El Cerrito

Hercules

Pinole

Richmond

San Pablo

Contra Costa County

AC Transit

BART

WestCAT

TECHNICAL ADVISORY COMMITTEE MEETING NOTICE & AGENDA

DATE & TIME: Thursday, July 9, 2020 • 9:00 AM – 11:00 AM

REMOTE ACCESS: https://us02web.zoom.us/j/7321058840?pwd=c1dMVjJydl-BoYk0yYWVVZVlmWHZ4Zz09

MEETING ID#: 732 105 8840 **PASSWORD (if requested):** WCCTAC2020

Remote Participation Only
As a result of the COVID-19 public health emergency, including the County Health Officer and Governor's directives, **there will be no physical location for the TAC Meeting**. TAC members will attend via teleconference and members of the public are invited to attend the meeting and **participate remotely**.

Pursuant to the Governor's Executive Order N-29-20, TAC members: Yvetteh Ortiz, Mike Roberts, Tamara Miller, Lori Reese-Brown, Alan Panganiban, Colin Piethe, Rob Thompson, Nathan Landau and Celestine Do may be attending this meeting via teleconference, as may WCCTAC Alternate TAC Members. Any votes conducted during the teleconferencing session will be conducted by roll call.

The public may observe and address the WCCTAC TAC in the following ways:

Phone Participation
Dial one of the following numbers, enter the participant PIN followed by # to confirm:
+1 669 900 6833
Meeting ID: 732 105 8840
Password: 066620

Public Comment
Members of the public may address the TAC during the initial public comment portion of the meeting or during the comment period for agenda items.

Participants may use the chat function on Zoom or physically raise their hands to indicate if they wish to speak on a particular item.

Written Comment (accepted until the start of the meeting, unless otherwise noted on the meeting agenda). Public comments received by 5:00 p.m. on the evening before the TAC meeting date will be provided to the WCCTAC TAC and heard before TAC action. Comments may be submitted by email to creilly@wcctac.org

Comments may also be submitted via e-mail to creilly@wcctac.org at any time prior to closure of the public comment portion of the item(s) under consideration. All written comments will be included in the record.

Reading of Public Comments: WCCTAC staff will read aloud email comments received during the meeting that include the subject line "FOR THE RECORD" as well as the item number for comment, provided that the reading shall not exceed three (3) minutes, or such other time as the TAC may provide.

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1. **CALL TO ORDER and MEMBER ROLL CALL**
   Estimated Time:* **9:00 AM,** (5 minutes)

2. **PUBLIC COMMENT**
   Estimated Time:* **9:05 AM,** (5 minutes)

   The public is welcome to address the TAC on any item that is not listed on the agenda. Please fill out a speaker card and hand it to staff. Please limit your comments to 3 minutes. Pursuant to provisions of the Brown Act, no action may be taken on a matter unless it is listed on the agenda, or unless certain emergency or special circumstances exist. The WCCTAC TAC may direct staff to investigate and/or schedule certain matters for consideration at a future TAC meeting.

3. **CONSENT CALENDAR**
   Estimated Time:* **9:10 AM,** (5 minutes)

   A. **Minutes & Sign in Sheet from June 11, 2020**
   Recommendation: Approve as presented.
   Attachment: Yes.

4. **REGULAR AGENDA ITEMS**

   A. **CCTA Data Management Plan and e-Builder Pilot**
   Description: Tim Haile, of CCTA staff, will revisit the concept of a countywide data management strategy, as discussed at the previous TAC meeting. He will also review the proposed expansion of the e-Builder Project Management Information System (PMIS), in partnership with local jurisdictions, as part of a one-year pilot.

   Recommendation: Information Only

   Attachment: No

   Presenter/Lead Staff: Tim Haile, CCTA Staff.

   Estimated Time:* **9:15 AM**, (30 minutes)

   B. **Alameda and Contra Costa I-80 Design Assessment Alternative Scope of Work**
   Description: Since the completion of the West County High Capacity Study, WCCTAC has requested the study of near and mid-term improvements to the I-80 corridor, focusing on improving conditions for transit and HOVs. MTC and ACTC agreed to fund a study, via a Caltrans Design Alternatives Analysis (DAA), and designated the CCTA as a co-sponsor. WCCTAC staff were given a brief period of time to review a draft scope of work before MTC issued a Request for Qualifications.

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* Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated time.

Recommendation: Receive scope of work and discuss the role of local jurisdictions and WCCTAC in the study process.

Attachment: Yes: Scope of Work

Presenter/Lead Staff: Leah Greenblat, WCCTAC Staff.

Estimated Time:* **9:45 AM**, (20 minutes)

C. **Scope of Work for San Pablo Avenue Multimodal Corridor Study, Phase 2**
Description: During the last calendar year, the WCCTAC TAC and Board reviewed a draft scope of work for the next phase of the San Pablo Avenue Multimodal Corridor Study. The scope focuses on advancing design concepts, and transit and traffic analysis, from Phase 1 to better suit West County's needs. Due to COVID-19, some elements of the scope must be re-visited before being incorporated into ACTC's Phase 2 work. WCCTAC staff anticipates that the consultant will begin work in October following ACTC Board action in September.

Recommendation: Receive update.

Attachment: Yes: Draft Scope of Work

Presenter/Lead Staff: Leah Greenblat, WCCTAC Staff

Estimated Time:* **10:05 AM,** (25 minutes)

5. **STANDING ITEMS**

A. **Technical Coordinating Committee (TCC) Report**
Description: TCC representatives will report on the last TCC meeting.

Recommendation: None.

Attachment: No

Presenter/Lead Staff: WCCTAC's TCC Representatives & WCCTAC Staff

Estimated Time:* **10:30 am** (5 minutes)

B. **Staff and TAC Member Announcements**
Recommendation: Receive update.

Attachment: No

Presenter/Lead Staff: WCCTAC's TCC Representatives & WCCTAC Staff

*Estimated Time**: **10:35 am** (5 minutes)

6. **ADJOURNMENT**
Description / Recommendation: Adjourn to the next regularly scheduled meeting of the TAC on Thursday, September 10, 2020. (The next regular meeting of the WCCTAC Board is Friday, July 24, 2020.)

