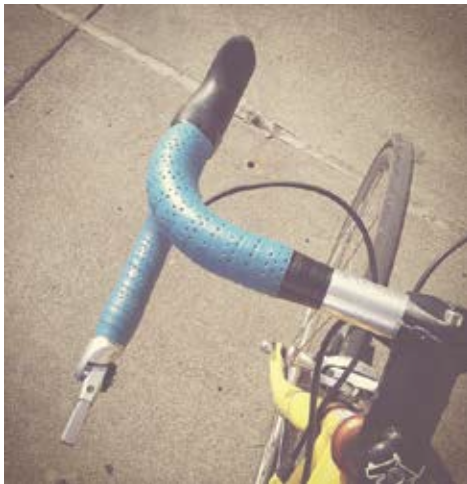


Final

East County Action Plan for Routes of Regional Significance



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September 2017

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Chapter I

Introduction

A. The Measure J Transportation and Growth Management Program

In November 2004, Contra Costa voters renewed the original Measure C Transportation Improvement and Growth Management Program, a ½-percent sales tax to fund transportation projects and programs, with a new ballot measure called Measure J. Measure J, which started in April 2009, will generate approximately \$2 billion (in 2008 dollars) over a 25-year period.

Measure J continues Contra Costa's innovative Growth Management Program (GMP). To receive its share of local street maintenance and improvement funds and to

become eligible for Transportation for Livable Communities (TLC) funds, a local jurisdiction must be found to be in compliance with the GMP, which requires each jurisdiction to

- Adopt a Growth Management Element
- Adopt a local and regional Development Mitigation Program
- Participate in an Ongoing Cooperative, Multi-Jurisdictional Planning Process
- Address Housing Options
- Develop a Five-Year Capital Improvement Program
- Adopt a Transportation Systems Management (TSM) Ordinance or Resolution
- Adopt a Voter-Approved Urban Limit Line

Among these elements, preparing Action Plans for Routes of Regional Significance is included under the requirement to “Participate in an Ongoing Cooperative, Multi-Jurisdictional Planning Process.” The specific requirements of this element as defined in Measure J are as follows:

Each jurisdiction shall participate in an ongoing process with other jurisdictions and agencies, the Regional Transportation Planning Committees and the Authority to create a balanced, safe and efficient transportation system and to manage the impacts of growth. Jurisdictions shall work with the Regional Transportation Planning Committees to:

1. *Identify Routes of Regional Significance, and establish Multimodal Transportation Service Objectives for those routes and actions for achieving those objectives.*
2. *Apply the Authority’s travel demand model and technical procedures to the analysis of General Plan Amendments (GPAs) and developments exceeding specified thresholds for their effect on the regional transportation system, including on Action Plan objectives.*
3. *Create a development mitigation program.*
4. *Help develop other plans, programs and studies to address other transportation and growth management issues.*

In consultation with the Regional Transportation Planning Committees, each jurisdiction shall use the travel demand model to evaluate changes to local General Plans and the impacts of major development projects for their effects on the local and

regional transportation system and the ability to achieve the Multimodal Transportation Service Objectives established in the Action Plans.

Jurisdictions shall also participate in the Authority's ongoing countywide comprehensive transportation planning process. As part of this process, the Authority shall support countywide and sub-regional planning efforts, including the Action Plans for Routes of Regional Significance, and shall maintain a travel demand model. Jurisdictions shall help maintain the Authority's travel demand modeling system by providing information on proposed improvements to the transportation system and planned and approved development within the jurisdiction.¹

The Contra Costa Transportation Authority ("the Authority") is responsible for evaluating whether each jurisdiction is fully complying with the GMP. With Measure J, the jurisdiction's eligibility to receive Transportation for Livable Community funding may also be withheld for non-compliance with the GMP.²

B. The Action Plan Purpose

The purpose of the Action Plans is for each Regional Transportation Planning Committee (RTPC) to work cooperatively to establish overall goals, set performance measures (called Multimodal Transportation Service Objectives, or MTSOs) for designated Routes of Regional Significance, and outline a set of projects, programs, measures, and actions that will support achievement of the MTSOs.



Action Plans are required to be prepared by the RTPC for each subarea of Contra Costa County (West, Central, East, Lamorinda, and the Tri-Valley). The Authority is

¹ Measure J: Contra Costa's Transportation Sales Tax Expenditure Plan, Contra Costa Transportation Authority, July 21, 2004, pp. 24 & 25.

