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## *Memorandum*

TO: BAIFA

DATE: December 11, 2013

FR: Deputy Executive Director, Operations

W.I.: 6840

RE: Express Lanes Network: Phase 1 Project Schedule

This memorandum gives an overview of the schedule for Phase 1 of BAIFA's express lanes, which will convert existing HOV lanes to express lanes and will be implemented in three packages as described below and shown in Attachments 1 and 2:

Package 1: I-680 in Contra Costa County between Rudgear Road and Alcosta Boulevard is projected to open in spring 2016. (This segment is also called the CC-680 southern segment)

Package 2: I-880 in Alameda County between Hegenberger Road and Dixon Landing Road with the westbound approaches to the San Mateo Bridge (SR-92) and Dumbarton Bridge (SR-84) is projected to open in spring 2017.

Package 3: I-80 in Solano County between Red Top Road and Air Base Parkway is projected to open in fall 2017

As reported to you in May 2013, we originally planned to open at least one segment by the end of 2015. We have since adjusted our schedule to show the first corridor, I-680, opening in spring 2016. This is based on closer examination of the time required to design and install the toll system. The current schedules for achieving corridor operations in the system are sequential. We anticipate there will be opportunities to accelerate corridors by supplementing resources for the controlling work, later in the project development process.

In the meantime, staff recommends the sequence above for two reasons:

- **Timeline for environmental review:** I-680 is scheduled to open first because it has the shortest timeline for completing environmental review. I-680 is less constrained physically and environmentally and has less complex traffic operations than I-880, requiring less time to complete environmental review. The Phase 1 project on I-80 in Solano County has a longer environmental timeline because Solano Transportation Authority is including a "Tier 2" project to add a new express lane to Vacaville in the same environmental document.
- **Traffic congestion:** I-880 is scheduled to open next because it is congested daily in both directions. In contrast, congestion on I-80 in Solano County is less extended and occurs mainly on Friday afternoons and weekends. This timing also allows the implementation of ramp metering on I-80 to become established before introducing express lanes. Staff will reexamine this sequence if traffic congestion grows on I-80.

## Status of Phase 1 Work Underway

Highlights of work currently underway follow below. Attachment 3 lists upcoming contract and procurement actions.

### Caltrans Project Approval and Environmental Review

This is the first stage in the civil project, which will construct roadway infrastructure such as static signs, sign gantries, striping and conduit for electrical and telecommunications services. BAIFA is leading this stage of work for the conversion of existing HOV lanes on I-680, I-880 and the bridge approaches. Staff originally planned to group the segments together as a single "Phase 1 project" but has now decoupled them in environmental review so as not to delay I-680. We expect to hold public meetings in the I-680 corridor in January 2014 and in the I-880 corridor in March 2014. The Solano Transportation Authority is leading this stage of work for conversion of the existing HOV lane I-80 in Solano County, which is also part of Phase 1. There are two remaining "conversion" projects, which are not included in Phase 1: (1) Contra Costa County Transportation Authority is starting the environmental review for the conversion project on the northern half of I-680 in Contra Costa County. (2) Environmental review on I-80 in Alameda and Contra Costa counties will begin in 2014; this will include Bay Bridge approach, which staff has removed from Phase 1, since its operations are so closely linked with I-80.

### Toll System Integrator Procurement

The Toll System Integrator will design, install, test and, for a defined period, maintain the hardware and software for the tolling system. Hardware includes toll readers, vehicle detection, license plate cameras, video cameras, variable toll message signs and computing equipment. Software resides in the toll system host and lane-side equipment and includes the toll setting and trip building capabilities as well as data interfaces with the FasTrak® Regional Customer Service Center, Caltrans Traffic Management Center and MTC's 511. Attachment 4 illustrates express lane elements to be implemented by the Integrator. Staff released a request for proposal in mid-November. Our goal is to have the toll system integrator under contract in June 2014 to provide input to the civil plans before completion of final design.

### Telecommunications Backhaul Network

The express lane telecommunications backhaul network will rely on a combination of fiber and wireless communications services to connect BAIFA's express lane corridors with the toll system host. Caltrans and BART own existing fiber and empty conduit along much of I-680 and I-880. BAIFA staff has initiated discussions with both agencies and expects to be able to reach agreements for joint use of those resources. In the I-80 corridor in Solano the backhaul network likely will use leased wireless telecommunications services since there is no existing fiber or conduit. Staff is designing the express lanes communications backhaul network with the expectation it will become part of a broader regional communications network, now in the very early planning stages. The broader network will support a variety of data-intensive transportation management initiatives such as integrated corridor management, ramp metering and video cameras that support 511 and the Caltrans Traffic Management Center.