*Estimated Time****: 10:40 am**

* Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated time.

- In compliance with the Americans with Disabilities Act of 1990, if you need special assistance to participate in the WCCTAC TAC meeting, or if you need a copy of the agenda and/or agenda packet materials in an alternative format, please contact Valerie Jenkins at 510.210.5930 prior to the meeting.
- If you have special transportation requirements and would like to attend the meeting, please call the phone number above at least 48 hours in advance to make arrangements.
- Handouts provided at the meeting are available upon request and may also be viewed at WCC-TAC's office.
- Please refrain from wearing scented products to the meeting, as there may be attendees susceptible to environmental illnesses. Please also put cellular phones on silent mode during the meeting.
- A meeting sign-in sheet will be circulated at the meeting. Sign-in is optional.

* Estimated time for consideration is given as a service to the public. Please be advised that an item on the agenda may be considered earlier or later than the estimated time.

El Cerrito

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AC Transit

BART

WestCAT

WCCTAC TAC Meeting Minutes

MEETING DATE: July 11, 2020

MEMBERS PRESENT: Colin Piethe, Contra Costa County; Celestine Do, BART; Allan Panganiban, San Pablo; Denee Evans, Richmond; Rob Thompson, WestCAT; Tamara Miller, Pinole; Mike Roberts, Hercules; and Yvetteh Ortiz, El Cerrito

GUESTS: Matt Kelly, Tim Haile, Hisham Noeimi - CCTA; Bill Pinkham - CCTA CAC West County Rep; Rob Reber - Hercules; Sal Akhter - Streetlight; Patrick Phelan - Richmond

STAFF PRESENT: John Nemeth, Leah Greenblat, Coire Reilly, Joanna Pallock

ACTIONS LISTED BY: WCCTAC Staff

ITEM	ITEM/DISCUSSION	ACTION/SUMMARY
1.	Call to Order	The meeting was called to order at 9:03 a.m.
2.	Public Comment	None.
3.	Consent Calendar: a. Action Minutes and Sign-in Sheet from March 12, 2020 – Approve as presented.	Ortiz moved, Miller seconded, motion passed to approve the Consent Calendar with Landau abstaining.
Regular Agenda Items		
4.	CCTA Data Management Plan and e-Builder Pilot	Tim Haile and Sal Akhter sought feedback on a possible CCTA plan to create a countywide transportation data center. The e-Builder pilot discussion was continued to a future meeting due to limited time.

5.	CCTA's Growth Management Program (GMP) Task Force / SB743 Update	Matt Kelly updated the TAC on the status of work products and outcomes from the GMP Task Force.
6.	Interim Measures to Prepare for Measure J Sales Tax Revenue Reduction Due to COVID-19 Pandemic	Hisham Noemi provided information on modifications that the Authority is considering to its plan for funding capital projects, given reduced Measure J sales tax revenue.
7.	STMP Update: Annual Fee Adjustment Status and Proposed Reporting Form Revision	Leah Greenblat reminded the TAC that a 5.6% adjustment to the STMP fee schedule will become effective on July 1. She also explained that, due to the potential for cities to have different level of fees if a development had an approved tentative maps or prior agreements, a revision to the quarterly reporting form was needed. The TAC was asked to approve this change. Miller moved, Piethe seconded, and the TAC unanimously recommended incorporating additional questions into the reporting form.
8.	Call for Projects: Safe Routes to BART Grants	Leah Greenblat announced that BART has grants available to improve access to its stations.
9.	TCC Update	Yvetteh Ortiz and Leah Greenblat noted that the content of the last TCC meeting was similar to the TAC's agenda with a focus on the CCTA's GMP and response to COVID-19. They also informed the TAC that Leah was elected Chair of the TCC.
10.	Member Agency Updates on Transportation Services	None.
11.	Adjournment	The meeting adjourned at 11:18 AM.

Attachment A
SCOPE OF WORK

Alameda and Contra Costa I-80 Design Alternative Assessment

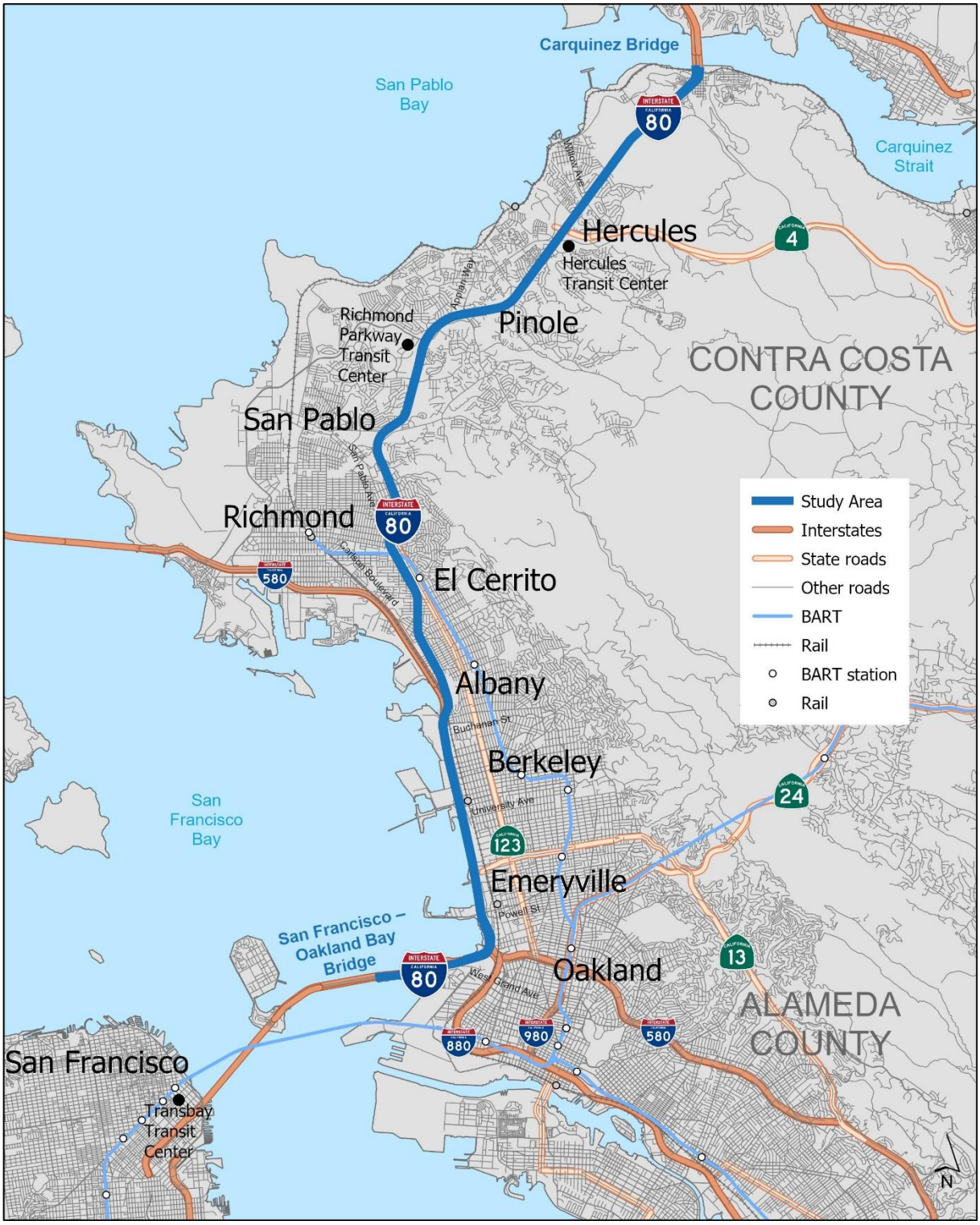
Interstate 80 (I-80) in Alameda and Contra Counties is consistently among the top congested corridors in the Bay Area. It serves as a key Transbay/Bay Bridge commute corridor that accommodates a diversity of travel patterns, connecting housing in the East Bay and as far as Napa, Solano and Sacramento, to jobs in San Francisco, Alameda County, and Silicon Valley. This corridor is heavily used by carpools and express buses during the commute hours, based on 2019 data, as much as 34 transbay buses per hour were observed.

