



Alameda County Transportation Commission 1111 Broadway | Suite 800 Oakland CA 94607 www.alamedactc.org



Alameda County Transportation Commission MEASURE BB CAPITAL PROJECT DELIVERY PLAN

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Trucks entering the existing 7th Street underpass to the Port of Oakland

1. Executive Summary

The Alameda County Transportation Commission (Alameda CTC) is responsible for the administration and implementation of the 2014 Measure BB Capital Program. This program is funded, in part, by Measure BB, passed in November 2014. Since passage, Alameda CTC has worked with local jurisdictions, coordinated countywide and regional planning efforts, and participated in the development of potential, new funding sources at the regional, state, and federal levels. These efforts resulted in a set of proposed Measure BB-funded investments that would further the goals set forth in the 2014 Transportation Expenditure Plan, a document that also defines eligibility for Measure BB funding, and that can compete effectively for funding from other sources. The recent passage of a new federal bill, Fixing America's Surface Transportation Act (FAST Act) and discussions at the state level about new funding streams put Alameda CTC in a good position to leverage the investments of Measure BB funding.

The Measure BB Capital Project Delivery Plan addresses only those projects proposed to be, or that are currently being, implemented directly by Alameda CTC. This Plan recommends programming Measure BB funds for specific project phases, including setasides for program-wide management, oversight, and monitoring, as well as a

program-wide risk contingency. Measure BB funding is also proposed for programs and projects implemented by other agencies; however, this Plan does not cover them.

The programming of Measure BB capital funds is approved and documented in Alameda CTC's Comprehensive Investment Plan, which is separate from this Plan and describes the programming of Measure BB funds for all programs and projects funded through the 2014 Transportation Expenditure Plan, regardless of the implementing agency. This Plan's Measure BB funding recommendations will be forwarded to the Comprehensive Investment Plan for approval by the Alameda CTC, along with funding recommendations for projects implemented by other agencies.

The Commission is in a unique position to advance the program of specific capital projects described in the 2014 Transportation Expenditure Plan, by leveraging the agency's premier, professional capability:

- To successfully manage and deliver capital projects of varying size and complexity.
- To use the Agency's own resources to lead selected projects.
- To accelerate delivery of these projects during Measure BB's thirty-year funding period, thereby accelerating the positive impact on local employment and the local economy.
- To deliver the project's resulting transportation benefits more quickly to the County, its residents, and its visitors.

Alameda CTC staff identified specific projects in the 2014 Transportation Expenditure Plan that could be directly managed and delivered by the Agency's own workforce. Together, these projects constitute the Measure BB Capital Project Delivery Plan. This Plan also proposes strategies, technical approaches, and estimates for resources, costs, and schedules that ensure efficiency, cost effectiveness, and the successful completion of these projects.

Purpose of this Plan

The Alameda CTC Measure BB Capital Project Delivery Plan fulfills three important purposes.

First, it is a decision document. This Plan presents the Commission with a list of specific capital projects, for which Alameda CTC proposes to lead project management and project delivery, using its own staffing resources (both internal and consultant teams).

The Plan also asks the Commission to approve Measure BB funding for these projects, which Alameda CTC selected after consulting the local sponsoring agencies.

Second, this Plan is a technical report that:

- Explains how Alameda CTC selected the projects it proposes to deliver (see 2. Guiding Principles).
- Lays out the initial schedule for these projects, by phase (see Scope of the Plan in 1. Executive Summary and 3. How Do We Deliver?).
- Includes a forecast for capital expenditures and staffing (see 4. Delivery Strategy) and Appendix D: Funding).
- Proposes contract procurement strategies and management procedures that support project delivery (see 4. Delivery Strategy).

Third, this Plan is a tool to drive robust project management principles:

- Timely decision-making
- Risk management
- Change management
- Delivery of transportation improvements at the required level of quality
- Delivery of projects on time and within assigned budgets

Why Alameda CTC?

Based on its experience, Alameda CTC is ready to drive these projects to completion, creating jobs and delivering benefits to the traveling public sooner rather than later.

- The Measure BB projects are similar to those successfully delivered by Alameda CTC under the 1986 and 2000 Measure B programs.
- Alameda CTC has the required depth of technical and managerial expertise to deliver this Plan.
- Alameda CTC has experience leveraging external funding sources (regional, state, and federal) and will do so again, using Measure BB investments. With Alameda CTC-delivered projects already supported by significant local funding for project development, they are more competitive for securing additional funding, based on their readiness to enter the capital phases.
- The magnitude of funding authorized by Measure BB puts Alameda CTC in a position to act as a major economic force advancing sectors related to transportation infrastructure. Alameda CTC's advantage directly implementing

- certain programs and projects endows it with delivery horsepower that may not be available to local agencies.
- For projects involving multiple local jurisdictions, the state highway system, multiple transportation modes, or emerging technologies, Alameda CTC can ensure that the best available resources are mobilized in the shortest timeframe.
- Alameda CTC can use its standing in the region to act effectively as liaison with regulatory, permitting, and other funding agencies involved in program and project delivery.
- Alameda CTC has existing relationships with the technical and engineering services community that can support the implementation of complex and largescale projects.

This Plan was developed to ensure consistency with existing Alameda CTC planning documents, as well as those under development, such as the Comprehensive Investment Plan and the 2014 Transportation Expenditure Plan, in addition to other longrange documents, such as:

- Countywide Transportation Plan
- Countywide Bicycle Plan
- Countywide Pedestrian Plan
- Congestion Management Program (CMP)
- Countywide Goods Movement Plan
- Countywide Transit Plan
- Countywide Multimodal Arterial Plan
- Plans from various local jurisdictions

Scope of the Plan

Figure 1 and Table 1 introduce the projects Alameda CTC proposes to deliver in the following program areas. Many of these projects are multimodal, addressing concerns across multiple program areas:

- Freight
- Major Regional Arterials
- Bicycle/Pedestrian
- Highways and Interchange Modernization

The map in Figure 1 shows Alameda CTC's four planning areas and the geographical distribution of selected projects. The numbers in the red circles correspond to the numbers in Table 1. State routes (SR) are indicated by their route number, for example, SR 13; but the local street name may also accompany the state route designation, for example, "Ashby Avenue (SR 13)."

Table 1 provides a snapshot of the Plan:

- The list of projects selected for Measure BB funding and Alameda CTC delivery.
- The planning area(s) in which the project is located. Because these projects are regionally significant, their impact may extend well beyond their particular physical location.
- The current or proposed next phase of each project and its estimated cost.
- The estimated total cost of each project, which will involve the pursuit of all available, eligible funding outside Measure BB. For a more detailed funding history and projection, see Appendix D: Funding.

Capital project delivery is completed in defined phases:

- Scoping—An initial effort to understand the feasibility and scope of a project (that is, what should be physically included), which is specified in a project study report (PSR).
- Preliminary Engineering (PE) and Environmental—Further definition of the project scope, preliminary engineering analysis and design, and, finally, consideration of the project's environmental impacts.
- Final Design and Plans, Specifications, and Estimate (PS&E)—Development of final design documents, on which construction activities are based. Acquiring necessary right of ways (ROW) and clearing utility conflicts typically runs concurrent with this phase.
- Construction and Construction Administration—All activities following the award of a construction contract through project close-out.

For more information about the activities constituting each phase, see 3. How Do We Deliver?

For greater detail on each of the projects covered in this Plan, see Appendix E: Projects. For a list of projects receiving Measure BB funding and being delivered by other agencies, see Appendix B: Projects Delivered by Other Agencies.

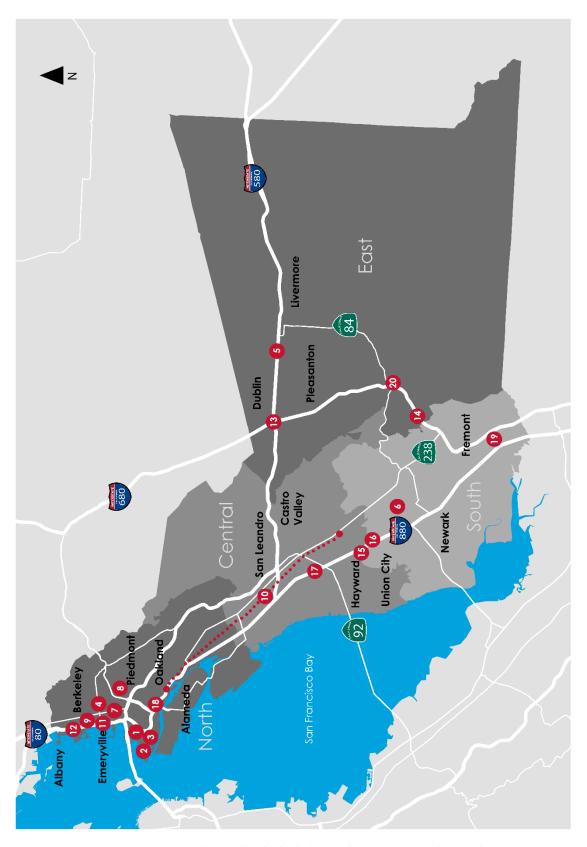


Figure 1: Locations for Alameda CTC-delivered Measure BB Capital Projects

 Table 1: Summary of Alameda CTC-delivered Measure BB Capital Projects

		gures	ures shown are \$ x 1,000)				
Program/ Fig. 1 Key	Project	Planning Area	Current or Proposed Next Phase	Est'd Cost Current or Next Phase		Est'd Total Cost	
Freight 1	7th Street Grade Separation, East and West	North	Scoping / PE & Environ.	\$	25,000		TBD
2	Intelligent Transportation System (ITS) and Technology Plan	North	Scoping / PE & Environ.	\$	3,000		TBD
3	Middle Harbor Road	North	Scoping / PE & Environ.	\$	3,000		TBD
Major Regio	onal Arterials						
4	Ashby Avenue Multimodal Corridor	North	Scoping / PE & Environ.	\$	1,000		TBD
5	I-580 Freeway Corridor Management System	East	Scoping / PE & Environ.	\$	5,000		TBD
6	I-880 to Mission Blvd. East-West Connector	South	Final Design and PS&E*	\$	16,534	\$	230,514
7	San Pablo Avenue Multimodal Corridor	North	Scoping / PE & Environ.	\$	4,000		TBD
8	Telegraph Avenue Multimodal Corridor	North	Scoping / PE & Environ.	\$	3,000		TBD
9	University Avenue Multimodal Corridor	North	Scoping / PE & Environ.	\$	2,000		TBD
Bicycle/Pe	destrian						
10	East Bay Greenway	North Central	PE & Environmental*	\$	6,501		TBD
Highways o	and Interchange Modernization						
11	I-80/Ashby Avenue Interchange Improvements	North	PE & Environmental	\$	4,000	\$	52,000
12	I-80 /Gilman Street Interchange Improvements	North	PE & Environmental*	\$	3,557	\$	33,810
-580 Corrid	lor						
13	I-580/I-680 Interchange Improvements	East	Scoping	\$	1,000	\$ 1	,457,650
-680 Corrid	lor						
14	I-680 NB HOV/Express Lane (Auto Mall Pkwy. to SR 84)	East South	Final Design and PS&E*	\$	18,270	\$	200,474
-880 Corrid	lor						
15	I-880/Industrial Pkwy West Interchange	Central South	Scoping	\$	825	\$	54,249
16	I-880/Whipple Rd-Industrial Pkwy Southwest Interchange	Central South	Scoping	\$	825	\$	76,316
17	I-880/Winton Avenue Interchange	Central	Scoping	\$	1,500	\$	43,410
18	Oakland-Alameda Freeway Access (formerly I-880/Broadway-Jackson Improvements)	North	PE & Environmental*	\$	5,900	\$	216,598
19	South County Access (SR 262 (Mission Blvd) Cross Connector)	South	Scoping	\$	1,500	\$	131,500
R-84 Corri	dor						
20	SR 84/I-680 Interchange and SR 84 Widening	East	PE & Environmental*	\$	5,300	\$	200,000

^{*} Current ongoing phase.

