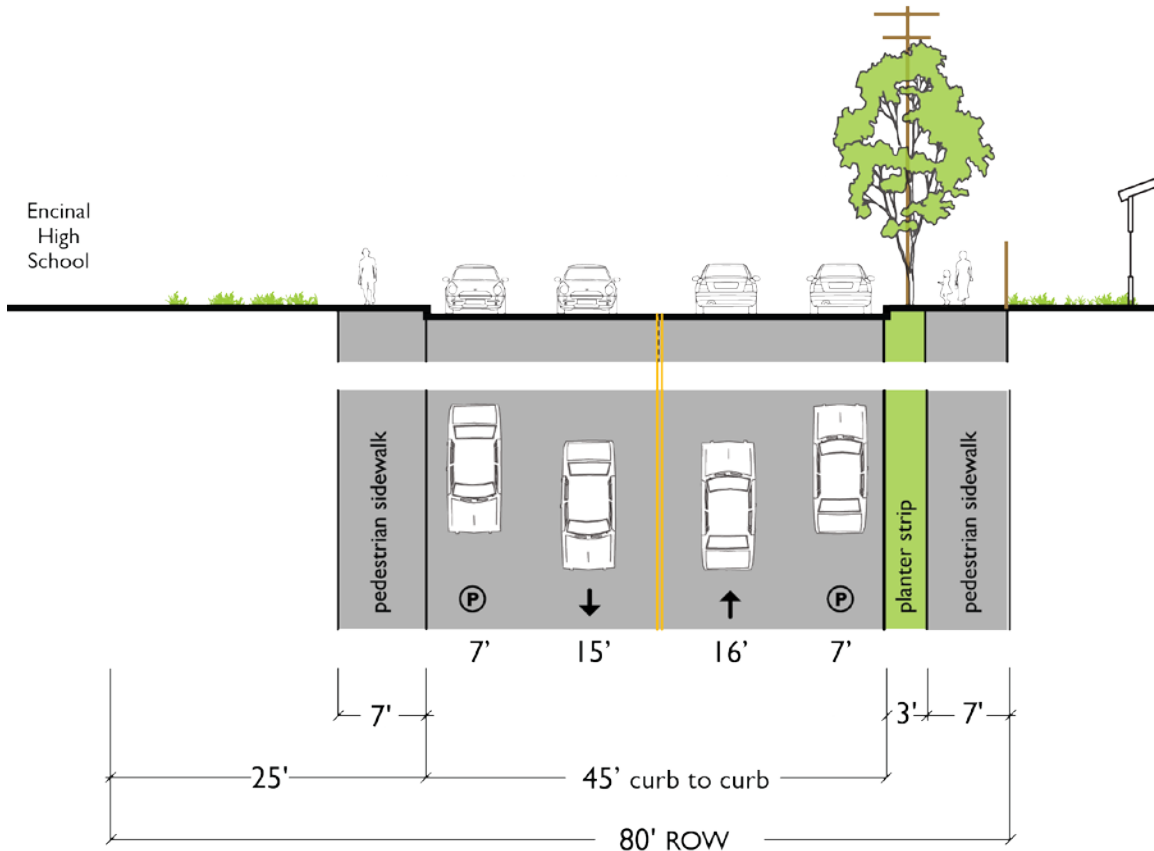
Encinal High School

There is an AC Transit stop in front of the high school for Lines 631 and 663, which are two school routes operating within the City. Existing records show that there is a 25-foot wide city right-of-way on the south side of Central Avenue in front of Encinal High School, starting at the edge of the curb. During peak drop-off and pick-up times, there are many pedestrians and bicyclists in the vicinity and crossing Central Avenue. Street parking is allowed on the residential, north side of Central. On the south side of Central, parking is allowed only between the Encinal Boat Ramp access road and the school’s main parking lot.