As part of the Bay Bridge Forward effort, MTC is working with its partners to deliver a suite of near-term and low-cost operational efficiency projects to improve transit and carpool operations by reducing delay and serving more people in fewer vehicles. The purpose of the DAA is to evaluate a range of improvement options to address congestion in the corridor, including HOV/managed lanes. The corridor limits are between the Carquinez Bridge in Crockett and the San Francisco-Oakland Bay in Oakland. The assessment will identify and evaluate a range of near-term and mid-term operational improvements and demand management strategies, with a focus on improving higher occupancy modes of travel, such as express buses and carpools. The primary outcome of the DAA will be a set of near- and mid-term project concepts that could advance into project development and project delivery and would be competitive for funding opportunities.

Study Limits

The study limits of the DAA will be on I-80 in Alameda and Contra Costa Counties between the Solano and Contra Costa County line at the Carquinez Bridge and San Francisco-Oakland Bay Bridge Toll Plaza in Alameda County. The traffic operations analysis may need to extend beyond these limits to capture the effects of traffic in other parts of the corridor on the project as well as to better capture the operational effects of specific strategies. See Exhibit 1.

Exhibit 1 –Alameda and Contra Costa I-80 Corridor and Vicinity



Analysis Scenarios and Study Time Periods
The analysis will focus on the peak direction of travel, i.e. westbound AM peak period, and eastbound PM peak period. At a minimum, study time periods shall cover the congestion duration.

Study Years:

- Existing Conditions (2019 – 2021, TBD) *
- Near-Term Conditions (approx. 2026)

The project may consider looking at long-term effectiveness of strategies beyond 2026.

* Note that with the impacts the Shelter-in-Place order due to COVID-19, CONSULTANT shall coordinate with MTC and its partner agencies in establishing a representative existing/baseline conditions.

Task 1. Project Management and Meetings
CONSULTANT shall work with MTC, Alameda CTC and CCTA to refine the scope of work, schedule and budget during the initial phase of the project.

CONSULTANT shall meet and/or check-in through conference calls regularly with staff from MTC, Alameda CTC and Contra Costa Transportation Authority (CCTA), who will provide direction for the project. MTC will coordinate with Alameda CTC and CCTA to establish a Technical Advisory Committee (TAC) for this effort, which will consist of Caltrans, transit operators, city and county staff along this corridor. Meetings with the TAC will be held at regular intervals throughout the duration of the project, including a kick off meeting. In addition, CONSULTANT shall recommend a number of focus meetings in order to review deliverables and make decisions over the course of the task order, such as additional meetings with Caltrans and transit operators. For budgeting purpose, assume a total of twenty (20) meetings. Virtual/web-based meetings may be required in place of in-person meetings due to COVID-19 and social distancing requirements.

<u>Task 1 Deliverables:</u>

1. Final Scope of Work, Schedule and Budget
2. TAC Meeting agendas and minutes (up to 20)
3. Weekly Project Management meetings/check-ins
4. Monthly invoices and progress reports

Task 2. Project Goals and Evaluation Plan
CONSULTANT shall develop a Project Goals and Evaluation Plan that articulates a vision for the corridor, and the Purpose, Need, and Goals for the project concepts that will result from the DAA. The Project Goals and Evaluation Plan should address the diversity of travel patterns in the corridor. CONSULTANT will use a screening and evaluation process to analyze project concepts that align with the project goals. The Project Goals and Evaluation Plan will summarize the team's approach and analysis tools for screening project concepts, developing evaluation criteria, estimating performance measures for project concepts, and identifying political and

legislative risks associated with project concepts. It will also describe the review process with the project management team and the TAC, as appropriate, for various deliverables of the DAA.

Task 2 Deliverables:

1. Project Goals
2. Draft Project Goals and Evaluation Plan
3. Final Project Goals and Evaluation Plan

Task 3. Data Collection and Assessment

CONSULTANT shall compile and assess available data from various sources that are relevant to the agreed-upon performance measures in the Project Goals and Evaluation Plan and determine the needs for additional data collection efforts.