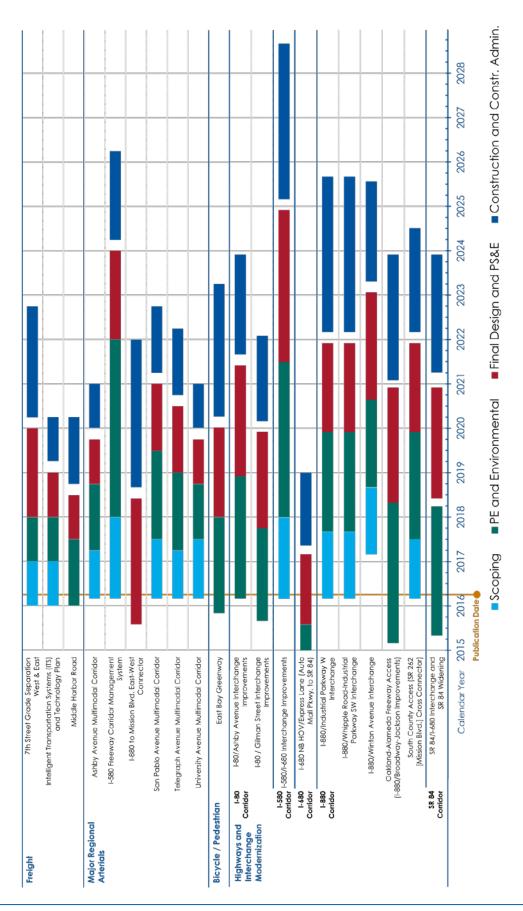


Figure 2: Schedule of Alameda CTC-delivered Measure BB Capital Projects

Figure 2 provides the anticipated schedules for these projects, by phase. To deliver the project scope according to these timelines, Alameda CTC is committed to exploring all eligible external sources of funding to supplement allocations from Measure BB. Durations shown in Figure 2 are estimates only and are subject to change, pending completion of the Preliminary Engineering and Environmental phase of each project. For more detailed scheduling information, see Appendix C: Program Schedule.

Figure 3 forecasts total program staffing needs. Staffing levels align with the project schedules in Figure 2. Estimates for Alameda CTC staffing requirements and all supporting technical and engineering services were calculated by phase for each project, then overlaid on the durations for each phase, as reflected in Figure 2. The result is a time-phased staffing forecast for this Plan. The number of full-time equivalents (FTE), a measure of staffing resources, increases or decreases relative to the activities shown in the program schedule. For example, when the schedule indicates that the peak of program activity has passed, the number of FTEs mobilized also declines over time. For more information about resources, see 4. Delivery Strategy. Note that Figure 3 excludes construction contractor labor.

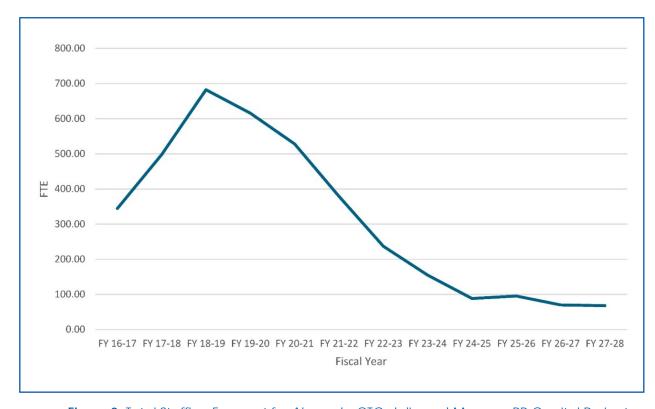


Figure 3: Total Staffing Forecast for Alameda CTC-delivered Measure BB Capital Projects

The information in this Plan was accurate at the date of publication. Many of the projects discussed are in the early stages of planning; later versions of this Plan will contain updated information that may vary from details in this edition, such as for project scope, cost estimates, staffing requirements, and forecast schedule dates.

Summary of Commission Actions

This Measure BB Capital Project Delivery Plan requests the following near-term action from the Alameda CTC Commissioners:

Approve this initial plan, which will allow Alameda CTC to:

- Develop a staffing plan for recruiting the internal resources needed to support the implementation of this Plan.
- o Prepare scopes of work for the issuance of RFPs for technical and engineering service contracts to execute each project phase.
- o Program the funding needed to deliver this Plan.



The busy intersection of the San Pablo Avenue and University Avenue Corridors.

2. Guiding Principles

For Selecting Capital Projects for Alameda CTC Delivery

Alameda CTC has identified a number of candidate projects for delivery by this Agency. These projects are of a type and scale within the scope of Alameda CTC's extensive technical experience and knowledge, and they:

- Are regionally significant.
- Offer significant benefits to the traveling public.
- Are comparatively in a higher state of construction readiness.
- Have the near-future potential to achieve a full funding plan.
- Can leverage Measure BB investments to attract external funding.
- Have community support and a local maintenance commitment.
- Require coordination of improvements with other simultaneously-occurring projects.
- Require coordination between multiple jurisdictions, agencies, and other stakeholders.
- Are complex projects for which Alameda CTC can bring the benefit of already well-established relationships with other agencies and the technical/engineering services community, which streamlines implementation and promotes efficiency.

Note that this Plan proposes BART lead the BART to Livermore project because:

- Federal Transit Administration (FTA) funds will be programmed for that project, with the associated FTA compliance and reporting requirements.
- BART has extensive staffing and professional experience in rapid transit project delivery.

For Delivering this Plan's Capital Projects

Alameda CTC's goal is to deliver this Plan's projects at the required level of quality, on time, and within budget. To do this, the Agency adheres to the following principles, which reflect best management practices:

- Project scope will be clearly and completely defined and understood by project stakeholders.
- Cost estimates and schedules are prepared in concert with one another; estimates will consider project risk.
- Project scope, cost, and schedule are monitored and controlled at all times through to project close-out. Revisions to any of these elements are subject to a change management process that ensures communication of any revisions across the project team and that requires management approval.
- The Freight, Major Regional Arterial, and Bicycle/Pedestrian projects will initially be funded through completion of the Scoping and Preliminary Engineering and Environmental phases (unless currently programmed through the capital phase). Each project's Preliminary Engineering and Environmental phase includes completion of design to the 30% level.
- Alameda CTC will leverage Measure BB investments to the maximum extent possible to acquire other sources of funding. The development of full funding plans will be an important prerequisite for allowing a project to move beyond the Preliminary Engineering and Environmental phase. Exceptions may be made on a case by case basis, depending on a risk analysis and risk sharing.
- Alameda CTC will proactively identify, analyze, and respond to the risks inherent in each project, thereby demonstrating to all stakeholders, internal and external, that comprehensive risk management is an essential contributor to program success.
- Project contingencies and program-wide reserves will be established based on the results of risk analyses. Transfers of funds from contingency or program-wide reserve to specific projects, as a response to active risk issues, will be subject to the change management process.

- Alternative construction contracting methodologies—such as design-build, design sequencing, general contractor/construction manager, and public/private partnerships—will be duly considered during project planning.
- Arrangements to relocate or protect existing utilities in place will be confirmed before awarding a construction contract.



Bicycling in East County.

How Do We Deliver?

Alameda CTC provides either project management or project management oversight for programs and projects for which it provides funding. When Alameda CTC takes the lead and uses its staff and technical and engineering services to implement a program or project directly, it provides project management. When a program or project receives funds allocated by Alameda CTC and another agency delivers it, Alameda CTC provides project management oversight.

The Alameda CTC retains a Program Management/Project Controls Team to support agency staff and provide project management and project management oversight services. For Alameda CTC-delivered programs and projects, the Agency typically retains technical and engineering services to implement:

- Scoping
- **Environmental studies**
- Preliminary engineering
- Final design and plans, specifications, and an estimate
- Right-of-way acquisition
- Construction and construction management

The contracts executed for program and project implementation, including the contract for Program Management/Project Controls Team, are based on Alameda

CTC's procurement policies and procedures. The most common procurement method for professional services is the issuance of a Request for Proposals, to which interested service providers respond for consideration in a competitive process that determines the most qualified team or teams.

Transportation projects are typically delivered in four phases, as shown in Figure 4. Different agencies may use various names for these phases, but the intent of each is generally the same:

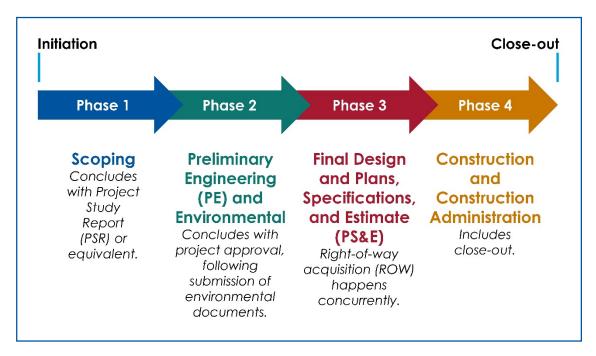


Figure 4: Project Delivery Workflow

1. Scoping

Initiating the project and determining project scope, schedule, and cost estimates for funding and programming. The objectives of this first phase are to:

- Conduct initial studies that identify the need for a project, the project goals, its feasibility, and any risks that would prevent advancing the project.
- Define the project design concept.
- Describe the project's likely footprint. 0
- Identify stakeholders.
- Establish and document the agreement with stakeholder and other agencies on project scope, cost, and schedule.
- Communicate the assumptions and risks inherent in the remaining project phases.

- Provide a basis for programming.
- Prepare scoping documents for review and approval, for example, a Project Study Report (PSR) or the equivalent.
- o Develop data that supports a later decision whether to permit the project to proceed with subsequent phases.