Third/Taylor Intersection

All five legs of the intersection are used for informal pick-up and drop-off. Central Avenue is the primary street with uncontrolled flow while the side streets Third and Taylor are stop-controlled. The intersection operates at an automobile LOS B and C during the AM and PM peak hours, respectively, and all movements operate below capacity during both peak hours. Slightly less than one-third of the intersection automobile capacity is utilized during the peak hours.

Currently there is one pedestrian crossing of Central Avenue in place, on the west leg. Pedestrian crossing is not allowed on the east leg. A traffic signal is proposed for the intersection, but it needs to be vetted with the public. Encinal High School staff, parent volunteers, and the Alameda Police Department often assist with pedestrian crossings to help ensure safe pedestrian, bicycle, and vehicular navigation through the intersection at the beginning and end of the school day.



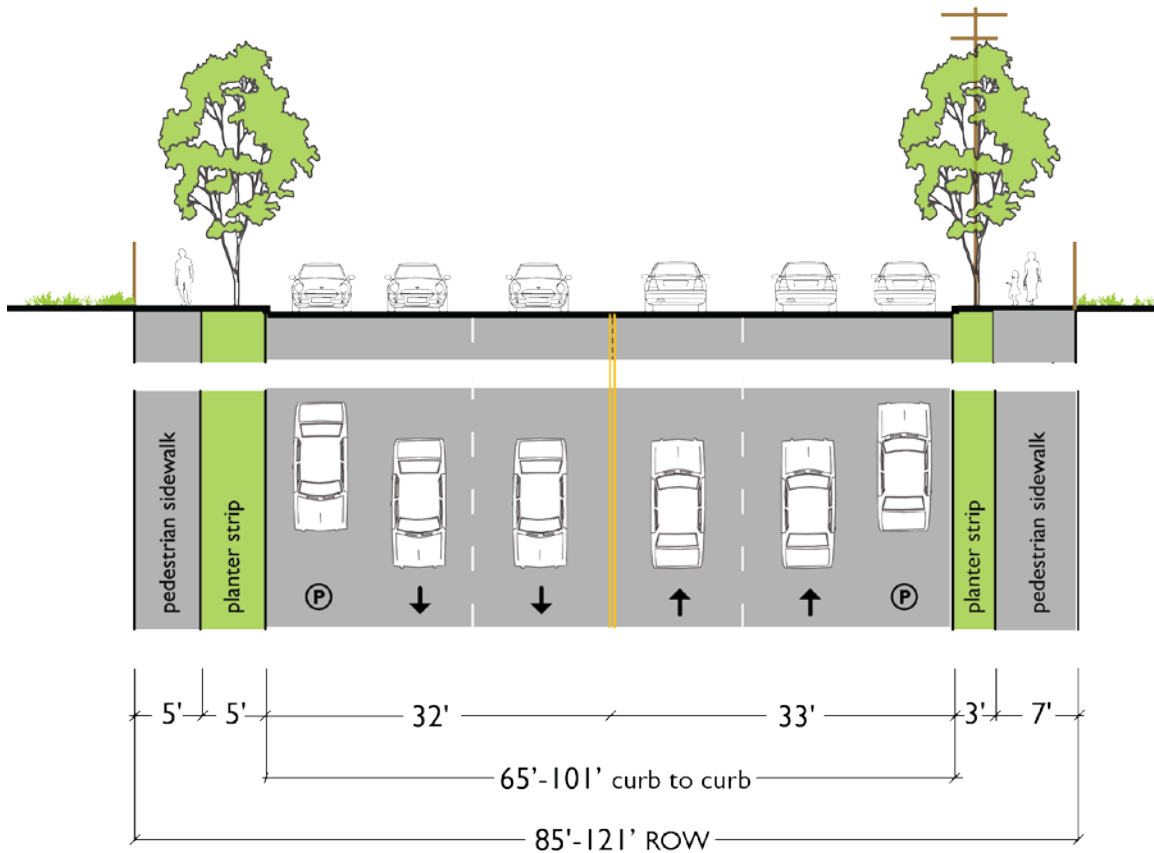
Existing Street Section: Central Avenue between Lincoln and Third/Taylor by Encinal High School

Fourth Intersection

There is a signalized intersection on Central where it intersects Fourth Street to the north and Ballena Boulevard to the south. This intersection operates at an automobile LOS D during the AM and PM peak hours, and all movements operate below capacity. Approximately one-fourth of the intersection capacity is utilized during the peak hours.