Available data sources provided by MTC, Caltrans or web downloads include:

1. INRIX speed and travel time data
2. Swiftly Transit GPS data
3. PeMS volume and speed data
4. Vehicle occupancy and classification data
5. Caltrans Census mainline and ramp volumes
6. Streetlight Origin-destination data
7. Geometric and right-of-way (ROW) data
8. Commuter parking locations, supply, and occupancy data
9. Inventory of casual carpool locations
10. Relevant AC Transit and WestCAT Transbay ridership data and studies
11. Relevant BART ridership data and studies
12. Relevant data from other partner agencies

Additional new data collection may include freeway and ramp volume, and vehicle occupancy counts, where not currently available or to fill gaps in data, and floating car surveys. For the purposes of budgeting, CONSULTANT shall assume $100,000 in the budget for additional field data collection.

Task 3 Deliverables:

1. Draft Transportation Data Assessment Memo
2. Final Transportation Data Assessment Memo
3. New Traffic Data

Note that with the impacts the Shelter-in-Place order due to COVID-19, CONSULTANT shall coordinate with MTC and its partner agencies in determining appropriate times to collect field data.

Task 4. Draft and Final Existing Conditions Assessment

Existing corridor characteristics, problems, deficiencies and constraints shall be identified before initiating the alternative development process of Task 5. Deficiencies shall include, but not be limited to, freeway operations, HOV lane performance, commuter parking facility access and

capacity, express bus operations, and ROW/physical constraints. CONSULTANT shall estimate the performance measures developed in Task 2 for existing conditions.

Task 4 Deliverables:

1. Draft Existing Conditions Assessment
2. Final Existing Conditions Assessment

Task 5. Alternative Development & Evaluation

This DAA shall identify a range of near-term and mid-term project concepts for consideration. Near-term projects may include, but not limited to, HOV lane access restrictions via restriping, HOV/bus queue jump lanes and shoulder running lanes, and HOV operating parameters such as days and hours of operations, or other concepts that would improve express bus operations getting to and from the freeway. CONSULTANT shall also assess for opportunities to enhance the existing I-80 Smart Corridor and consider new innovative technologies, with an emphasis on improving HOV and transit operations and encourage a mode shift.

Mid-term projects may include, but are not limited to, existing HOV lane conversion to express lane, or dual managed lanes (HOV/express lanes) in each direction, which may require conversion of an existing general purpose lane. The CONSULTANT shall provide support in the evaluation of HOV and managed lanes policies, such as hours and days of operations, the existing 2-seater exemption on this corridor, and vehicle occupancy (including an alternative to increase minimum occupancy vehicle requirements, such as an HOV5+ managed lane). The equity impacts of various policies shall be taken into consideration when possible.

CONSULTANT shall also identify transportation demand management strategies, including, but not limited to, first and last mile strategies, alternative modes, improved park and rides to shared mobility hubs, new and improved express bus services, opportunities for commuter parking and other improvements for ridesharing/vanpooling.

CONSULTANT shall use recently completed studies as a reference, including Transbay Tomorrow (AC Transit), the San Pablo Avenue Corridor Project (the Alameda County Transportation Commission), the West Contra Costa County Express Bus Implementation Plan (West Contra Costa Transportation Advisory Committee, February 2020), the West County High Capacity Transit Study (WCCTAC 2017) and the Countywide Express Bus Study (CCTA 2017).

CONSULTANT shall apply the screening and evaluation methodology from the Final Project Goals and Evaluation Plan to a range of project concepts and fully document the trade-offs and risks inherent to each concept. CONSULTANT shall develop high-level cost estimates for project concepts at this stage since cost may be a screening criteria.

The alternative development process shall also consider prioritizing strategies, phasing of individual strategies and appropriate packages of strategies. Preliminary layout and typical cross sections shall be developed as part of this task.

Task 5 Deliverables:

1. Draft Alternative Development Memorandum

2. Final Alternative Development Memorandum
3. "Short list" of project concepts that will be further analyzed in Task 6

Task 6. Traffic Forecasts and Operations Analysis
CONSULTANT shall propose appropriate traffic operations analysis tool(s) for the study. Upon approval of the selected analysis tool(s), CONSULTANT shall develop hourly traffic demand profiles and a calibrated operations analysis model reflective of existing traffic conditions.

Traffic operations analysis for the various alternatives, including a no-build scenario, shall be conducted for the near-term (2026). CONSULTANT shall develop and apply a growth rate to develop near-term traffic forecasts for the corridor, based on MTC's Travel Model One (adopted for Plan Bay Area 2040). Loaded networks of Travel Model One and other related model files will be provided by MTC.

Traffic operations analyses will generally be required only for the peak travel direction and time period, which is westbound AM and eastbound PM. Depending on the alternative concept, high level analysis, such as volume-to-capacity analysis may be needed at key sections along the corridor may be required for the off-peak direction of travel, i.e. westbound PM peak period and eastbound AM peak period. In addition, in light of SB 743, VMT analysis may be appropriate in the alternative evaluation.

CONSULTANT shall develop reasonable mode-shift assumptions to reflect enhancements such as express bus services and commuter parking facilities and the availability of an express lane or shoulder for use by buses. CONSULTANT shall also determine any additional mode shift required to off-set negative general purpose lane impacts related to general purpose lane conversion scenarios.

Task 6 Deliverables:
1. Draft Existing Traffic Operations and Travel Demand Model Calibration Memo
2. Final Existing Traffic Operations and Travel Demand Model Calibration Memo
3. Draft Operations Model Calibration Memo
4. Final Operations Model Calibration Memo
5. Draft Travel Demand Forecast and Traffic Operations Analysis Report
6. Final Travel Demand Forecast and Traffic Operations Analysis Report
7. Analysis model input and output files

Task 7. Design Alternative Assessment and Documentation
A draft DAA technical memorandum shall be prepared for full study partner review, with review of MTC, Alameda CTC, CCTA, and the TAC at a minimum. The draft memo shall document the results of tasks 4 through 7, including an executive summary, assumptions, alternative development and screening process, analysis methods, performance outcomes of the short-listed project concepts, and cost estimates. The DAA documentation shall also include statement description of project goals and needs, developed in Task 3.