² The Contra Costa TLC Program funds transportation enhancement projects in urban, suburban and rural communities to support a balanced transportation system, create affordable housing, and make Contra Costa's communities more pedestrian, bicycle, and transit friendly.

responsible for funding this effort, and for coordinating and knitting together the Action Plans from each RTPC into the Countywide Comprehensive Transportation Plan (CTP).

The East County Action Plan contains the following components:

Routes of Regional Significance (Chapter 2) identifies the Routes of Regional Significance within East County.

Current Commuting Patterns and Overall Growth Trends (Chapter 3) looks at long-range land use changes and anticipated traffic growth.

Action Plan Goals and Objectives (Chapter 4) describes the overall goals of the plan, and identifies the MTSOs that are applied to each Regional Route.

Proposed Regional Actions (Chapter 5) identifies specific actions, programs and measures, and assigns responsibility for their implementation.

Procedures for Notification, Review, and Monitoring (Chapter 6) includes project notification procedures and the process for general plan review.

C. Definition of Terms

The following terms, which are used repeatedly in this document, are defined below:

Policies. The policies of an Action Plan help guide its overall direction. Decisions regarding investments, program development, and development approvals are based on these policies.

Goals. A goal is a statement that describes in general terms a condition or quality of service desired that is in line with the policies. For example, a common goal from past Action Plans was to “provide and encourage the use of alternatives to the single-occupant auto.” This goal would be in line with a policy that calls for “an efficient transportation system.”

Multimodal Transportation Service Objectives. MTSOs are specific, quantifiable objectives that describe a desired level of performance for a component of the transportation system.

Actions. Actions are the specific programs, projects, measures, or steps that are recommended for implementation to meet the MTSOs set forth in the

Action Plan. The responsibility of carrying out the actions falls to the individual local jurisdiction, or to the Regional Committee as a whole. Actions may involve implementing specific projects at the local level, or they may call for the RTPC to support major projects that have a regional impact. Implementation of adopted actions is a required condition of compliance with the Measure J GMP.

Routes of Regional Significance. Routes of Regional Significance are roadways that connect two or more subareas of Contra Costa, cross County boundaries, carry significant through traffic, and/or provide access to a regional highway or transit facility. The Authority may designate a Regional Route that meets one or more of these criteria. These routes provide vital connections that support economic and recreational activities throughout the County and are often used by multiple modes of transportation.



Chapter 2

Routes of Regional Significance

The Action Plan designates a system of Routes of Regional Significance, as defined in this chapter.

A. Designating Routes of Regional Significance

East County has a robust network of regional routes. This Action Plan maintains the system of Routes of Regional Significance that was identified in the prior Action Plan.

I. Criteria for Designating Routes of Regional Significance

The Routes of Regional Significance includes all portions of the Interstate and State highway systems, as well as major arterial roadways that serve one or more of the following functions:

- Connects two or more “regions” of the County
- Crosses County boundaries
- Carries a significant amount of through traffic
- Provides access to a regional highway or transit facility (e.g., a BART station or freeway interchange)

B. List of Routes of Regional Significance

The Routes of Regional Significance are shown in Figure 2-1. A description of each route is as follows:

Auto Center Drive (formerly Somersville Road). Between SR 4 and Pittsburg-Antioch Highway.

Bailey Road. From Willow Pass Road into Central County to connect Central County employment centers to Pittsburg and Bay Point, and to provide access to the Pittsburg/Bay Point BART station and SR 4. TRANSPAC will coordinate with TRANSPAC on the connection along Bailey Road between East and Central counties. (Note that TRANSPAC has proposed designation of Bailey Road as a Route of Regional Significance in the 2017 update to the Central County Action Plan, so Bailey Road now has a consistent designation between the two regions.)

Balfour Road. Between Deer Valley Road and Brentwood Boulevard.

Brentwood Boulevard/Main Street. Between SR 160 and Byron Highway. This route serves as the primary route through central Oakley (where it is designated as Main Street) and Brentwood (where it is designated Brentwood Boulevard). This route used to be State Route 4, prior to the construction of the State Route 4 Bypass; the Bypass has now been transferred to the state and is designated as SR 4, while the Brentwood Boulevard/Main Street corridor has been relinquished by the state and is controlled by the local jurisdictions.