Traveling east, this intersection marks the point where Central Avenue ends the curve that started at the Encinal Boat Ramp access road and becomes straight. There is excess pavement immediately west of Fourth Street as well as a pedestrian refuge that separates the right turn pocket from Fourth onto

Central Avenue; this is where Central Avenue transitions from a wide two-lane road to a four-lane road with parking as it heads east.



Existing Street Section: Central Avenue between Third/Taylor and Fourth

Paden Elementary School

The T-intersection of Fifth and Central is controlled by stop signs in all directions with crosswalks across Fifth and across Central on the west side of Fifth. Many children cross Central Avenue at Fifth Street going to and from Paden Elementary School; a crossing guard assists pedestrians at the crosswalks. Just as at Encinal High School, there is high traffic congestion, as well as many children walking and biking around the school during peak drop-off and pick-up times. This intersection operates at a vehicular LOS B during the AM and PM peak hours with all movements operating below capacity. Approximately half of the intersection capacity is utilized during the peak hours.

Connections to Crab Cove

There are two bicycle and pedestrian connections from this segment of Central Avenue that provide access to Crab Cove; a separated path that runs parallel to the private Crown Drive, and the bike route

on McKay Street with a sidewalk on the west side of the street. The multi-use path adjacent to the Crown Drive development is gated from sunset to sunrise, but not locked, with access prohibited.

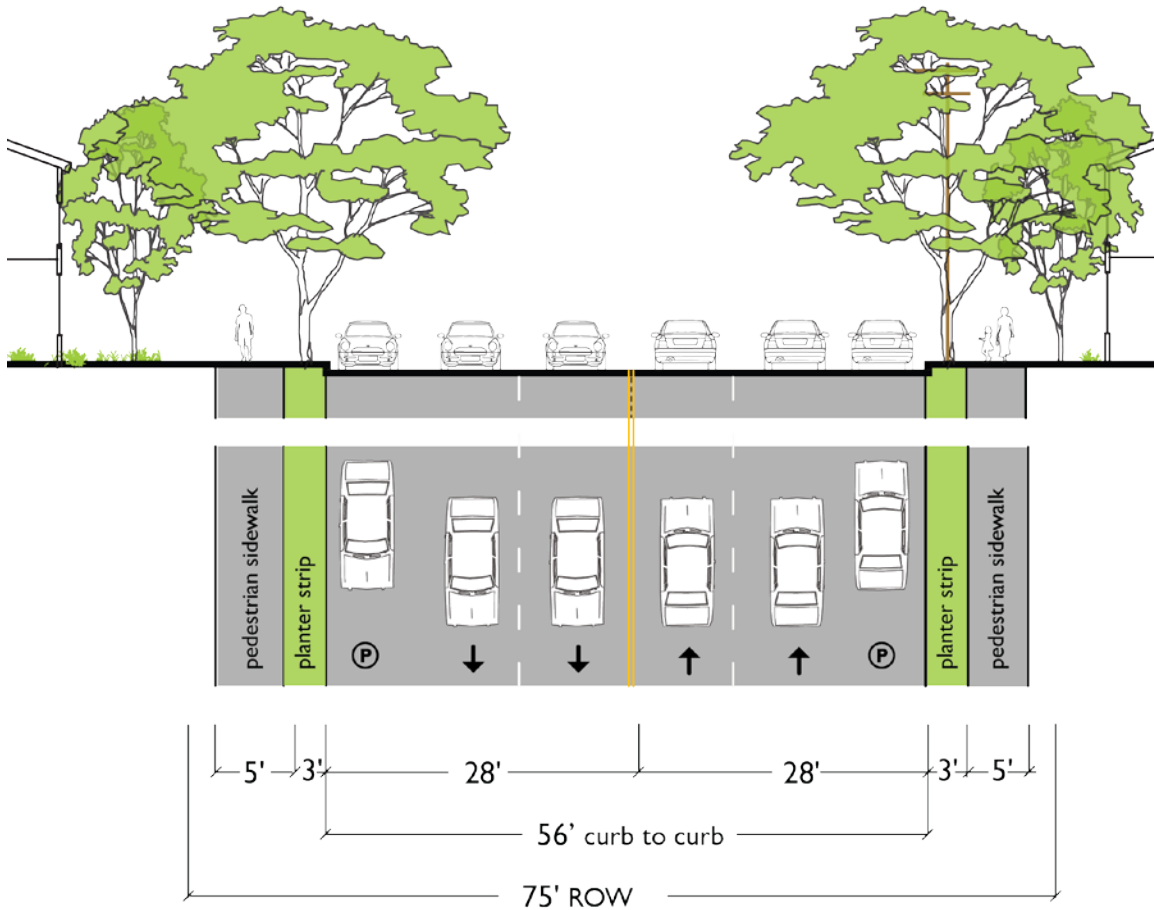
There is a crosswalk across Central on the east side of Sixth with pedestrian activity including students from the adjacent Montessori school as well as neighborhood connection to Crab Cove and the businesses on the south side of Central.