Based upon feedback from MTC, partner agencies, and the TAC, the final DAA memo shall identify the preferred project concept for this segment of I-80 and develop an initial

implementation plan. Preliminary layouts, typical cross sections and other graphical illustrations of the preferred project concept shall be included as appendices in the final memo. In addition, the appropriate phasing of the preferred project concept, and packaging of the individual elements where appropriate, shall be included in the final memo.

Task 7 Deliverables:

1. Draft DAA Report
2. Final DAA Report
3. Technical memo with responses to comments on the Draft DAA

Task 8. As-Needed Optional Tasks

At MTC's discretion, CONSULTANT may be requested to perform additional tasks as described below. All required services will be authorized on a task order basis. CONSULTANT is not required to develop a budget estimate for this optional task.

1. Provide technical assistance in the evaluation of the San Francisco-Oakland Bay Bridge (SFOBB) Toll Plaza HOV Hours of Operations analysis
2. Provide technical assistance in SFOBB congestion pricing analysis, and assessment on pricing coordination between the I-80 express lanes
3. Perform additional data collection and field observations.
4. Evaluate express lane revenue potential.
5. Conduct analysis of limited weekend HOV hours.
6. Conduct analysis of strategies on the SFOBB, such as a managed lane, two-way tolling, and/or bus lane.
7. As-needed support in developing a project delivery plan.
8. Additional presentations to key stakeholders, Committees/Commission, etc., as needed.

Preliminary Task Order Schedule

Task	Due Date *
Task 1: Project Management and Meetings	September 2020 – February 2022
Task 2: Draft and Final Project Goals and Evaluation Plan	November 2020
Task 3: Data Collection and Assessment	February 2021
Task 4: Draft and Final Existing Conditions Assessment	May 2021
Task 5: Alternative Development & Evaluation	October 2021
Task 6: Traffic Forecast and Operations Analysis	October 2021
Task 7: DAA and Documentation	February 2022
Task 8: As-Needed Optional Tasks	TBD

* Assume notice to proceed by September 2020.

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Conceptual Scope of Work for the San Pablo Ave. Multimodal Corridor Study, Phase 2

July 1, 2020

Phase 2 Purpose: Advance design concepts, and transit and traffic analysis from Phase 1 to better suit West County's needs.

Phase 2 Goals:

- Identify potential roadway configurations specific to unique and varying cross-sections in Contra Costa County
- Identify the primary causes of transit congestion and the potential for those to be addressed through transit-priority treatments
- Assess implications of center- vs. side-running bus and increased bus stop spacing
- Assess opportunities for transit travel time savings, auto congestion impacts, and extent of diversion with the provision of transit-priority treatments
- Engage Contra Costa jurisdictions to discuss findings and obtain input

1. Project Management

CONSULTANT will hold monthly meetings with Project Management staff (assumed to include WCCTAC and CCTA). These may consist of in-person or teleconference coordination meetings. For each meeting, CONSULTANT will prepare an agenda and meeting summary. CONSULTANT will maintain an action items tracker for data needs and key decisions. It is assumed that the project will last up to 15 months; thereby, up to 15 coordination meetings are included.

CONSULTANT will prepare monthly invoices including a progress report and budget summary for submittal to Alameda CTC. All invoices submitted by KH shall meet ACTC, CCTA and WCCTAC's requirements for supporting documentation.

2. Design Concepts Specific to ROW and Circulation Needs of West County

2.1. Identify and Define Configuration Concepts

Identify roadway configuration options at the following locations:

- El Cerrito: 81' x-section (Fairmount to Eureka)
- El Cerrito: 83' x-section (Eureka to Potrero)
- El Cerrito/Richmond: 80' x-section (Wall to I-80, non-Caltrans section)
- Richmond: 76' x-section (Solano to Rheem)
- San Pablo: 70' x-section (Vale to Rd 20)
- San Pablo: 83' x-section (Lovegrove to Rumrill)
- San Pablo/Richmond: 74' x-section (Broadway to Rivers)

CONSULTANT will develop a matrix indicating what combinations of facilities (center-running bus, side-running bus, Class II bike, Class IV bike, parking, # of auto lanes, managed lanes) are currently provided and are feasible to be provided on each of the above segments. CONSULTANT will provide the matrix to WCCTAC for use in providing project direction.

Based on the above matrix and clear and non-conflicting feedback from WCCTAC, CONSULTANT will develop up to three (3) prototypes for each of the up to seven (7) locations. The prototypes are assumed to be similar for many of the locations but will differ based on the actual available roadway width. The prototypes are assumed to reflect a subset of the facility combinations identified in the matrix.

CONSULTANT will summarize key characteristics of the prototypes in a table, specifically:

- Ability to maintain dedicated left-turn lanes, including approximate spacing of signalized intersections and left-turns (note that this does include identification of specific left-turn locations)
- Ability to maintain u-turn movements
- Ability to provide left-turn side-street access/egress
- Opportunities for managed lane operations
- Ability to provide pedestrian bulbouts
- Ability to provide parking/loading curb usage

The prototypes and supporting tables will be summarized in Task 2.5.

2.2. Assess Transit Lane Configuration Options

It is anticipated that the prototypes may consider options with side-running and center-running dedicated bus lanes. For locations where both options are being considered (representing two of the up to three prototypes at a given location), CONSULTANT will complete the following analysis:

- Feasibility of phasing transit lane implementation, including near-term side-running or side-running type elements (such as bus bulbs or queue jumps) and conversion to center-running configuration. Special consideration will be given to the feasibility of implementing side-running transit lanes within the City of El Cerrito in the near-term given current corridor geometrics as well as implications on ultimate transition of the corridor from that near-term configuration to a long-term configuration.
- Travel time penalties associated with transit-only priority phases or bus mixing with right-turns that may be required for side-running operation. This will be based on previously prepared Synchro models of major intersections within West County. No new traffic counts or updated signal timing inputs are assumed to be collected. Penalty times will be assessed for existing conditions (based on year of traffic counts). Up to seven (7) intersection locations will be reviewed for travel time penalties.

To support this analysis, CONSULTANT will contact CCTA, El Cerrito, Richmond, and San Pablo to request any new count data collected on San Pablo Avenue between the preparation of the Phase 1 Existing Conditions Report and December 2019. CONSULTANT will also reference count data collected from other projects it has completed for CCTA, WCCTAC, and MTC along San Pablo

Avenue. Count data from 2020 will not be used due to transportation demand impacts associated with COVID-19.