2. Preliminary engineering (PE) and environmental

Preparing and obtaining approval of the project report and environmental document, and obtaining approval of a preferred alternative. In this second phase, the project team balances transportation needs with community goals and values, with the specific objectives of:

- Discussing the engineering study and analyzing the strengths and weaknesses of various alternatives for meeting the defined project purpose and need.
- o Refining definition of scope, cost calculations, and projected schedules for each alternative, beyond what was developed in the Scoping phase.
- o Developing a work plan and risk management plan for each alternative.
- o Through stakeholder, agency, and public consultation, identifying the impact of each alternative on the environment around and at the project site, including:
 - Air, noise, and water
 - Wetlands, parklands, and coastal zones
 - Transportation
 - Flora and fauna; historic and recreational areas
 - Cultural and visual considerations
 - Social, economic, and land use
 - Hazardous waste
 - Right of way
 - The impact during construction on parking, mass transit, traffic flow, and business access
- Stating any conditions or requirements set by other agencies involved with permits and approvals.
- Addressing public comments obtained from public hearings and formal public reviews.
- Selecting and performing necessary preliminary engineering design for one or more preferred alternatives, in consideration of all of the above factors.

- Defining scope and preparing associated engineering deliverables to the 30% level.
- With submission of the environmental document, obtaining project approval from the State of California under the California Environmental Quality Act (CEQA). Additionally, obtain project approval under the National Environmental Protection Act (NEPA), if a federal agency or federal funding is involved. If a project requires both clearances, the environmental documents can be developed separately or jointly.

3. Final design and plans, specifications, and estimate (PS&E)

Completing the final design: In this third phase, with the project having received approval for its preferred project alternative, the team begins to develop the final design documents upon which construction work will be based. Goals and deliverables of this phase include:

- Finalized permits.
- Summary of right-of-way requirements.
- Completed project plans, specifications, and estimate (100% PS&E).
- Acquiring any additional funding needed, as indicated by the engineer's estimate.
- Construction bid documents.
- Obtaining right of way and clearing utility conflicts, an effort that involves:
 - Preparing parcel maps and legal documents.
 - Preparing property appraisals.
 - Obtaining legal and physical possession of property.
 - Executing temporary easements with property owners, as needed, to allow for legal access of construction crews and equipment.
 - Relocating occupants.
 - Clearing all physical obstructions.
 - Finalizing and executing agreements with other agencies, utilities, private entities, railroads, and so on.
 - Relocating utilities or protecting them in place, so as to avoid their being damaged by construction work.
 - Managing properties, as needed, and selling excess properties.
 - Establishing right of way monumentation for projects within Caltrans jurisdiction.

- Preparing right-of-way record maps.
- Achieving "right-of-way certification," a milestone on the project schedule that summarizes the acquisition status of all parcels and rights required by the project; the verification of existing utilities and related conflicts; and any executed utility and railroad agreements. Before advertising a project to construction bidders, all needed property rights should have been secured, and no known right-of-way-related impediments to the construction contractor's work should remain. The right-of-way certification is a document included in the PS&E package.

4. Construction and construction administration

Construction and closing out: The project's final phase begins after a construction contract has been awarded. It involves all activities from approval of the contract through to the transfer of the facility to the owning agency. All projects are different, but transportation project construction work typically involves:

- Building the project according to the plans and specifications.
- Ensuring safe practices for the protection of the construction crews and the public.
- Managing the flow of traffic during construction.
- Ensuring that any environmental commitments or permitting requirements are satisfied.
- Opening the facility to the public, and turning it over to the owning agency.
- o Resolving any claims that may have been filed by the construction contractor.
- Preparing and archiving as-built construction drawings.
- o Archiving the project files.



Monitoring the I-580 express lanes at Alameda CTC's Traffic Management Center.

Delivery Strategy

Alameda CTC manages its programs and projects using established industry standard processes. These processes are best practices endorsed by the Association for the Advancement of Cost Engineering (AACE International) and the Project Management Institute (PMI), and are intended to define and control scope, schedule, and cost, by project phase.

Determining the complete project scope is fundamental to managing capital projects. This leads to an understanding of the project schedule, which is developed in conjunction with the project cost estimate. The estimated costs underlie Alameda CTC's effort to identify and acquire the full funding needed to complete delivery of a project, through to construction and close-out.

With the development of these important bases of information, Alameda CTC can proceed to define the internal and external resources necessary to implement a project; procure the required technical/engineering services; monitor and control project performance; and, from start to finish, manage project risk and change events.

Establishing Project Scope

Scope is defined by PMI as the sum of the products, services, and results to be provided by a project. In broader terms, scope also includes the technical and engineering

services required to complete the project. A clearly defined scope is essential for developing an effective and expeditious program or project implementation plan.

Project scope arises from an understanding of what is required to satisfy a project's purpose. Establishing the scope involves collaborating with a project's various stakeholders. Listing project requirements leads to a detailed project description that includes deliverables, assumptions, and constraints. In other words, the project scope. And it establishes a framework within which project work must be performed.

As explained in *Using Change Management*, when a project moves into implementation, the configuration management process manages its scope and any possible changes.

Estimating Costs

The accuracy of project estimates depends on how well the scope of design is defined. As a project advances through development, scope is refined, estimates are updated, and they become increasingly accurate. As the project team prepares estimates, it keeps in mind the following factors:

- Inclusion of all scope inherent in a project, by phase
- Current market rates
- The phase schedule and overall project schedule
- Escalation
- Indirect costs
- Profit markups
- Allowances for risks and unknowns

All estimates should be independently checked by experienced estimators, who were not involved in the preparation of a particular estimate; and differences between the estimate and the verifying data should be reconciled. Reviews can provide Alameda CTC with a high degree of confidence that estimates underlying the capital program's budgets and forecasts are robust.

As explained in *Using Change Management*, potential changes to a project's costs are controlled through the Trend Program.

Using Schedules

At the core of managing Alameda CTC-delivered capital projects is:

- The development and continuous use of work schedules, at various level of detail, to support the definition of scope.
- The organization of scope and use of scheduling software to generate various "views" of the work to support reporting and management action.
- Performance monitoring and forecasting of a capital program relative to time.
- The completion of "what if" studies, in an effort to mitigate schedule delays and associated risks.
- The understanding and managing of work interfaces between Alameda CTC and other agencies, so as to avoid interagency interferences and resulting delays.

A program-level schedule (Program Schedule) is an important tool enabling Alameda CTC to achieve schedule goals, manage overall team performance, and assist in the management of program and project risk. The Program Schedule aggregates data for all projects covered in this Plan. In this case, this Plan is the "program." The Program Schedule likewise supports development of Alameda CTC budgets.

As with costs, the Trend Program controls changes to the planned project schedule.

Appendix C: Program Schedule provides a detailed view of the current Program Schedule; an abbreviated version appears in the Executive Summary.

Acquiring and Managing Funding

Careful management of scope, cost, and schedule for each phase of a program or project in this Plan is essential to the successful leveraging of 2014 Measure BB funding to round out funding plans with funds from alternate sources. The Agency's programming staff diligently monitors the transportation funding landscape at the local, regional, state, and federal levels. Traditional sources of funding continue to experience volatility and uncertain timing; however, new legislation has created new opportunities to obtain funds at the significant levels required for this Plan, as well as new programs from historical sources.

Staying competitive. Alameda CTC's approach to project delivery incorporates various funding strategies to address various funding opportunities. With a project already benefitting from significant local funding and armed with a detailed project plan, Alameda CTC demonstrates a readiness to deliver—through to close-out activities in

the construction phase—when it competes for discretionary funding at the regional level from state and federal programs. This is an advantage.

Keeping sources aware. Project fact sheets and similar documentation are useful tools for keeping regional, state, and federal agencies responsible for transportation programming and funding aware of Alameda CTC's projects. Fact sheets are also an effective means of communicating the benefits and needs of a project.

Staying on top through change management. Alameda CTC will remain alert to changes in project scope, cost, and schedule, which can result in changes to the programming of funds approved by other agencies, as well as to the interagency funding agreements themselves.

Working with Contracts and Agreements

Alameda CTC-delivered projects rely on qualified technical/engineering services to complete all phases in the project lifecycle (Scoping; Preliminary Engineering and Environmental; Final Design and PS&E; and Construction and Construction Administration). Procurement of these services must be accomplished in ways that:

- Adhere to Alameda CTC's budget and schedule goals.
- Consider the strategic distribution of risk.
- Enhance transportation system integration.
- Anticipate the capabilities and limitations of the local contracting community.
- Satisfy federal, state, and local requirements, including provisions for the inclusion of disadvantaged business enterprises (DBE) firms.
- Provide the overall best commercial value to Alameda CTC and taxpayers.

Procurement of technical/engineering services or construction contracts must follow a competitive process that conforms to Alameda CTC's contracting policies and procedures, including the capitalized Local Business Contracting Equity Program (LBCEP), as well as conforms to applicable state and federal statutes.

In addition to technical/engineering services and construction contracts, Alameda CTC enters into interagency agreements between the Agency and entities, such as Caltrans, local municipalities, transportation agencies, utility companies, railroads, and so on, to accomplish project delivery.

Procuring technical/engineering services: Technical/engineering services contracts will be awarded on the basis of demonstrated competence and on the professional

qualifications necessary to satisfactorily perform the services required. Alameda CTC can use a number of approaches to procure technical and engineering services, depending on the nature, complexity, and duration of the need, and also considering whether these services are to be provided continuously over a period of time or as discrete on-off services:

- "On-call" technical/engineering services: Alameda CTC requests Statements of Qualifications (SOQs) from various qualified firms with the objective of selecting one or more to be available for on-call use over a specified period of time. This approach is advantageous when the need for services is sporadic, and Alameda CTC wants to minimize "standby" time for technical/engineering services firms and internal staff or reduce the time needed to engage a technical/engineering services firm. Typically, on-call consulting agreements establish an allowance-based budget, and Alameda CTC requests that firms submit cost proposals for specific needs on a "task order" basis. When multiple firms occupy an on-call roster for a type of service, the request for cost proposals is sent to all of them, after which Alameda CTC selects the most advantageous proposal. The Agency can set on-call agreements for any time duration. As the agreement expiration date approaches, Alameda CTC can either extend an agreement, have vendors re-compete, or let the agreement expire.
- Technical/engineering services for specific work scopes: Given the diversity and complexity of the Measure BB capital program, there will be a wide range of technical/engineering services performed on a start-to-finish basis within the parameters of the overall Program Schedule. The Agency can procure these services by issuing either requests for qualifications (RFQs), requests for proposals (RFPs), or a two-part solicitation:
 - o RFQ solicitations focus on the firm's qualifications, the individual experience of key staff, the firm's completed project assignments, and client references. Using pre-defined selection criteria, Alameda CTC would choose a prospective successful proposer and commence cost negotiations. If those negotiations do not hold out the prospect of a satisfactory conclusion, Alameda CTC can proceed to negotiate with the second-ranked proposer, at its option.
 - o RFP solicitations are also partly based on the experience of the proposing firms, but the proposals being requested also require a proposed technical or management approach for a specific scope of work. As with RFQs, the RFP involves naming an apparent successful proposer, then initiating cost negotiations.

o The two-part approach begins with an RFQ to develop a "short-list" of qualified firms. This is followed by an RFP solicitation to the short list for more indepth evaluation.