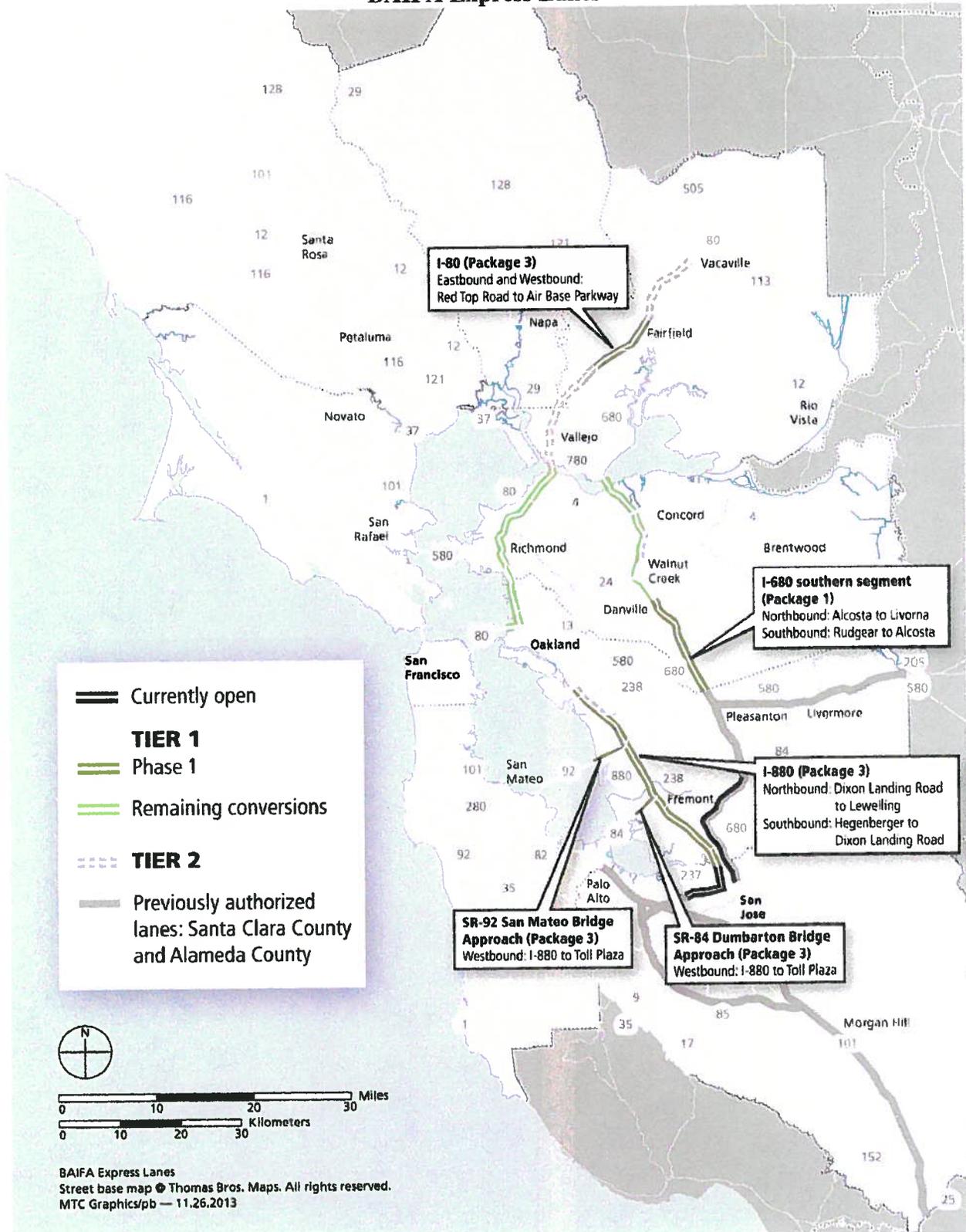
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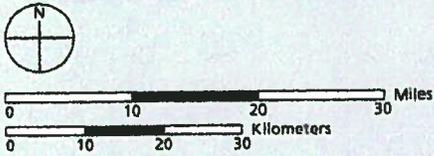
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### Attachment 1 BAIFA Express Lanes



**==** Currently open  
**TIER 1**  
**==** Phase 1  
**==** Remaining conversions  
**---** TIER 2  
**---** Previously authorized lanes: Santa Clara County and Alameda County