CRAB COVE CONNECTION AT MCKAY TO EIGHTH STREET

This segment of Central Avenue includes four lanes with parking on both sides and large trees lining both sides of the street. There are intermittent commercial buildings on both sides of the street that draw people to the area, with limited formal gathering spaces other than Washington Park. Although there is metered street parking adjacent to the commercial uses, businesses have expressed concern about inadequate parking in the area.

Webster Street

The Webster and Central intersection is the southern terminus of the Webster Alameda Business Association. Within this area, there is metered parking along Webster and along Central from McKay Avenue to just east of Webster. There are also retail loading areas for the commercial spaces along Webster. Central Avenue east of Webster is State Route 61 and is under Caltrans' jurisdiction. There are two bus stops on the south side of Central Avenue: one just east of Webster, which has a bench, and one just west of Eighth Street. Both stops are served by AC Transit Line 20 (Downtown Oakland – Dimond and Transbay Line W), while the stop east of Webster is also served by the AC Transit school routes 631 and 663. The Central/Webster intersection is signalized with crosswalks on all legs. Webster is both a commercial corridor as well as a main route to Oakland. Traffic levels increase around Webster. The intersection operates at an automobile LOS F during the AM peak hour with high levels of delay for southbound vehicles. The volume of traffic during the AM peak hour surpasses the intersection capacity (volume-to-capacity ratio of 1.35). During PM peak hour, the intersection operates at an automobile LOS D with volume of traffic near the capacity of the intersection (volume-to-capacity ratio of 0.93). The southbound left movement from Webster to Central experiences a high level of delay during the PM peak hour.



Existing Street Section: Central Avenue between Fourth and Sherman/Encinal

Washington Park

Washington Park occupies most of the south frontage with few driveways in this segment. Between Page Street and Eighth Street, the curb-to-curb distance widens from 56 to 65 feet to accommodate a turning lane for eastbound traffic making a right onto Eighth Street, which is difficult for busses to navigate. The intersection at Eighth Street is signalized with a three-way signal; both directions of travel on Central are controlled together but north- and south-bound traffic on Eighth have their own signal phases. Eighth Street provides an alternative route to Webster for those heading toward Oakland or Marina Village, which is a mixed-use area around the Posey Tube that connects to Oakland. Eighth Street also provides intra-island connectivity to Otis and Shore Line Drives, which are alternative east-west routes to Central Avenue.