Procuring construction contracts: Alameda CTC can procure construction contracts using the following approaches:

- Design-bid-build (DBB): Alameda CTC would complete project phases from Scoping through Final Design and PS&E, then advertise a contract for bids. Procedures used in the bidding and contract award process include:
 - o Printing and distributing bid documents.
 - Advertising for bids.
 - Conducting pre-bid conferences.
 - o Administering document addenda.
 - o Collecting and opening bids.
 - o Administering bid evaluation and contractor selection.
 - o Resolving selection disputes.
 - Awarding the contract.
 - o Finally, preparing conforming contract documents for execution by the contractor.
- Design-build (DB): Alameda CTC would complete project phases from Scoping through Preliminary Engineering and Environmental, thereby obtaining environmental approval, while completing engineering to the 30-35% level. At this level of design completion, Alameda CTC would have defined the project scope and footprint; the general parameters of the improvements to be constructed; and the performance criteria to be met by these improvements. Alameda CTC would then issue RFPs to qualified firms (or pursue a two-part process) to solicit technical and sealed cost proposals to complete the project design and deliver the constructed improvements. The Agency uses pre-defined criteria to select proposers/contractors, first evaluating the technical proposals, then opening and evaluating the sealed cost proposals, with the results factored into the overall grading of applicants. The remaining steps of the DB approach proceed similarly to DBB.
- Design-sequencing (DS): Design-sequencing would enable each construction phase to begin when design for that phase is complete, instead of requiring completion of design for the entire project before beginning any construction. Design-sequencing aims to accelerate project delivery by allowing Alameda CTC to award a project to a contractor based on plans that are at least 30%

- complete, while the Agency continues other project design activities. Another objective of design-sequencing is to promote collaboration with the construction contractor during the remaining design process. Procedures for evaluating bids and awarding a contract under the DS approach are similar to DBB contracts.
- Construction Manager/General Contractor (CM/GC): Using CM/GC, Alameda CTC would engage a construction manager during the design process to provide input on constructability. The construction manager would be selected on the basis of qualifications, past experience, or best value. During the design phase, the construction manager provides input regarding scheduling, pricing, phasing, and other factors that would help Alameda CTC design a more constructible project. With approximately 60–90% of a project's design completed, on average, the owner and the construction manager negotiate a "guaranteed maximum price" for the construction of the project, based on the defined scope and schedule. If this price is acceptable to both parties, they execute a contract for construction services, and the construction manager becomes the general contractor.
- Public-Private Partnership (P3): A comprehensive development lease agreement between Alameda CTC and private sector partners allows for more private sector participation. Alameda CTC would contract with a private company to design, develop, finance, construct, operate, maintain and manage a facility or system (or some subset of those activities). The Agency and the private entity share their skills and assets in order to deliver a service or facility for the use of the general public. While the public sector usually retains ownership of the facility or system, the private party has greater rights determining how a project is completed. In addition to sharing resources, each party also shares in the potential risks and rewards of delivering the service or facility. P3 agreements feature different ways to compensate the private entity. For example, if a facility involves a toll, such as a highway express lane, the private entity can obtain the right to collect the toll as repayment. Another method involves "availability payments," in which the private entity would receive a payment based on the availability of a facility at a specified performance level. The procurement process for the P3 delivery method can be multi-phased, which may consist of some or all of the following: the issuance of an RFQ, Industry Review Meetings, and/or issuance of an RFP. Whether to use some or all of these procurement phases is determined on a project by project basis.

Alameda CTC will decide which contracting approach to use for a project, while considering factors that include but are not limited to:

- Whether the scope of work lends itself to technical innovations that could be achieved by an experienced contractor.
- The capacity and technical ability of Alameda CTC to closely manage the design and construction processes itself.
- The level of control Alameda CTC wants in the final constructed improvements. Typically, design-bid-build, design-sequencing, and, to some degree, CM/GC lend themselves to greater technical control because all or almost all design is completed by Alameda CTC. On the other hand, the design-build and P3 approaches transfer that control, in part, to the contractor.
- The extent to which Alameda CTC intends to own project risk or transfer risk to other entities best qualified to manage it.
- The availability of Alameda CTC internal staff or technical/engineering service resources to develop and administer complex and multi-phased contracting mechanisms, as is the case with P3 procurements.

Entering Interagency Agreements: When project scope occurs within the boundaries, right of way, easement, or otherwise falls within the jurisdiction of a third party entity, the Agency will execute an agreement with that entity. For example:

- Caltrans
- Local municipalities
- Transit districts
- Public/private utilities
- Railroads

The Program Schedule should allow time for negotiating, finalizing, and executing interagency agreements, with work completed in a way that does not jeopardize the Agency's schedule targets. Generally, Alameda CTC executes such agreements by:

- 1. Identifying the need for the agreement.
- 2. Establishing agreement goals and a timeline.
- 3. Establishing agreement terms, scope, and budget.
- 4. Determining roles, responsibilities, and a schedule for execution of the agreement.
- 5. Identifying main policy issues to be resolved.
- 6. Scheduling meetings to resolve issues.
- 7. Preparing the first draft of the agreement for Alameda CTC internal staff review.

- 8. Preparing subsequent drafts of the agreement leading to the final draft for Alameda CTC legal review.
- 9. Submitting the final draft of the agreement for external agency review.
- 10. Iterating and negotiating with the external agency, as required, to finalize the agreement.
- 11. Executing the agreement by the parties.

Determining Staffing Resources

Delivery of the Alameda CTC capital program requires a combination of agency and technical/engineering services staff who are experts in their respective areas of practice.

This Plan estimates staffing resources by identifying Alameda CTC positions or technical/engineering services types and "spreading" them over time, based on the current program schedule and with consideration for a project's size and complexity. This results in a forward-looking, time-phased forecast of staffing needs, which can be viewed at the program or individual project level, or by position type or technical specialty:

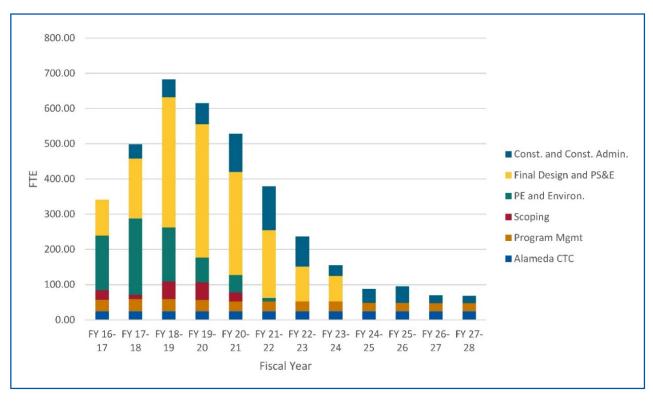


Figure 5: Staffing Forecast, by Phase, for Alameda CTC-delivered Measure BB Capital Projects

Figure 5 summarizes estimated staffing requirements, expressed as full-time equivalents (FTE) by project phase.

This Plan forecasts that, over the next three fiscal years, Alameda CTC will issue 30 Requests for Proposals or Requests for Qualifications to technical/engineering service firms, which will supplement the efforts of Agency staff.

Monitoring and Controlling Project Delivery

As part of providing best value to the traveling public, underlying Alameda CTC's efficient delivery of the Measure BB capital program will be continuous monitoring and control through all project phases. In this way, Alameda CTC will manage the future instead of reacting to past events.

Besides the scheduling and estimating disciplines mentioned previously, these other project controls disciplines are key:

- Managing and forecasting costs, to include program management costs as well as direct project costs.
- Managing project contingencies and the program-wide reserve.

Cost monitoring and control: The following factors influence the cost risk of Alameda CTC's capital program:

- Scope.
- Quality of the completed project: The quality and life of materials and equipment; and the levels of operational service, efficiency, safety, security, reliability, and maintainability, as planned by Alameda CTC.
- Project or program schedule.
- Project or program risk: The amount of uncertainty inherent in the capital program, as represented either in the form of known risks or unknown, yet-to-beidentified issues.

Cost management requires close coordination between the project delivery teams and capital program management. Cost management and controls are based and centralized at the program level and decentralized at the project level. All project participants feed vital input into project control databases and project control-oriented reports.

Cost management is rooted in the recognition of established project and program budgets. Control tools, specifically the Alameda CTC Project Control System (PCS), and various reporting mechanisms encourage continuous focus on cost performance, using a data-driven approach that:

- Documents project budgets at various levels of detail, including individual contracts and agreements.
- Records accurate, actual costs, as reflected in the Alameda CTC accounting system.
- Reflects forecasts through to project completion for each line item contained within an individual project, and highlights whether each line item is projected to complete over or under budget.
- Supports an evaluation of alternative courses of action to reduce or eliminate
 cost overruns; and selects and implements corrective actions. Where causes for
 cost variance are beyond the control of management, budgets will be formally
 revised or updated, using a prescribed change management process.
- Compares project forecasts with available funding to proactively determine future funding needs.

Cost monitoring and control processes support Alameda CTC budget-building and maintenance through its established cycles.

Besides direct project costs, forecasting and controlling costs associated with managing and overseeing the Measure BB program is important. This plan recommends establishing set-asides from the various 2014 Measure BB accounts and subaccounts to cover the cost of program-wide project management and monitoring. Such funds will have first priority on available capacity in the Alameda CTC annual operating budget for the net 2014 Measure BB funding available for programs and projects.

Managing project and program-wide contingency reserves: Each project will include budget allowances that account for risk and unknowns. Where risk issues are common to many projects, Alameda CTC may elect to place those budget amounts into a program-wide contingency reserve.

The funding set-aside for the contingency reserve for the Measure BB program and for Alameda CTC-delivered projects will be established each fiscal year for inclusion in the Alameda CTC annual operating budget, based on an evaluation of the inherent risks to be managed. The size of the contingency reserve each fiscal year will depend on the number of existing contracts and other ongoing obligations of Alameda CTC for the given fiscal year and the risks associated with those obligations. The contingency

reserve is necessary because no other funding source is available to the Agency for cost increases resulting from uncertain circumstances associated with Alameda CTCdelivered programs and project phases.

Managing Risk provides more information about establishing contingencies and a program reserve; Using Change Management provides a general description of procedures for transferring contingency or program reserve amounts to individual project working budgets to address risk issues.

Managing Construction

Alameda CTC will manage the construction and construction administration phase of future construction contracts within the scope of the Measure BB capital program, from advertisement through award through administration and close-out. Updates to this Plan will discuss construction management strategies in greater detail.

Managing Risk

Risk management is the process of identifying, analyzing, and responding to project risk. Only through systematic identification and mitigation planning is it possible to manage the impact of risk on the Measure BB capital program.

For Alameda CTC to deliver the Measure BB capital program, proactive management of uncertainty that emphasizes risk identification and response strategies is not only a best practice, it also demonstrates to all stakeholders, internal and external, that comprehensive risk management is an essential contributor to program success.

Defining terms: Table 2 lists key risk-related terms, as defined by this Plan.

Term Definition Risk An uncertain event or condition that, if it should occur, will have an impact on project or program objectives. Risk response Any means or methods adopted to prepare for and proactively address the occurrence of risk events. Typical risk response strategies include: **Mitigation**—Reducing the impact of a risk event. **Avoidance**—Creating conditions where a given risk event should not occur at all. **Transfer**— Placing the risk and risk management onto another external

 Table 2: Risk Management Terminology

- party. This kind of transfer should be documented in contracts and agreements with the other party.
- Acceptance—Acknowledging that a risk event is likely and making provisions to have adequate budget or schedule allowance to absorb the impact.