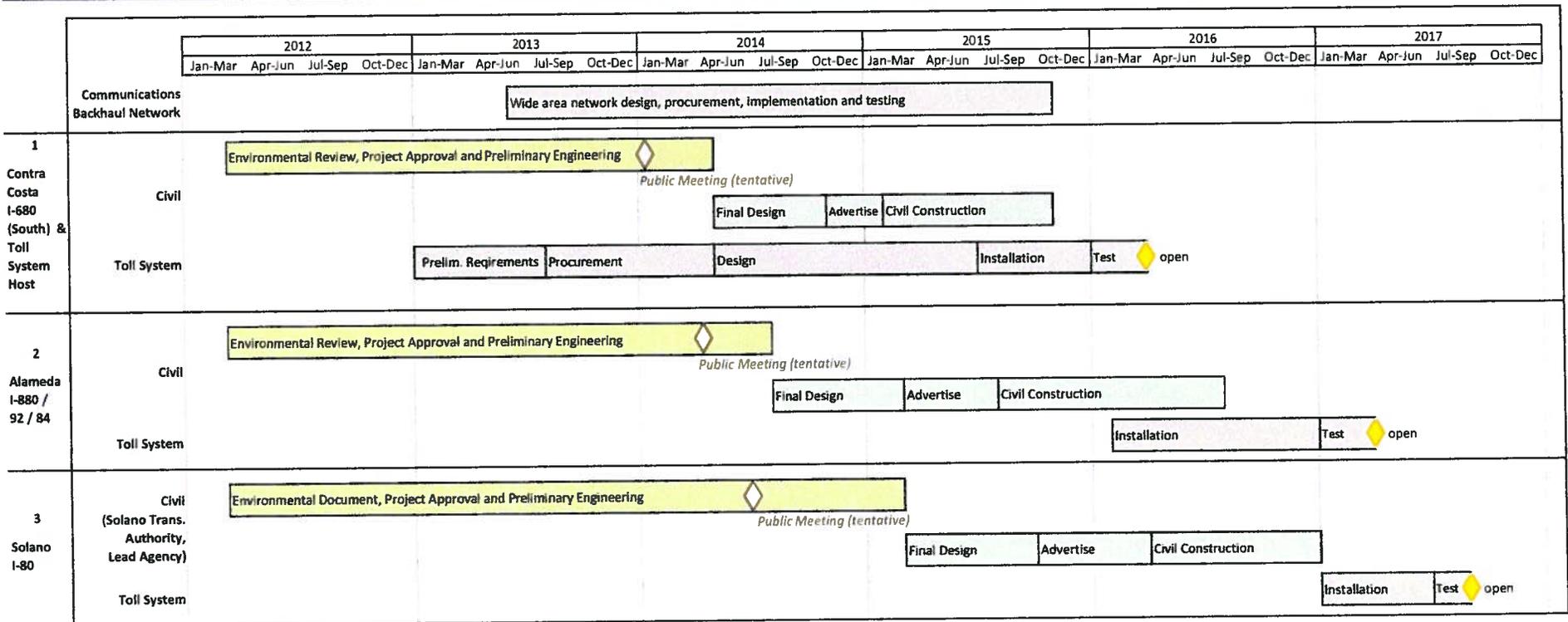


BAIFA Express Lanes  
 Street base map © Thomas Bros. Maps. All rights reserved.  
 MTC Graphics/pb — 11.26.2013

# BAIFA Phase 1 Express Lanes Schedule

## I-680, I-880 and I-80

### October 17, 2013



- Environmental work
  - Civil work
  - Toll Systems work

**Attachment 3**  
**Current BAIFA Contracts and Procurements for Phase 1 Express Lanes**  
**(January through June 2014)**

**Program Management**

**New Contract: Program Management (February 2014)**

The new program management consultant will provide assistance to staff with program controls (cost, schedule and risk), the Concept of Operations, public outreach, and project management, as needed. This procurement is currently underway.

Parsons Brinkerhoff currently serves this function. It may be necessary to add funding to the current contract to maintain service through completion, award and transition of the new program management consultant.