Buchanan Road. Between Somersville Road and Railroad Avenue. This route serves as a conduit for traffic from East County communities to get to Kirker Pass Road and from there to

Central County. Note that Buchanan Road will no longer be designated as a Route of Regional Significance once the James Donlon Boulevard extension is constructed.

Byron Highway. From SR 4 to the County line; this segment connects East Contra Costa County to San Joaquin County. The designation of Byron Highway as a Regional Route will also be extended northward from Brentwood Boulevard to Bethel Island Road, once the roadway is upgraded and an extension is constructed from Delta Road to Cypress Road.

Camino Diablo Road. Between Marsh Creek Road and Vasco Road.

Cypress Road/Bethel Island Road. Cypress Road from Sellers Avenue to Bethel Island Road, and Bethel Island Road between Cypress Road and the bridge to Bethel Island. These two roadways are connections between Bethel Island, Oakley and the proposed Byron Highway extension that would enable connectivity to State Route 4 and Discovery Bay to the south.

Deer Valley Road. From Hillcrest Avenue to Marsh Creek Road.

East 10th Street/Harbor Street (in Pittsburg). These short segments of streets in Pittsburg connect Railroad Avenue and Willow Pass Road with the Pittsburg-Antioch Highway, as part of an extended arterial corridor running parallel to and north of SR 4.

East 18th Street. From A Street to the SR 160 interchange.

Fairview Avenue. From Lone Tree Way to Balfour Road.

Hillcrest Avenue. From State Route 4 to Lone Tree Way.

James Donlon Boulevard (including the future extension, formerly known as Buchanan Road Bypass). From Lone Tree Way to Kirker Pass Road.

Laurel Road. Between State Route 4 and Main Street in Oakley. The extensions of Laurel Road eastward to Sellers Avenue in Oakley, and westward to Hillcrest Avenue in Antioch, will be included in the network once the route is constructed.

Leland Road (both West and East)/Delta Fair Boulevard. Between San Marco Boulevard and Somersville Road. Once the westward extension of West Leland Road is constructed, it will also be a designated regional route within East County. TRANSPLAN will coordinate with TRANSPAC on the connection along West Leland Road between East and Central counties.

Lone Tree Way/A Street. From East 18th Street to Brentwood Boulevard.

Marsh Creek Road. From Deer Valley Road to State Route 4. Marsh Creek Road is designated as State Route 4 in the southeast portion of the county.

Oak Street/Walnut Boulevard. From Downtown Brentwood to Vasco Road. This corridor primarily follows Walnut Boulevard. A short section of Oak Street between Brentwood Boulevard and Walnut Boulevard provides the final connection.

Ninth Street/Tenth Street (in Antioch). These streets that run through central Antioch are to be an important connection in the extended arterial corridor running parallel to and north of SR 4. Today, Tenth Street is the major roadway. There is a proposal to create two one-way streets to act as a couplet, and then to add this to the Routes of Regional Significance once the one-way couplet project is completed.

Pittsburg-Antioch Highway. From Harbor Street in Pittsburg to West 10th Street in Antioch.

Railroad Avenue/Kirker Pass Road. From East 10th Street to Kirker Pass, where it connects with Central County.

Sand Creek Road/Dallas Ranch Road. From Lone Tree Way to Brentwood Boulevard.

Sellers Avenue. This short segment of road between the proposed end of Laurel Road and Cypress Road would connect Oakley and Bethel Island.

Somersville Road. From James Donlon Boulevard to SR 4.

Standard Oil Avenue (future route). This road is proposed as a new north-south connection between James Donlon Boulevard and Delta Fair Boulevard.

State Route 160. From State Route 4 to the Sacramento County line.

State Route 4. From the Willow Pass Grade to the San Joaquin County line.

State Route 239 (also known as TriLink). This roadway is designated as a Future Study Corridor. The Streets and Highways Code identified this roadway as a legislatively adopted but unconstructed state highway connecting I-580 west of Tracy to Route 4 near Brentwood. In 1996, the need to initiate planning for this corridor was identified by the Metropolitan Transportation Commission's Altamont Pass Interregional Corridor Study, which referred to

the facility as the Brentwood-Tracy Expressway. In 1997, the Caltrans Route 4 Corridor Study indicated that any upgrades to highway capacity between Contra Costa County and San Joaquin County should be directed at developing Route 239. In 2002, the Streets and Highways Code was amended to include this route in California's Interregional Road System. Currently, CCTA is leading a feasibility study of the SR 239 route, which is now known as TriLink.