Reserve

Amounts included within the Measure BB capital program budget to fund responses to risk-oriented events. Reserve is held above and external to specific projects and is used when the risk event belongs to a category considered programmatic in nature or if project contingency is near depletion. Programmatic risks may include but are not be limited to:

- Utility relocations and resulting unanticipated cost overruns.
- Settlement of litigation of unique right-of-way acquisitions, including a consideration of schedule risk in the event of condemnation.
- Environmental mitigation.
- Hazardous materials remediation or unsuitable material.
- Settlement of construction claims.
- Litigation and liability occuring during construction or tort claims.
- Implementing an owner-controlled insurance program (OCIP).
- New technical standards.
- Updated permitting requirements.

Contingency

Funds authorized for expenditure in response to conditions or events for which the occurrence or effect is uncertain and which experience shows will likely result in additional costs. For example, during a project's construction phase, a contingency amount is authorized at the time of contract award to be expended on unexpected or urgent needs resulting from uncertainties in quantity, unit cost, and minor construction-related risk events. Each project phase should have a contingency available to address project risks as they are realized.

Identifying and analyzing risk: The Alameda CTC Project Manager ensures that:

- Risks are identified for a given project.
- A response strategy is developed for each identified risk.
- The cost and schedule impacts of those risks for both pre-response and postresponse conditions are quantified and categorized either at the project phase level or at the program risk level.
- A list or register of such risks, response strategies, and pre-response/post-response cost and schedule impacts is developed early in the project lifecycle and updated regularly.

The quantified results in the risk register will be the basis of the Alameda CTC program risk reserve budget. Schedule durations representing the impact of risk on the "base" schedule can be added to the project schedule database. For projects with complex risk profiles, the use of statistical modeling software may be advisable to further inform program and project management of the appropriate level of contingency required. Lesser risks will be managed within each project's phase contingencies.

Monitoring and reporting risk: The risk registers initially developed will become an important tool for and the basis of monitoring project risk, updating status or resolution, and reporting. Group meetings among project experts should be held periodically to review the entire risk register. Discussions or meetings concerning managing and resolving critical risks should be held more often or as necessary, as deemed appropriate by the Alameda CTC Project Manager. Reports detailing risk status are rendered to senior Alameda CTC management, as required.

When a risk event warrants transferring funds from contingency or the Alameda CTC program-wide reserve to the working budget of a given project, the project team documents the need and applies for the funds, in accordance with guidance presented in Using Change Management.

Using Change Management

The occurrence of change in any project or program is a certainty. It must be expected. The Measure BB capital program is no exception. For this reason, this program uses a systematized approach to the management of change that:

- Documents and closely tracks change events.
- Facilitates and also documents management actions.
- Can report the history of change events over time, as needed.

Change management will take two forms:

- Configuration management, which focuses on the physical scope of a project.
- **Trend program**, which typically addresses cost and schedule changes.

Both management practices are tools that identify and formally document changes to scope, cost, and schedule for capital projects over the program's lifecycle. These processes not only evaluate the impact of changes to a given project, they also evaluate secondary impacts, that is, those affecting other projects. Risk and risk management are critical complimentary processes and must be considered.

Establishing the baseline: The first requirement of change management is to establish the initially accepted project configuration, project budget, and project schedule—the baseline. Several engineering and management documents can provide this data, including but not limited to:

- Engineering drawings
- Profiles
- Cross-sectional details
- Other required media describing the dimensions and physical arrangement of project elements
- Contract implementation plan
- Project estimates
- Project schedule
- Results of the initial project risk analysis

The baseline project configuration, budget, and schedule are approved as part of the formalized Alameda CTC change management program.

Once the baseline has been established, changes to it can be tracked using the configuration management process and the trend program.

Configuration management: This process documents and then obtains the proper approvals for any change to the initially approved baseline arrangement of physical features and elements of a project (the "configuration"). The configuration includes, but is not limited to, the horizontal and vertical alignments of the project; right of way; ramp and roadway geometry; systems; and any other features that define the project's final physical footprint and what will be constructed or installed.

Configuration management is essential to ensure that all parties working on the design, and, ultimately, on the construction of the project are working to the current project configuration. Configuration management provides the mechanism by which project changes are:

- Identified.
- Reviewed and evaluated for cost and schedule impacts.
- Evaluated for risk impacts to the project.
- Controlled.
- Incorporated into the project design after approval.

The configuration management program works in concert with the trend program.

Trend program: Once a configuration change has been approved, if its forecast cost or impact on schedule exceeds a specified threshold or, for any other reason, schedule or budget thresholds are exceeded, the change management process uses the trend program to advance the documented change. The purpose of the trend program is to bring all changes relating to scope, schedule, and budget to executive man agement's attention for review and comment or approval. Approved changes to the budget for cost increases most often involve transfers of budget from the project contingency of the Alameda CTC program-wide contingency reserve; but could involve transfers of budget between projects or subordinate contracts. Approved changes to the project schedule will result in updates to intermediate and project completion milestones.

Configuration changes and trend notices (approved and unapproved) provide a history and record of key project decisions. They also contribute to budget updates and Commission reports. All configuration and trend documents will be formally filed, and key data will be entered into a tracking log or database.





Appendix A Glossary



Glossary of Terms and Acronyms

ACCMA Alameda County Congestion Management Agency

ACTA Alameda County Transportation Authority was the governing agency

established by the passage of the 1986 Measure B.

ACTIA Alameda County Transportation Improvement Authority was the governing

agency established to administer the 2000 Measure B and merged with

ACCMA in 2010 to become the Alameda County Transportation

Commission (ACTC).

AC Transit Alameda-Contra Costa Transit District

At-grade crossing

A crossing of travel paths that intersect at the same grade (that is, elevation), thereby permitting only one direction of travel through the

crossing at a time.

Auxiliary lane An additional travel lane built for a specific travel movement, such as a

merge or a turn, rather than a general road widening.

BART Bay Area Rapid Transit District

BeST Plan Berkeley Strategic Transportation Plan

Caltrans HDM Caltrans Highway Design Manual

Capital project A project that includes a capital phase, such as right-of-way acquisition or

a construction phase, resulting in a capital improvement.

CEQA California Environmental Quality Act

CHCCI California highway construction cost index

CIP See Comprehensive Investment Plan.

CMA Congestion Management Agency

CMP Congestion Management Program

Complete Streets

Designing, building, and maintaining streets to be safe, convenient, and

inviting for all users of the roadway, including pedestrians, bicyclists,

motorists, persons with disabilities, movers of commercial goods, users and

operators of public transit, seniors, and children.

Comprehensive Investment Plan (CIP)

A plan produced by Alameda CTC that:

- Focuses on investments during a five-year programming and allocation window.
- Identifies a list of short-range priority transportation improvements to enhance and maintain Alameda County's transportation system, in accordance with the objectives established in the Countywide Transportation Plan.
- Identifies anticipated transportation funding over a five-year horizon and strategically matches the funding sources to targeted investments in Alameda County's transportation system.

Funds authorized for expenditure in response to conditions or events for Contingency

which the occurrence or effect is uncertain and which experience shows will likely result in additional costs, for example, the amount authorized during a project's construction phase to be expended on unexpected or urgent needs resulting from uncertainties in quantity, unit cost, and minor

construction-related risk events.

CTP Countywide Transportation Plan

CWTP Countywide Transportation Plan prepared by the Congestion Management

Agency for a county (Alameda CTC in Alameda County)

EIR An environmental impact report is a state-level environmental document.

Specially designated highway lanes that are toll-free for carpools, vanpools, **Express lane**

> motorcycles, buses, and eligible clean-air vehicles; but also open to solo drivers willing to pay a toll. Also called a high-occupancy toll (HOT) lane.

Expressway An arterial highway for through traffic, which may have partial control of

access, but which may or may not be divided or have grade-separated

intersections with other roadways.

FEIR Final environmental impact report

FONSI Finding of no significant impact

FRATIS Freight Advanced Traveler Information System

Freeway A divided arterial highway for through traffic, including full control of access

and grade-separated intersections with other roadways.

FTA Federal Transit Administration

FY Fiscal year (July 1 through June 30).

Grade separation

A crossing of travel paths that intersect at different grades (that is,

elevations), thereby permitting the continuous flow of travel in all directions

without conflict at the point of crossing.

HOT lane High cccupancy toll lane. See also express lane.

HOV lane High occupancy vehicle lane used by buses and carpools.

I/C Interchange

I-Bond Infrastructure bonds approved by California voters in 2006, which provided

funding administered and allocated by the California Transportation

Commission for certain transportation projects.

Intelligent Transportation System (ITS)

The application of advanced information and communications technology to surface transportation in order to achieve enhanced safety and mobility

while reducing the environmental impact of transportation.

Local share The portion of a Measure B capital project cost paid by the local jurisdiction

it serves (that is, with local funds or matching funds).

MOU Memorandum of understanding

MTC Metropolitan Transportation Commission adopts the RTP and RTIP for the

nine-county San Francisco Bay Area.

NEPA National Environmental Policy Act

NOD Notice of determination

NTP Notice to proceed

PDA Priority development area

PΕ Preliminary engineering

Phase A portion of an overall project implementation plan typically correlating

> with certain deliverables, approvals, or milestones, such as the Scoping phase, the Preliminary Engineering and Environmental phase, the Final

Design and PS&E phase, or the Construction and Construction

Administration phase. The Alameda CTC uses project phases to segregate

project costs and funding.

Project sponsor Entity responsible for project development and delivery.

PS&E Plans, specifications, and estimates

PSR Project study report

PSR-PDS Project study report-project development support helps stakeholders

achieve consensus on the purpose, need, scope, and schedule of a

project.

Regional Measure 1 (RM1)

Regional Measure 1 is a November 1988 ballot measure that raised specific bridge toll limits to fund specific bridge corridor improvements, as administered by the Bay Area Toll Authority.

Regional Measure 2 (RM2)

Regional Measure 2 is a March 2004 ballot measure that raised state-owned bridge toll limits to assist in funding transit operations and transportation projects.

Amounts included within the Measure BB capital program budget to fund Reserve

> any responses to risk-oriented events, at the discretion of senior Alameda CTC management staff. Reserve is held above and external to specific projects and is used when the risk event belongs to a category considered programmatic in nature (such as, utility relocations and right-of-way

acquisitions) or if project contingency is near depletion.

RFP Request for proposal

Risk An uncertain event or condition that, if it should occur, will have an impact

on project or program objectives.

Any means or methods adopted to prepare for and proactively address Risk response

the occurrence of risk events.

ROW Right of way

SEMP System Engineering Management Plan

A barrier constructed along the edge of a roadway to mitigate noise Soundwall

impacts on adjacent properties.

Sponsor See project sponsor.

TBD To be determined

TENS Truck Enforcement Network System

Utility relocation The relocation of underground and overhead utility lines which would

otherwise conflict with roadway construction.