**Toll System**

**Contract Amendment: System Manager - Akins North America, Inc.**  
**(March 2014)**

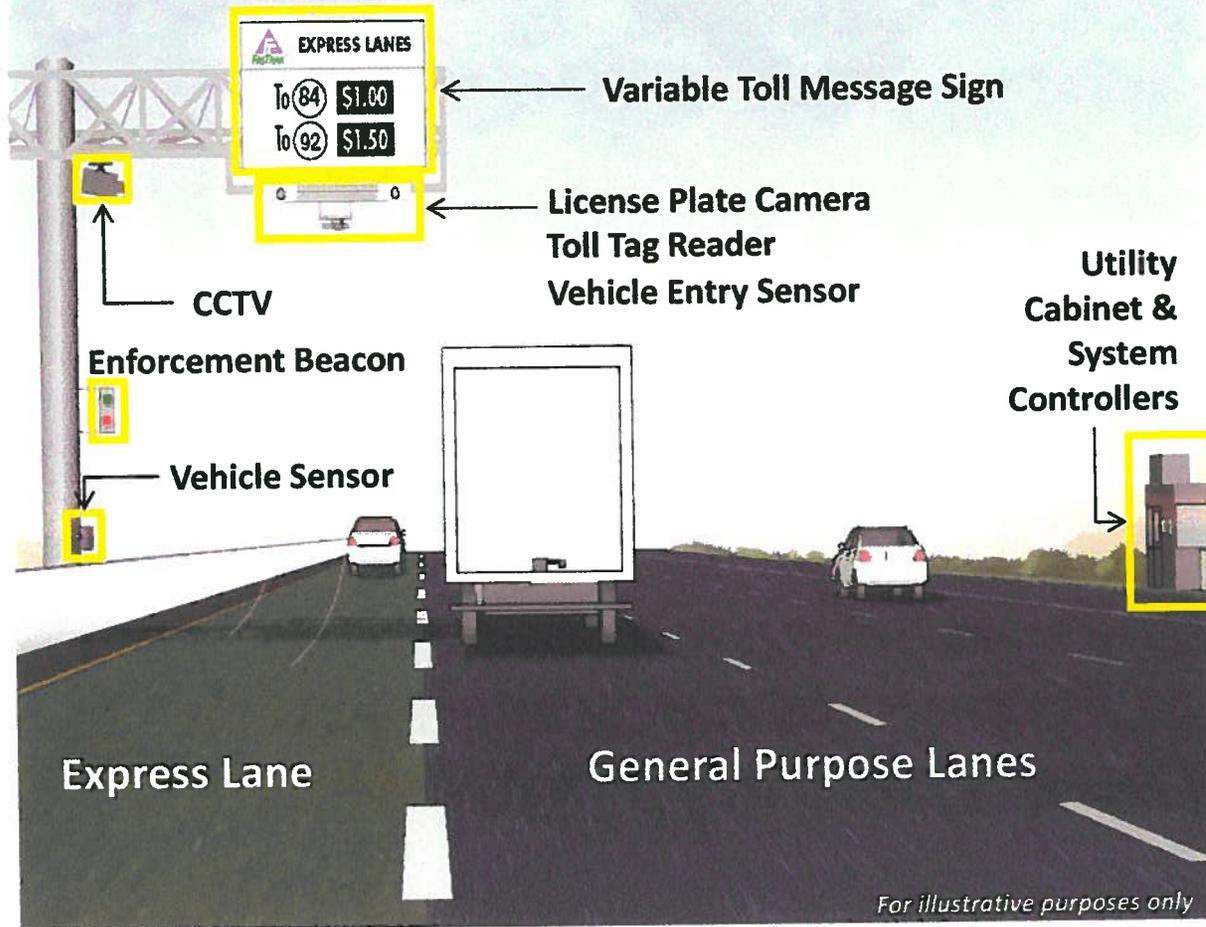
Atkins has developed the toll system requirements and is assisting staff with procurement of the integrator. Staff will seek additional budget authority for the next phase in their scope of work – oversight of the integrator's design, installation and testing.

**New Contract: Toll System Integrator (May, 2014)**

The Integrator will design, install, test and, for a defined period, maintain the hardware and software for the tolling system. The procurement for integrator is currently underway. The scope includes all Phase 1 segments and allows us to add future corridors.

**Attachment 4  
Express Lane Components**

**ROADSIDE COMPONENTS - TOLL SYSTEM CONTRACT**



**OTHER COMPONENTS - TOLL SYSTEM CONTRACT**

- Communications Links
- "Back" Office
  - Host computers
  - Central processing software
  - Toll operator workstations
  - Link to BATA Regional Customer Service Center
  - Link to 511 and Caltrans TMC
- CHP Devices (e.g., web portal)



**CIVIL COMPONENTS**

- |                 |            |                                     |
|-----------------|------------|-------------------------------------|
| • Static signs  | • Paving   | • Power and communications hook-ups |
| • Sign Gantries | • Striping |                                     |