The analysis will be summarized in Task 2.5.

2.3. Assess Parking Impacts

CONSULTANT will supplement parking data collected during the Phase 1 project by documenting approximate existing parking capacity in the San Pablo Avenue segment not collected during Phase 1 (Potrero Avenue to Road 20). Due to COVID-19, parking demand is assumed to not resemble "typical" demand and thus no new parking utilization data will be collected as part of this scope. CONSULTANT will also request parking supply and utilization data collected as part of other studies by local jurisdictions (anticipated to include El Cerrito and San Pablo). CONSULTANT will also perform field observations during this period to qualitatively document observed parking utilization, fronting land use characteristics, and approximate provision of off-street parking serving fronting uses.

In conjunction with the development of prototype x-sections within the segments identified above and based on the available parking supply and utilization data, CONSULTANT will identify approximate rough order of magnitude parking/loading impacts relative to existing conditions by segment. CONSULTANT will note potential areas for replacement loading and ADA parking within or adjacent to each segment, the potential size of those replacement loading/parking areas, and the proximity of those areas to generating uses on San Pablo Avenue. The analysis will be summarized in Task 2.5.

2.4. Assess Managed Lane Opportunities

Based on traffic count data assembled as part of Phase 1 and Task 2.2, CONSULTANT will identify traffic capacity and congestion considerations for managed lane operation in the AM and PM peak periods and align with feasibility considerations for prototypes that allow for managed lane operations.

The analysis will be summarized in Task 2.5.

2.5. Prepare Summary PPT

CONSULTANT will prepare a PPT presentation containing the prototypes and the feasibility of the key characteristics identified above. CONSULTANT will address up to two rounds of comments on the PPT from WCCTAC and CCTA. PPT comments are not assumed to require any additional or new analysis.

3. Transit Analysis

3.1. Updated Transit Baseline Analysis

CONSULTANT will obtain pre-COVID transit ridership and schedule performance information from AC Transit. This will include ridership by route and stop and current schedule for all routes in the San Pablo Avenue corridor, assumed to be from October/November 2019. CONSULTANT will also obtain recent monthly ridership totals from AC Transit to document ridership patterns affected by COVID.

Travel time and travel time variability will be assessed for the Route 72 services from October/November 2019 data as an update to analysis previously conducted as part of the Phase 1 Existing Conditions analysis and the Speed and Delay study. Travel time and speed analysis will rely on data obtained through the Swiftly data portal, assumed to be available at no cost to CONSULTANT. This information will be utilized in subsequent tasks and no standalone deliverable is assumed.

3.2. Speed and Delay Analysis

CONSULTANT will perform field observations in a manner consistent with the Speed and Delay Study completed for ACTC at up to eight (8) Contra Costa County locations. The eight locations represent one of AM or PM observations at a specific roadway segment. The locations will be identified by CONSULTANT and approved by WCCTAC, based on analysis of delay points previously completed by CONSULTANT in the Speed and Delay Study. This information will be used to identify existing sources of transit delay and prepare qualitative discussion of the potential of transit priority treatments in addressing that delay. The information will be summarized in a PPT presentation. One round of comments and clarifications on the PPT presentation is assumed.

The timing of field observations will be coordinated with WCCTAC and CCTA given uncertainty related to COVID impacts on congestion levels. If COVID impacts preclude field observations during the period in which Task 3 is being completed, the funds associated with this task may be re-allocated to other efforts within this scope of services.

3.3. BART Station Focus Areas

CONSULTANT will analyze existing bus operations and roadway geometrics around the El Cerrito del Norte and El Cerrito Plaza BART stations. Specific recommendations will be developed for bus stop siting, bus routing, and bus priority treatments in the area between one block south and one block north of each of those stations. This will include consideration of the bus deviating from San Pablo Avenue and priority treatments that may benefit bus access/egress to/from San Pablo Avenue. CONSULTANT will develop concept graphics on an aerial (does not include design) depicting proposed stop locations, routing, and other priority treatments. Bus turning movement geometric feasibility will be considered. Up to two rounds of comments and revisions are assumed for these graphics.

3.4. College Focus Area

CONSULTANT will analyze bus routing around Contra Costa College to determine preferred routing and opportunities for additional priority treatments. In conjunction with Task 3.5, CONSULTANT will assess options for either terminating Line 72 series routes at the College (as the 72R does today) or extending them north towards the Shops at Hilltop (as the 72 does today). Specific recommendations will be developed for bus routing and bus priority treatments for bus movements in the of the area defined by San Pablo Avenue, El Portal Drive, Rivers Street, and Contra Costa College. CONSULTANT will develop concept graphics on an aerial (does not include design) depicting proposed routing and other priority treatments. Up to two rounds of comments and revisions are assumed for these graphics.

3.5. Development of Transit Alternatives

Based on the analysis conducted in Task 3.1 and the prototypes developed in Task 2.1, CONSULTANT will provide recommendations on route alignments/turnaround locations in a long-term.

WCCTAC will direct CONSULTANT to assess up to two project alternatives for further study. Each alternative represents a unique combination of roadway configuration, transit priority treatments (including combination of side running, center running, and no bus lanes), and route configurations. Alternatives will be defined for the full extent through the study area in Contra Costa County (assumed to be Alameda County Line to Robert Miller Drive).

3.6. Implications of Increased Stop Spacing

CONSULTANT will use existing ridership patterns and the developed prototypes to identify potential stop locations for Build alternatives that utilize a hybrid-BRT stop configuration (assumes hybrid stop spacing of roughly 1/3 mile). Stop locations will be preliminary and approximate as this step will precede conceptual layout of the concepts (to be completed in a future project effort) which may restrict stop placement. Stop locations will be determined for one hybrid-BRT Build alternative.

Stops are assumed to be placed approximately every 1/3 of a mile where geometrically feasible (geometric feasibility to be determined based exclusively on the prototype configuration of the representative segment and existing intersection lane assignments), warranted by current ridership patterns, supportive of safe and comfortable pedestrian access, and facilitates connections between transit services.