UPRR Union Pacific Railroad VMT Vehicle miles traveled





Appendix B Other Agencies



Projects Delivered by Other Local Agencies

Of the various capital projects in the 2014 Transportation Expenditure Plan, Alameda CTC is not acting as the lead agency for the following projects; therefore the Measure BB Capital Project Delivery Plan does not cover them. For these externally delivered projects, Alameda CTC will provide program management oversight (PMO):

Rapid Bus Projects

- Grand/MacArthur Bus Rapid Transit (BRT)
- College/Broadway Corridor Transit Priority

BART System

- Irvington BART Station
- Bay Fair Connector/BART METRO
- BART Station Modernization and Capacity Program
- BART to Livermore Extension, Phase 1

Major Transit Corridors and Rail Connections

- Union City Intermodal Station
- Oakland Broadway Corridor Transit



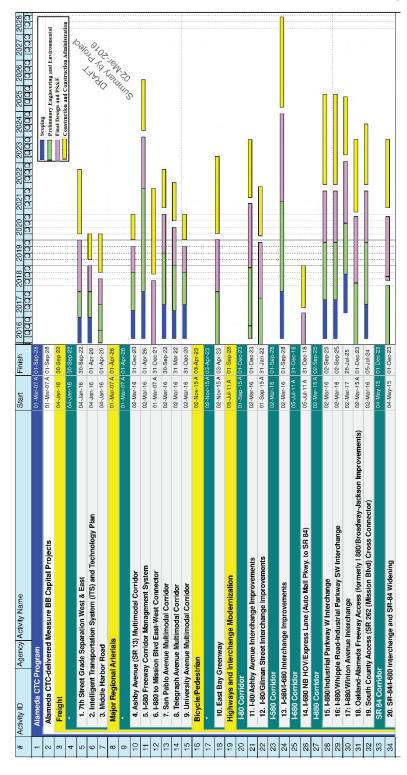


Appendix C **Program Schedule**



Program Schedule

Table 3: Forecast Schedules for Alameda CTC-delivered Measure BB Capital Projects



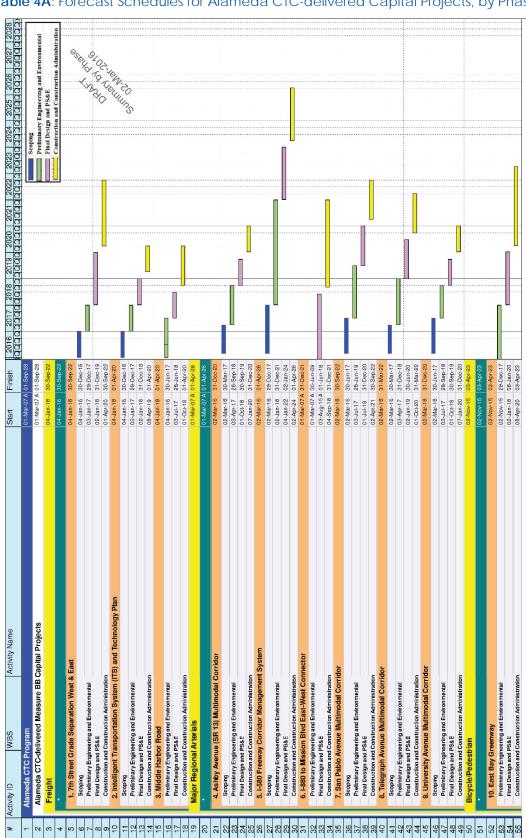


Table 4A: Forecast Schedules for Alameda CTC-delivered Capital Projects, by Phase

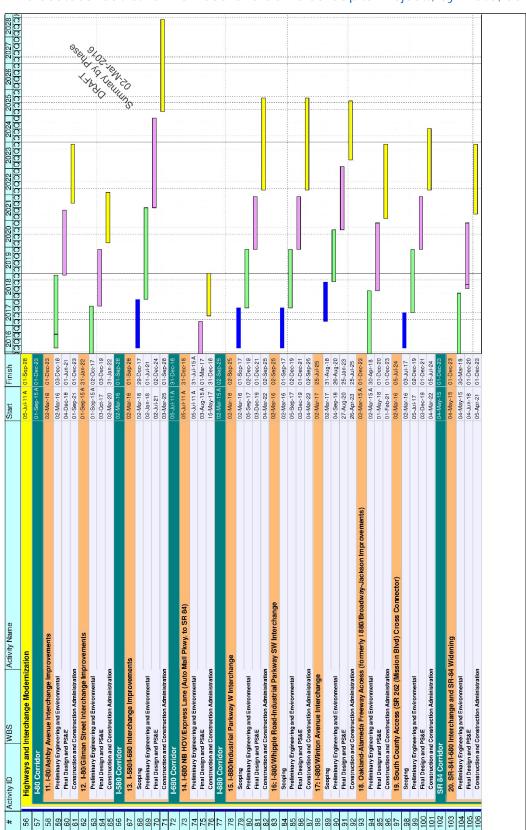


Table 4B: Forecast Schedules for Alameda CTC-delivered Capital Projects, by Phase, continued





Appendix D
Funding



Funding

The capital projects in this Plan utilize a variety of funding, including monies from federal, state, regional, and local sources, as well as from the various sales tax measures enacted by Alameda County since 1986. Figure 3 summarizes current plans for the programming of such funds. Figures in the "To Be Determined" column indicate a specific funding source for these amounts has yet to be identified.

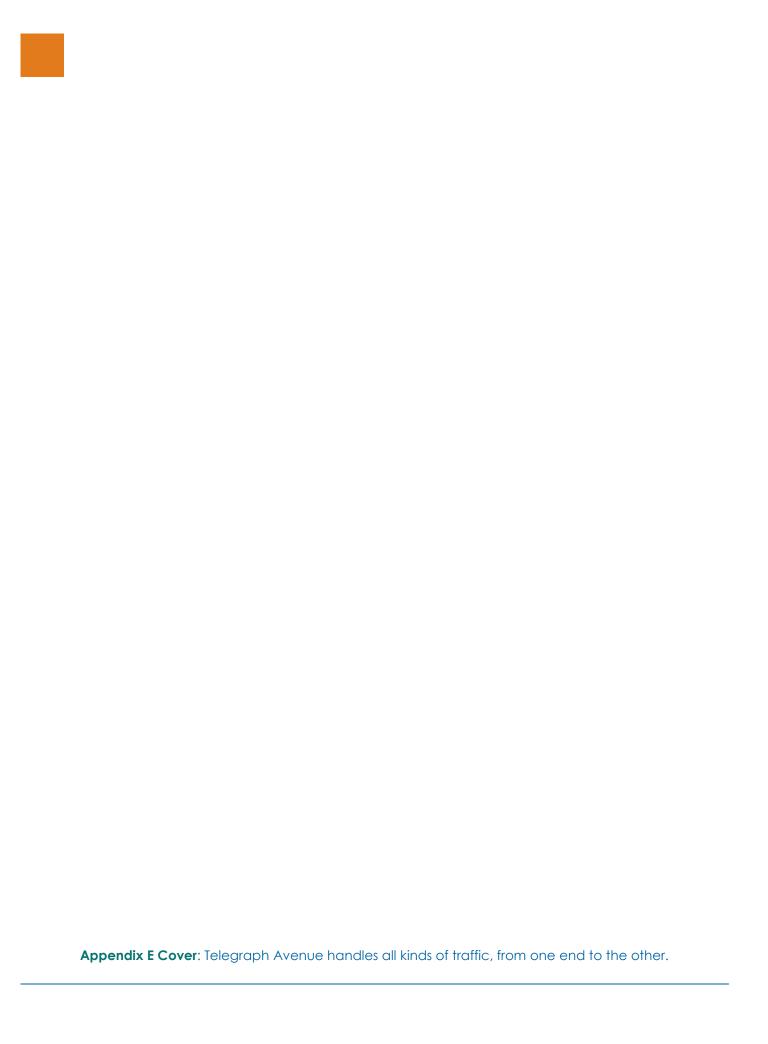
Table 5: Funding Plan for Alameda CTC-delivered Measure BB Capital Projects

		External Funding	1984	2000	2014 Medelire	To Re		
(Figure	(Figures shown are \$ x 1,000)	Sources	Measure B	20	BB	Determined	2	TOTAL
Freight								
	7th Street Grade Separation, East and West				25,000		s	25,000
	Intelligent Transportation System (ITS) and Technology Plan				4,000		s	4,000
	Middle Harbor Road				4,000		s	4,000
Arterials	ils							
	Ashby Avenue Multimodal Corridor				1,000		s	1,000
	I-580 Freeway Corridor Management System				5,000		s	5,000
	I-880 to Mission Blvd East-West Connector	25,500	88,771		116,127	116	\$ 2	230,514
	San Pablo Avenue Multimodal Comidor				4,000		s	4,000
	Telegraph Avenue Multimodal Corridor				3,000		s	3,000
	University Avenue Multimodal Corridor				2,000		s	2,000
Bicycle	Bicycle/Pedestrian							
	East Bay Greenway	2,656		345	3,500		s	6,501
Highways	ays							
I-80 Corridor	vridor							
	I-80/Ashby Avenue Interchange Improvements				52,000		s,	52,000
	I-80/Gilman Street Interchange Improvements	1,392			24,000	8,418	s	33,810
I-580 Corridor	orridor							
	I-580/I-680 Interchange Improvements				20,000	1,437,650 \$1,457,650	\$1,4	57,650
I-680 Corridor	orridor							
	1-680 NB HOV/Express Lane (Auto Mall Pkwy. to SR 84)	45,974		114,500	40,000		\$	\$ 200,474
I-880 Corridor	orridor							
	I-880/Industrial Pkwy W Interchange				44,000	10,249 \$		54,249
	I-880/Whipple Rd-Industrial Pkwy SW Interchange				900'09	\$ 918'91		76,316
	I-880/Winton Avenue Interchange					43,410 \$		43,410
	Oakland-Alameda Freeway Access (formerly I-880/Broadway-Jackson Improvements)	2,500		8,101	75,000	130,997 \$ 216,598	\$ 2	16,598
	South County Access (SR 262 (Mission Blvd) Cross Connector)					131,500 \$ 131,500	\$ 13	31,500
SR-84 C	SR-84 Corridor							
	SR 84/I-680 Interchange and SR 84 Widening	2,940		1,000	124,000	74,060	74,060 \$ 204,000	04,000





Appendix E **Projects**



Projects

This appendix briefly describes each project covered in this Plan, including the project's purpose and status.

A high priority in the management of the Measure BB projects will be the continuous monitoring of sources of external funding so maximum advantage can be taken. Schedule acceleration and the use of alternative project delivery mechanisms will be evaluated and implemented, as needed, to ensure that this capital program remains eligible for new funding streams as they become available.

Freight

7th Street Grade Separation, West and East

Description | The Port of Oakland has three gateways, of which 7th Street offers the most direct access to the highway system through its I-880 interchange. This project



reconstructs an existing railroad underpass west of the I-880 interchange (East Segment) and replaces the three-legged junction of 7th St, Maritime St, and Navy Road (the Triangle area) with an elevated, signalized T intersection further to the west (West Segment) to provide a grade separation for a realigned railroad spur.