EIGHTH STREET TO SHERMAN/ENCINAL/CENTRAL

The eastern third of the corridor includes mostly residential land uses with few crosswalks but frequent driveways on both sides. Along this half-mile stretch of Central Avenue, between Eighth Street and Sherman Street, there are 39 driveways on the north side of the roadway and 36 driveways on the south side. Driveway conflicts can pose challenges for redesigning the right-of-way. There are crosswalks at Ninth and at Caroline; however, Weber, St. Charles, and Sherman only have crosswalks on the east side, and there are no crosswalks at other intersections. There are no stop signs on Central in this segment but there is a signalized intersection at Sherman/Encinal.

This segment of Central is noted by the tree canopy of plane trees that shades the entire width of the road providing a marked difference to the segments west of Eighth Street.

Eighth

This intersection is signalized with crosswalks on all four legs. The intersection operates at an automobile LOS B during the AM and PM peak hours with all movements operating below capacity. Approximately 70 percent of the intersection capacity is utilized during the peak hours.

Sherman/Encinal

This signalized five-legged intersection at the east end of the Study Area will require transitions. There is a need to provide connections to the existing Class II bike lanes on Central Avenue, east of Sherman. In addition, there is not a proper left turn lane for eastbound traffic remaining on Central. There are crosswalks on the east side of Sherman only. There is a gas station between Central and Encinal, and the other immediate areas are all residential with a small business district, school, and churches to the east that generate foot and bicycle traffic. The intersection operates at an automobile LOS C during the AM and PM peak hours with all movements operating below capacity. Approximately one-third of the intersection capacity is utilized during the AM peak hour, and half of the capacity is utilized during the PM peak hour.

Corridor Data

Quantitative transportation information for the 1.7 miles long Study Area is presented below.

SAFETY AND COLLISION HISTORY

As noted earlier, the City of Alameda has recorded 68 traffic collisions in the Study Area that have resulted in personal injury over the last ten years. Out of these 68 collisions, 18 involved pedestrians and 20 involved bicyclists.

PEDESTRIAN AND BIKE VOLUMES

In addition to assessing vehicular volumes and the end-to-end travel times for the existing conditions, the 2015 pedestrian and bicycle volumes were also provided by Kittelson & Associates for seven key intersections along the project corridor. These volumes are included in Figure 2 of Appendix A.

DRIVEWAY COUNTS FOR THE STUDY AREA

	NORTH/EAST	SOUTH/WEST	TOTAL
Pacific/Main to Lincoln	14	1	15
Lincoln to Third/Taylor	12	4	16
Third/Taylor to Fourth	9	1	10
Fourth to Sherman/Encinal	86	70	156
Total	121	76	197

TRAFFIC ANALYSIS SUMMARY TABLE

An end-to-end travel time analysis was completed by Kittelson & Associates in 2015 using intersection analysis results for the through movement at each of the seven key intersections in the Study Area, and the run time along the corridor at the existing speed limit. The analysis was provided for the current year and a 20-year projection.

TIME PERIOD / DIRECTION	END-TO-END TRAVEL TIME (2015)	END-TO-END TRAVEL TIME (2035)
Weekday AM Peak (7-9 AM)		
Eastbound	6.9 min.	8.4 min.
Westbound	6.8 min.	8.9 min.
Weekday PM Peak (4-6 PM)		
Eastbound	6.5 min.	9.1 min.
Westbound	7.0 min.	10.7 min.

TRAFFIC VOLUMES FOR COMPARABLE STREETS IN ALAMEDA

STREET NAME	VEHICLES/DAY
Atlantic Avenue (Buena Vista Avenue to Constitution Way)	10,956
Broadway (Santa Clara Avenue to Otis Drive)	10,552
Fernside Boulevard (Tilden Way to High Street)	8,550
Central Avenue	9,327
Central Avenue: FUTURE (average)	12,000
Central Avenue: FUTURE (max.)	16,000

Appendix A

Technical Memorandum: Transportation Operations Analysis for Central Avenue