Based on identified stop locations, CONSULTANT will identify the percentage of existing riders who would have their stop relocated between 300 and 600 feet, and the percentage of existing riders who would have their stop relocated more than 600 feet. CONSULTANT will also identify the average change in bus stop access walking distance along San Pablo Avenue based on an even spatial distribution of demand along San Pablo Avenue and existing crosswalks. CONSULTANT will prepare a GIS-based map depicting proposed/existing stop locations and using gradated symbology, categorization of the number of existing riders impacted. This analysis will only account for the approximate effects on of walking distance on San Pablo Avenue and will not adjust for walking distance impacts for users with trips originating/ending on other nearby streets. Stop placement will be utilized in the simulation modeling in Task 4 and access implications will be included in the Task 5 Evaluation.

4. Traffic Analysis, Including Diversion

The traffic analysis described in this task, including the potential diversion of traffic as a result of changes to roadway capacity and access associated with the project, will be performed for the following scenarios:

- Existing PM (Base)
- Year 2030 Base PM
- Year 2030 Build PM (up to two Build scenarios)

Year 2030 was selected as the traffic analysis year to represent both a reasonable timeframe to implementation while avoiding introducing the significant uncertainty associated with long-term traffic volume projections.

4.1. Traffic Volume Development

Due to COVID-19 and its effects on regional and local transportation networks, it is anticipated that any traffic data collected within the next few months will not be representative of typical weekday AM and PM peak commute traffic patterns. To mitigate the disruption to project schedule, CONSULTANT will work with the stakeholder agencies to develop a strategy to collect and develop current traffic volume data reasonably reflective of typical conditions within the last 2 to 3 years. Options may include using StreetLight data to obtain roadway segment count data, using StreetLight data to calibrate historic counts, and conducting new weekday turning movement counts (auto, bike, ped). This scope includes up to a maximum of $15,000 to be spent on a combination of StreetLight data and new traffic counts.

CONSULTANT will develop a set of existing PM volumes from available information. Peak hour roadway link volumes to assist in the diversion analysis will be developed for San Pablo Avenue within the study area and adjacent links on connecting major roadways. Turning movement volumes for all three analysis scenarios will only be developed for intersections included in the microsimulation model in Task 4.3.

CONSULTANT will develop traffic volume forecasts for a Year 2030 baseline condition scenario. CONSULTANT will use the Alameda CTC model developed in Phase 1 to identify annual growth rates that can be used to grow existing PM volumes to Year 2030 conditions. Growth rates are assumed to be developed by road type and jurisdiction, not for each individual road link.

Traffic volumes for up to two Year 2030 Build scenarios will be developed, assuming a reduction in traffic capacity on a portion of San Pablo Avenue, resulting in diversion to parallel and perpendicular streets. An additional diversion may result from left-turn restrictions implemented as part of the Build scenarios. These left-turn restrictions may shift left-turns to nearby streets and/or result in increased u-turn activity at downstream intersections. CONSULTANT will review either current peak period travel time information publicly available from Google Maps or historic November 2019 INRIX data (assumed to be available at no cost to CONSULTANT) for primary diversion routes to compare travel time along those routes with San Pablo Avenue. CONSULTANT will also review Streetlight data representing Origin-Destination pairs collected in Phase 1. These data sources will provide a qualitative assessment of the desirability of the diversion route and the level of impact to San Pablo Avenue travel time that would be needed to trigger diversion. The findings of the base year conditions diversion assessment will be compared with diversion travel demand model forecasts developed for Year 2040 as part of Phase 1 of this project. No new travel demand modeling effort is included in this scope. The travel demand model is intended as a regional tool and thus is not specifically calibrated for each individual roadway segment, nor does it account for intersection-specific configuration and operations. Therefore, the roadway diversion analysis will be considered approximate in nature and will inform only to the level of rough order of magnitude and primary areas of diversion, but not the quantitative travel time impact or level of service impact of diversion.

4.2. Diversion Summary

Using the traffic volumes estimated from Task 4.1, CONSULTANT will summarize and provide simplified maps to identify primary diversion routes and the relative magnitude of diversion on each route for each of the up to two Build alternatives. CONSULTANT will identify locations where

increased activity may occur due to left-turn restrictions in the Build scenarios, although the magnitude of volume shift from unsignalized intersections will not be quantified. CONSULTANT will prepare graphics depicting diversion routes for one round of WCCTAC/CCTA review and one round of jurisdiction review. It is assumed that reviews of the diversion summary will occur prior to finalization of the Build traffic volume forecasts.

The diversion analysis will identify roadways that would be expected to experience a notable increase in traffic as a result of the Build alternative(s). This information can be utilized as part of future project efforts, not included in this scope, to further study those roadways and identify measures to alleviate neighborhood cut-through that may result from the Build alternative(s).

4.3. Microsimulation Modeling

CONSULTANT will develop a microsimulation model in VISSIM (version 11) of up to two 3/4-mile stretches of San Pablo Avenue in Contra Costa County. The segments may be adjacent (for a total of 1.5 miles) or in different parts of the County on San Pablo Avenue. The segment extents will be identified and agreed to by both CONSULTANT and WCCTAC.

The model will be limited to signalized intersections and intersections with pedestrian crossings of San Pablo Avenue. Additional "dummy nodes" may be included with default volumes for certain side-street or driveway movements. Vehicular traffic, transit, bicycle, and pedestrian travel modes will be coded into the VISSIM model. Any changes to traffic volumes after initial setup of the model (such as new count data being available after initial modeling efforts have proceeded) would be considered an additional task not included in this scope.

The existing VISSIM model will be calibrated to existing conditions based on FHWA/Caltrans criteria. CONSULTANT will leverage historical INRIX data for travel time within the corridor to aid in model calibration. The calibration is intended to model traffic conditions that reflect a typical Pre-COVID-19 conditions so that the calibrated models can be used for 2030 Base and Build analysis.