Current scope for roadways throughout the corridor provides for four 12'-wide lanes, 8'-wide shoulders, plus a median and

a Class 1 pedestrian/bicycle path (which is part of the San Francisco Bay Trail). Proposed improvements also meet current geometric design standards for widths and clearances at the railroad underpass and at the grade separation of the BNSF tracks beneath the elevated Tintersection.

Purpose | Generally, to reduce local and regional congestion and carbon emissions. To increase capacity and improve the flow of trucks and goods movement along 7th and Maritime Streets in and out of the Port facilities. To provide flexibility and efficiency for improved rail operations, including modal shifts from trucks to rail, at the UPRR Railport-Intermodal Yard (RO-IY), the BNSF Oakland International Gateway (OIG), and the Outer Harbor Intermodal Terminal (OHIT). And to improve the substandard Class I Bay Trail segment on 7th and Maritime Streets (pedestrian/bicycle shared use).

Phase | This Plan proposes proceeding with a combined Scoping/Preliminary Engineering and Environmental phase for the West Segment.

The Oakland Army Base (OAB) Area Redevelopment Plan Final Environmental Report (2002 FEIR) identified the West Segment improvements as mitigation under CEQA. The City of Oakland and the Board of Port Commissioners considered a subsequent 2012 addendum to the 2002 FEIR, which evaluated the 2012 OAB Master Plan developments; both entities adopted a Standard Conditions of Approval/Mitigation Monitoring and Reporting Program under CEQA. The Port of Oakland has since conducted and refined the preliminary design for the West Segment, including final alignments. Its environmental planners have also determined that the 2002 FEIR and the 2012 Addendum provide the necessary CEQA clearance for the current design of the West Segment.

A detailed cost-benefit analysis has been conducted for the East Segment. However, the final alignment and its potential impacts for this part of the overall corridor project have not yet been identified, therefore, no preferred or final alternative for the East Segment has been selected.

Proposed Measure BB funding would move this project forward into preliminary engineering of the entire corridor; would clear the environmental requirements of CEQA and NEPA for at least the West Segment and possibly both segments; would support the evaluation of project delivery alternatives, such as DBB and DB; and would complete final design of the West Segment, as necessary, enabling the project to qualify for other sources of funding.

Intelligent Transportation Systems (ITS) and Technology Plan

Description | This project evaluates the feasibility of applying ITS, Freight Advanced Traveler Information System (FRATIS), and other available technologies in a port environment to create a safer, stronger, and more efficient system for moving people and goods in, out, and around the Port. Applying state-of-the-art communications systems for vehicles and information sharing can transform how the drayage industry collaborates and operates at the Port. Technology is a key factor in addressing growing demand at the Port and congestion regionally. The following systems will be evaluated. Those assessed as feasible will be included in the project plan for implementation:

 Port of Oakland traffic management center (TMC), to monitor and manage Port traffic flow and to communicate with TMCs operated by the City of Oakland and Caltrans District 4.

- FRATIS.
- Traveler information and data fusion system.
- Arterial Smart Corridors, adding dynamic message signs and signal coordination on roadways within the Port.
- Freeway Smart Corridors, integrating Port of Oakland activities with existing integrated corridor management (ICM) systems for I--80 and I-880, as well as with the system planned for I-580.
- Container Moves Productivity Improvements.
- Truck Enforcement Network System (TENS).
- Autonomous/connected commercial vehicles.

Purpose | To improve and optimize freight operations at the Port. To implement technologies that improve local traffic flow and goods movement, reduce congestion and accidents, improve incident response time, provide better traveler information, and cut emissions. Implementation of some elements of this project prior to or in conjunction with the 7th Street Grade Separation project will also address congestion issues created during the construction phase of the 7th Street improvements.

Phase | This Plan proposes proceeding with a combined Scoping/Preliminary Engineering and Environmental phase. The Port has completed a preliminary concept of operations (ConOps) report, which includes some of the systems listed above.

Measure BB funding would expand the preliminary ConOps to include all feasible systems listed above, a System Engineering Management Plan (SEMP), and environmental clearance, satisfying both CEQA and NEPA requirements.

Middle Harbor Road Improvements

Description | The Port of Oakland relies on Middle Harbor Road (MHR) for access to terminals handling half the Port's volume. The reconfiguration of shipping terminals, combined with increasing throughput and truck movements, such as uncontrolled Uturns, affects operating conditions on Middle Harbor Road. Intersection geometry and maritime operating patterns compound these problems, while highly variable flow renders common traffic controls ineffective. Truckers' attempts to bypass MHR create a ripple effect on adjacent roads, including south Maritime Street and west 7th Street.

This project identifies and implements solutions to MHR's traffic circulation problems. Proposals include dedicated queue or turn lanes, improved signalization, relocating or reconfiguring terminal gates, and the rollout of Intelligent Transportation Systems. Because Middle Harbor Road is part of the San Francisco Bay Trail, a regional hiking

and biking trail circumnavigating San Francisco Bay, this project accounts for pedestrian and bicycle access and safety too.

Purpose | To mitigate traffic congestion and circulation problems on Middle Harbor Road and Maritime Street, including intersections and terminal gates, while improving bicycle and pedestrian use, access, and safety on the San Francisco Bay Trail.

Phase | This Plan proposes starting a combined Scoping/Preliminary Engineering and Environmental phase. Measure BB funding would move this project into the Preliminary Engineering and Environmental phase, and enable it to satisfy both CEQA and NEPA requirements, making the project eligible for funding from other sources.

Major Regional Arterials

Ashby Avenue (SR 13) Multimodal Corridor

Description | Ashby Avenue (SR 13) is a critical east-west connection for Berkeley,



moving traffic between I-80 and Highway 24 and the Warren Freeway. It has high levels of traffic at major intersections during peak periods. A lack of bicycle facilities makes Ashby unsafe for bicycling. This project improves bicycle and pedestrian crossings along Ashby Avenue, as well as parallel streets, such as Russell. Currently, Russell provides a traffic-calmed bicycle boulevard; however, it has frequent stops and lacks traffic controls, with difficult crossings at major intersections. The project also addresses signal coordination

for the three-mile corridor, from 6th to Domingo Streets.

Purpose | To encourage multimodal travel along the Ashby Avenue corridor by improving bicycle and pedestrian facilities, mitigating conflict points between motorists, bicyclists, and pedestrians, and enhancing safety.

Phase | This Plan proposes proceeding with a combined Scoping/Preliminary Engineering and Environmental phase.

I-580 Freeway Corridor Management System (FCMS)

Description | The I-580 corridor is of critical importance to the cities of Dublin, Pleasanton, and Livermore, connecting them to the rest of the Bay Area. It also serves as a main freight and transit corridor from the Central Valley and Southern California to the Bay Area and the Port of Oakland, in addition to being a major commute route for

residents of the Tri-Valley area. The corridor experiences significant congestion during the morning and afternoon commute hours in the peak direction.

This project will address congestion and improve throughput for the corridor without the need for lane widening, instead providing real-time travel information; maintaining levels of service in the freeway network by metering the ramps without impeding local circulation; integrating freeway and arterial networks to address incident management and provide HOV/transit/emergency vehicle priority and arterial Transit Signal Priority, and so on.

With the opening of the express lanes along the corridor in early 2016, most of the equipment needed for this project's freeway corridor management should already be in place, minimizing the need for upgrades on the mainline. This project focuses on Dublin Boulevard and its easterly extension to the Airway Boulevard interchange and N. Canyons Parkway, thus providing a continuous alternate route to the mainline for incident management and congestion relief. Consideration will be given to potential interchange improvements at Hacienda, Fallon, Greenville, Vasco, Isabel, and elsewhere along the corridor.

Purpose | To improve I-580 corridor throughput with minimal physical improvements on I-580, by extending Dublin Boulevard east and by deploying real-time travel information to balance throughput and travel time on the freeway and nearby arterials, thereby addressing needs such as congestion relief, incident management, and transit/emergency vehicle priority.

Phase | This Plan proposes continuing with the Scoping and Preliminary Engineering and Environmental phases. Currently, the City of Dublin is conducting a feasibility study to extend Dublin Boulevard east to connect with N. Canyons Parkway at the I-580/Airways Boulevard interchange. The FCMS project will integrate the Dublin Boulevard extension with an integrated corridor management (ICM) system along I-580 from Greenville Road to Foothill Boulevard.

I-880 to Mission Boulevard East-West Connector

Description | This project, near the Union City-Fremont boundary, combines new roadways, improvements to existing roadways, and improvements to intersections along Decoto Road, Fremont Boulevard, Paseo Padre Parkway, Alvarado-Niles Road and SR 238 (Mission Boulevard). Additional features include a grade separated roadway under the BART and two UPRR tracks, a new Class I multi-use path, Class II bike lanes, and implementation of Complete Streets objectives (that is, designing, building, and maintaining streets to be safe, convenient, and inviting for all users of the roadway, including pedestrians, bicyclists, motorists, persons with disabilities, movers of commercial goods, users and operators of public transit, seniors, and children).

Purpose | To reduce local traffic congestion and driving time on the east-west connection between I-880 and SR 238 (Mission Boulevard), while accommodating recent and future growth in the area. To improve multimodal access and safety along the route, including for bicycles and pedestrians.

Phase | This Plan proposes continuing with the Final Design and PS&E phase. A significant funding shortfall left the project on hold in 2012. Following the successful passage of Measure BB in November 2014, Alameda CTC restarted work on the project's Final Design and PS&E phase in October 2015, with expected completion of the plans, specifications, and estimate in 2017.

San Pablo Avenue Multimodal Corridor

Description | San Pablo Avenue is a six-mile major commute corridor through the Alameda County cities of Oakland, Emeryville, Berkeley, and Albany. Currently, San Pablo Avenue is a Caltrans facility (SR 123) that averages 74' in width, carries an average daily traffic over 25,000 vehicles, and is a truck route and trunk line for multiple AC Transit bus routes. However, the corridor experiences a high incidence of collisions and transit delays and has minimal infrastructure for bicycling, which makes the route especially hazardous for pedestrians, bicyclists, and anyone trying to access transit stops along the corridor.

Improvements of this community-based project may include capital projects, such as bus bulbs, high-visibility crosswalks, adequate pedestrian illumination and other sidewalk treatments, queue jump lanes, bus stop facilities, median refuges, signal upgrades (including preemption), pedestrian facilities and enhancements, bikeway crossings, bikeway and parallel bicycle facility upgrades, and parking and delivery locations. It may also include non-capital improvements, such as signal interconnect, traffic and transit management plans, system interoperability within the regional ITS network, and parking management.

Purpose | Primarily, to help reduce congestion and remove bottlenecks for transit operations, while providing safe, comfortable, and accessible travel options for pedestrians and bicyclists along the corridor.

Phase | This Plan proposes initiating the project in a combined Scoping/Preliminary Engineering and Environmental phase. The project will need to integrate several ongoing efforts, including:

- ITS strategies implemented as part of the I-80 Integrated Corridor Mobility project to improve vehicular operations in the corridor.
- Results of the PS&E phase of a project begun by the City of Albany for a segment of the corridor, partially funded with a grant awarded by Cycle 1 of the Active Transportation Program (ATP).
- Improvements from the high-priority West Berkeley Area Improvement Program, which is part of the Berkeley Strategic Transportation Plan (BeST Plan).
- Recommendations from the Safe Routes to Transit and Safe Routes to School programs for sections within Emeryville.
- Improvements made in the downtown Oakland area.
- AC Transit's Rapid Bus alternatives in the PlanACT.

The final combined product of this effort will position the overall project for county, regional, state, and federal funding for the final design and construction phases.

Telegraph Avenue Multimodal Corridor

Description | Telegraph Avenue is an important commute corridor between UC Berkeley and downtown Oakland, serving various residential neighborhoods and a multitude of businesses, including the Alta Bates Summit Medical Center and the Temescal shopping area.



The majority of Telegraph Avenue currently has inadequate pedestrian and bicycling infrastructure and conditions that contribute to major transit delays. The lack of safe bicycle facilities and difficult or risky crossings at busy uncontrolled intersections discourage walking and bicycling and lead to collisions that result in injuries or death. The corridor does not have facilities that enable quick and efficient transit operations. On- and off-street parking for automobiles and yellow zones for delivery trucks are not adequately located or

managed for the mix of modes and land uses along the corridor.

Improvements of this community-oriented project may include bus bulbs, queue jump lanes, bus stop facilities, median refuges, signal upgrades (including preemption), pedestrian facilities and enhancements, bicycle facilities, parking and delivery locations, and signal interconnect. The project may also include non-capital improvements, such as traffic and transit management plans, parking management, and system interoperability within the regional ITS network.

Purpose | To reduce congestion and remove bottlenecks for transit operations, while providing safe, comfortable, and accessible travel options for pedestrians and bicyclists along the corridor.

Phase | This Plan proposes initiating the project in a combined Scoping/Preliminary Engineering and Environmental phase. This project will incorporate the local jurisdictions' related plans and policies, and implement these policies to the greatest extent possible. For the City of Oakland, this should include:

- The adopted 2012 Bicycle Master Plan.
- The soon-to-be-adopted Complete Streets and Pedestrian Masterplans.
- The Telegraph Avenue Complete Streets Implementation Plan adopted in 2014, which covers Telegraph Avenue from 20th Street to 41st Street.

This project will also:

- Evaluate and incorporate AC Transit's Bus Rapid Transit project proposed for Telegraph Avenue, from downtown Oakland to downtown Berkeley.
- Evaluate the design developed (but not adopted) for corridor improvements north from 41st Street and integrate those accordingly.

The final combined product will position the overall project for county, regional, state, and federal funding for the final design and construction phases.

University Avenue Multimodal Corridor

Description | The University Avenue Corridor is a critical east-west connection and active priority development area, connecting residents and visitors to I-80, West Berkeley, Downtown Berkeley, and the University of California campus. The corridor has a very high level of automobile traffic, particularly during peak periods and at major intersections. It lacks bicycle facilities and has wide intersection crossings, presenting challenges to bicyclists and pedestrians. High traffic volumes cause significant delays for AC Transit routes using University Avenue to serve Capital Corridor trains.

Proposals include improving pedestrian crossings; adding and improving parallel bike lanes; providing transit lanes for peak-hour travel; improving signal interconnect, turn lanes, and vehicular and goods movement.

Purpose | To reduce congestion, eliminate bottlenecks, improve safety, and provide options for multimodal travel along the corridor.

Phase | This Plan proposes proceeding with a combined Scoping/Preliminary Engineering and Environmental phase.

Bicycle/Pedestrian

East Bay Greenway (Lake Merritt BART to South Hayward BART)

Description | This project, from Lake Merritt BART Station to South Hayward BART Station,



provides a 16-mile, high-quality bicycle and pedestrian facility that travels through Oakland, San Leandro, Hayward, and unincorporated Alameda County. The alignment generally runs underneath and along the BART tracks, and the Greenway will ultimately connect seven BART stations.

This project extends an initial half-mile greenway segment south of the Coliseum BART Station that was dedicated in November 2015.

Purpose | To improve bicycle and pedestrian safety and security along this corridor and create better bicycle and pedestrian access to various destinations, including intermodal transit hubs, downtown areas, and schools.

Phase | This Plan proposes continuing with the Preliminary Engineering and Environmental phase, which Alameda CTC initiated in November 2015 to determine a preferred alignment and cross-section, achieve state and federal environmental clearance, and develop 35% design drawings. Work builds on past environmental studies, including an Environmental Document (IS/MND) adopted by Alameda CTC in October 2012; but the project team will also consider new alignment and design options.

Highways

I-80 Corridor

I-80/Ashby Avenue Interchange

Description | This project reconstructs the Ashby Avenue interchange, including replacing existing bridges with a new bridge, adding a roundabout interchange, and creating bicycle/pedestrian access over the I-80 freeway.

Purpose | To reduce vehicular congestion and improve traffic flow, replace aging infrastructure, and make bicycle and pedestrian travel across the freeway to the bay shoreline possible at this location.

Phase | This Plan proposes starting with the Preliminary Engineering and Environmental phase. The City of Emeryville completed a scoping/feasibility study and initiated the environmental phase before putting the project on hold in 2007. In January 2016, the City finished assessing the work already completed and the next steps to take in project development. Procurement of a technical/engineering services contract is expected to start in spring 2016, with work commencing later in the year. While Alameda CTC is taking the lead managing this project, the city will remain active in project development and decision-making.

I-80/Gilman Street Interchange Improvements

Description | This project, located in northwest Berkeley near the Albany city boundary, reconfigures the I-80/Gilman Street interchange, including the addition of roundabouts and a pedestrian/bicycle underpass. The limits of work on I-80 run from east of Buchanan Street to west of University Avenue.

Purpose | To reduce congestion, improve operations and safety. In addition, the project aims to close the gap in local and regional bicycle facilities through the Gilman Street interchange by providing access for bicycles and pedestrians traveling between the Bay Trail on the west side of the highway to northern Berkeley on the east side.

Phase | This Plan proposes continuing with the Preliminary Engineering and Environmental phase. Measure BB funding has already advanced project development. In May 2015, Alameda CTC released an RFP for technical/engineering services support to complete this project's PE and Environmental and Final Design and PS&E phases. The Commission authorized a contract for technical/engineering services in July 2015, and work associated with the environmental phase began October 2015.

I-580 Corridor

I-580/I-680 Interchange

Description | A Project Study Report – Project Development Support (PSR-PDS) was completed in 2009 for this project in the Tri-Valley area, studying potential improvements, including a westbound I-580 to southbound I-680 HOV lane and mixed



Gantry equipment for reading toll tags over the I-580 express lanes.

flow direct connector and a northbound I-680 to eastbound I-580 HOV direct connector.

Purpose | To improve capacity, operations, and safety at the interchange and enhance transit connections.

Phase | This Plan proposes resuming with the Scoping phase because there is a need to evaluate a revised scope that addresses the feasibility of short- and long-term improvements. The study is expected to begin summer 2016.

I-680 Corridor

I-680 NB HOV/Express Lane (Auto Mall Parkway to SR 84)

Description | This project widens approximately nine miles of northbound I-680, from south of Auto Mall Parkway to SR 84, by adding a new HOV/express lane.

Purpose | To improve capacity, increase driver options, and reduce travel time during peak traffic periods.

Phase | This Plan proposes continuing with the Final Design and PS&E phase.

I-880 Corridor

I-880/Industrial Parkway West Interchange

Description | This project reconstructs the I-880/Industrial Parkway West interchange to provide a northbound off-ramp and a southbound HOV bypass lane on the southbound loop off-ramp. It also replaces the Industrial Parkway West bridge over I-880.

Purpose | To improve access, operations, and goods movement on I-880 at the Industrial Parkway West interchange.

Phase | This Plan proposes continuing pre-scoping activities as part of the Scoping phase.

I-880/Whipple Road-Industrial Pkwy Southwest Interchange Improvements

Description | This project at the I-880/Whipple Road interchange includes improving the northbound off-ramp, as well as improving and realigning surface streets.

Purpose | To improve operations at the interchange and to local circulation.

Phase | This Plan proposes continuing with the Scoping phase. Because of their proximity, this project and the I-880/Industrial Parkway West project would be combined for project development and construction.

I-880/Winton Avenue Interchange

Description | This project reconfigures the I-880 interchange at Winton Avenue by turning the existing cloverleaf into a partial cloverleaf.

Purpose | To provide direct access to Southland Mall and implement Complete Streets features.

Phase | This Plan proposes continuing with the Scoping phase.

Oakland-Alameda Freeway Access (I-880/Broadway-Jackson Interchange)

Description | The Oakland-Alameda Freeway Access Project, formerly the Broadway-Jackson Interchange Improvements project, enhances or replaces the existing Broadway and Jackson Street interchanges, by reconfiguring and demolishing existing ramps and constructing new ones, as well as improving access to and from the Posey and Webster Tubes, which connect Oakland and the City of Alameda.

Purpose | To relieve regional access issues, traffic congestion, and highway operations on mainline I-880 in the vicinity of the I-880/Broadway-Jackson interchange, which transverses the Oakland Chinatown and Jack London Square neighborhoods. The improvements will incorporate Bus Rapid Transit, multimodal access, including bicycles and pedestrians, and better freeway connectivity for the cities of Oakland and Alameda.

Phase | This Plan proposes continuing with the Preliminary Engineering and Environmental phase. Activities in this phase began March 2015, and data collection and existing conditions analysis have been completed. Cost estimates will be refined as geometric features are finalized and adequate preliminary design is completed. Next steps include determining a strategy to fully fund the project or scale down the scope.

South County Access (SR 262 (Mission Boulevard) Cross Connector)

Description | This project constructs a cross connector between I-680 and I-880 by widening Mission Boulevard (SR 262) to three lanes in both directions, rebuilding the north- and southbound I-680 on and off ramps, and possibly grade-separating Mission Boulevard from Mohave Drive and Warm Springs Boulevard.

Purpose | To improve a heavily used east-west connection between I-880 and I-680, reducing traffic congestion and improving operations.

Phase | This Plan proposes continuing with the Scoping phase. A study is underway to evaluate improvement options, including SR 262 connectivity to I-680, I-880, and intersecting local streets.

SR 84 Corridor

SR 84/I-680 Interchange and SR 84 Widening

Description | This project includes improvements to the SR 84/I-680 interchange and widens SR 84 from two to four lanes from I-680 east to Pigeon Pass. The project adds southbound auxiliary lanes between SR 84 and Alameda Creek and extends the southbound HOV/express lane to Koopman Road, north of the I-680/SR 84 interchange.

Purpose | To complete SR 84 Corridor improvements from I-580 to I-680, upgrading the road to expressway standards. To improve capacity and operations along SR 84 and at the I-680/SR 84 interchange.

Phase | This Plan proposes continuing with the Preliminary Engineering and Environmental phase. Cost estimates will be refined as geometric features are finalized and an adequate preliminary design is completed. Next steps include determining a strategy to fully fund the project or to scale down or segment its scope.



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