Two project Build scenarios will be analyzed for each model segment, to be identified and agreed to by both CONSULTANT and WCCTAC as part of Task 4.1. VISSIM results will be used to confirm the estimated magnitude of traffic diverted away from San Pablo Avenue onto parallel or intersecting streets if one or both of the Build scenarios include a reduction in roadway capacity. For example, if the VISSIM model finds that San Pablo Avenue would remain severely congested given the previously identified level of diversion, diversion to alternate streets may be expected to be higher or more peak spreading is expected to occur (e.g., adjusted departure time for travelers) to avoid excessive congestions on San Pablo Avenue. Up to one round of re-assessment of the magnitude of traffic diverted off of San Pablo Avenue will be performed in refining volumes for the VISSIM model.

Note that VISSIM will not inform the diversion that may result from modifying access at unsignalized intersections if data for those unsignalized intersections is not available. The effect of neighborhood access modifications will need to be studied in future project efforts when more detailed information is collected. The VISSIM model will not include analysis of diversion roadways (other than their intersection with San Pablo Avenue if included in the study area); rather it is focused on the operations of San Pablo Avenue itself and the potential of the Build alternatives to generate

diversion. Therefore, VISSIM will not provide information on the performance of diversion roadways or confirm the diversion routing.

VISSIM will be utilized to determine the following quantitative metrics associated with the performance of the Build alternatives relative to the No Build:

- Change in auto travel time
- Change in bus travel time
- Change in bus travel time variability between model runs
- Change in intersection delay and level of service
- Change in network-wide delay

CONSULTANT will present the VISSIM models to WCCTAC staff; however, it is not assumed that output videos will be created nor will more formal presentation of the VISSIM models be required.

4.4. Travel Time Estimation

The VISSIM model will be utilized to quantify bus travel time savings between the Base and Build models and auto travel time impacts between the Base and Build Models. A table will be created identifying the change in auto and bus travel time with each of the Build models relative to the Base. The VISSIM models will not be able to make direct quantitative calculations of overall corridor traffic operations or transit travel time because they do not cover the full study area. However, findings can be qualitatively extrapolated to the Contra Costa County portion of the corridor and hypotheses developed on overall implications for congestion on San Pablo Avenue and transit travel time benefits. Transit travel time benefits in the VISSIM models, combined with the findings of the Speed and Delay study in Task 2, will be utilized to estimate reasonably expected transit travel time benefit ranges of the two modeled project Build alternatives relative to No-Build conditions within Contra Costa County for the PM peak period for Year 2030 conditions. Similarly, auto travel time impacts will be extrapolated from the VISSIM model to estimate an order of magnitude of auto travel time impacts on San Pablo Avenue associated with the Build alternatives. This will not provide an estimate of travel time impacts on diversion roadways.

Depending on the timing of the VISSIM modeling efforts for the Contra Costa County segment and the Alameda County Segment Pilot Project, travel time and variability benefits may or may not reflect improvements in Alameda County. It is assumed that no modeling in Alameda County will be performed by CONSULTANT as part of this scope unless already performed as part of a separate scope for Alameda CTC.

This information will be summarized in Task 5.

5. Evaluation

CONSULTANT will prepare an evaluation summary PPT for each Contra Costa City along San Pablo Avenue within the study area that qualitatively summarizes the information contained in the Phase 1 Evaluation Report and developed in Tasks 2 through 4 on a city-by-city basis. Components will include City-specific considerations of available curb-to-curb cross-section, parking and loading impacts, bike connectivity, transit access, transit benefits, and diversion. Quantitative metrics will include estimated effects on transit travel time, auto travel time, bus stop access, travel time

variability, magnitude of auto diversion, and parking availability. Transit travel time savings, auto travel time impacts, and total corridor travel demand will be utilized to estimate a potential range of transit ridership change with the Build alternatives, based on industry-accepted ridership elasticities. It is not anticipated that revised scoring for all of the previously included evaluation categories will be provided at a city-by-city level. Category-specific information at a city-by-city level will be provided where readily available from Phase 1 work or work included in Tasks 2 through 4. CONSULTANT will address up to two rounds of comments on each PPT. PPT comments are not assumed to require any additional analysis.

6. Stakeholder Engagement

6.1. Phase 1 Community Input Received

In preparation for presentations included in this task, CONSULTANT will reference information developed as part of the Phase 1 effort to tailor project goals and objectives to specific needs of West County. Particular focus will be placed on identifying opportunities for coordination and consistency between jurisdictions. This will include reviewing input received as part of online surveys conducted in Phase 1. No new surveying will be performed as part of this effort.

6.2. Meetings

CONSULTANT will participate in up to four total presentations to either the WCCTAC TAC or WCCTAC Board, to be determined by WCCTAC. CONSULTANT will participate in a total of up to three Council or other elected/appointed body presentations at the City level. It is assumed that all three presentations will be based on similar content at a similar single point in the project, customized for each City.

CONSULTANT will participate in up to six meetings with staff from local jurisdictions and/or transit operators to review corridor configuration options and findings prepared as part of other tasks.

WCCTAC/CCTA San Pablo Avenue Multimodal Corridor Study, Phase 2

Project Schedule

		2020												2021											
	Task	Oct			Nov				Dec				Jan				Feb				Mar				Apr		
1	**Project Management**																								
1.1	Project Administration																								
1.2	Mothly Coordination Meetings																								
2	**Design Concepts**																								
2.1	Identify and Define Configuration Concepts																								
2.2	Assess Transit Lane Configuration Options																								
2.3	Assess Parking Impacts																								
2.4	Assess Managed Lane Opportunities																								
2.5	Prepare Summary PPT																								
3	**Transit Analysis**																								
3.1	Updated Transit Baseline Analysis																								
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3.3	BART Station Focus Areas																								
3.4	College Focus Area																								
3.5	Development of Transit Alternatives																								
3.6	Implications of Increased Stop Spacing																								
4	**Traffic Analysis, Including Diversion**																								
4.1	Traffic Volume Development																								
4.2	Diversion Summary																								
4.3	Microsimulation Modeling																								
4.4	Travel Time Estimation																								
5	**Evaluation**																								
5.1	Evaluation																								
6	**Stakeholder Engagement**																								
6.1	Phase 1 Community Input Received																								
6.2	Meetings																								

		2021																							
	Task	May				Jun				Jul				Aug				Sep				Oct			
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Legend

- Consultant Effort
- WCCTAC/CCTA Review
- Meetings (Estimated)
- TAC/Jurisdiction Review