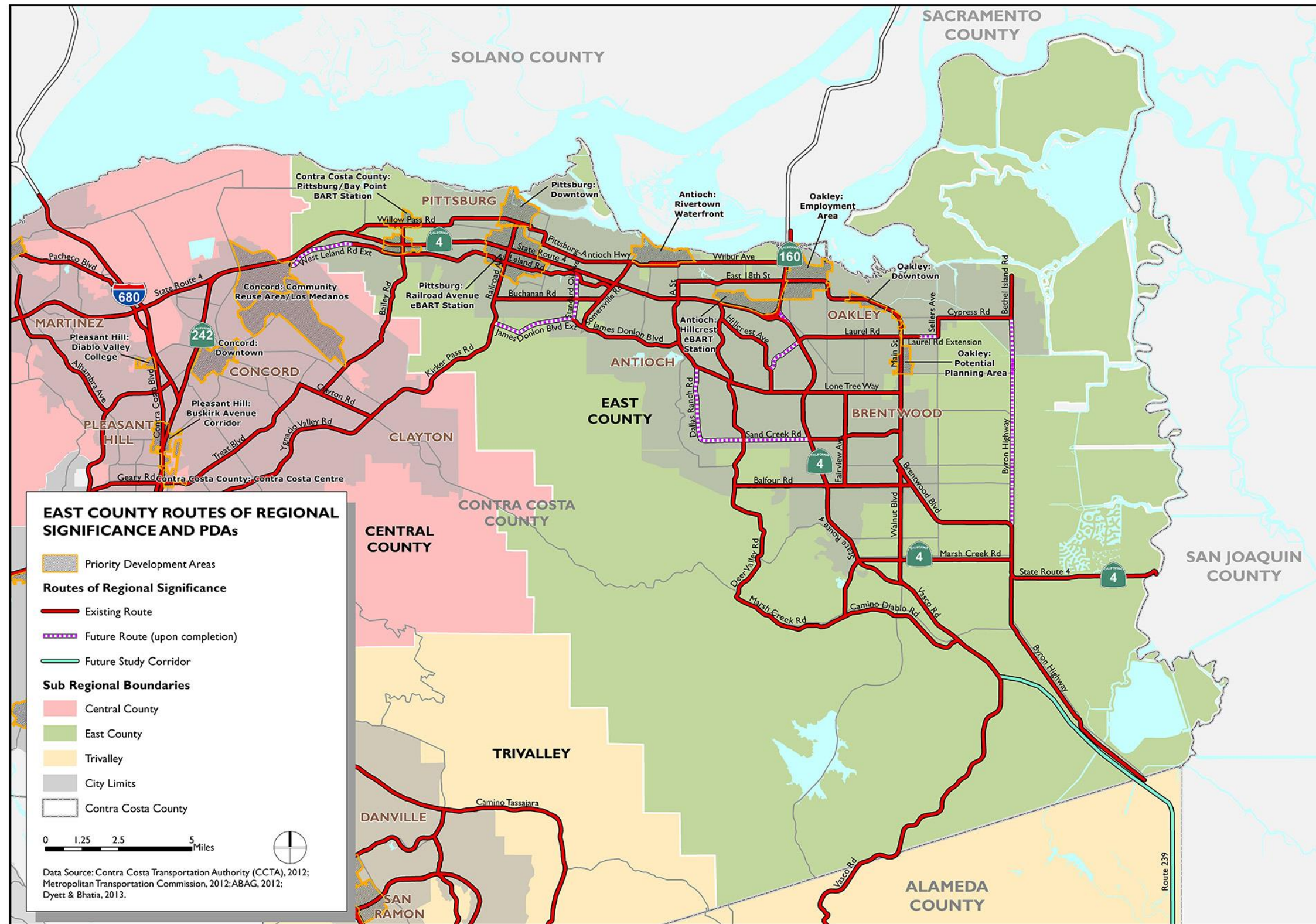
Wilbur Avenue. From A Street to SR 160.

Willow Pass Road. From West 10th Street in Pittsburg to SR 4.

Vasco Road. From Walnut Boulevard to the County Line. This roadway is an important inter-county connection between East County and Alameda County.



Figure 2-1 East County Routes of Regional Significance and Priority Development Areas



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Chapter 3

Current Growth Trends and Travel Patterns

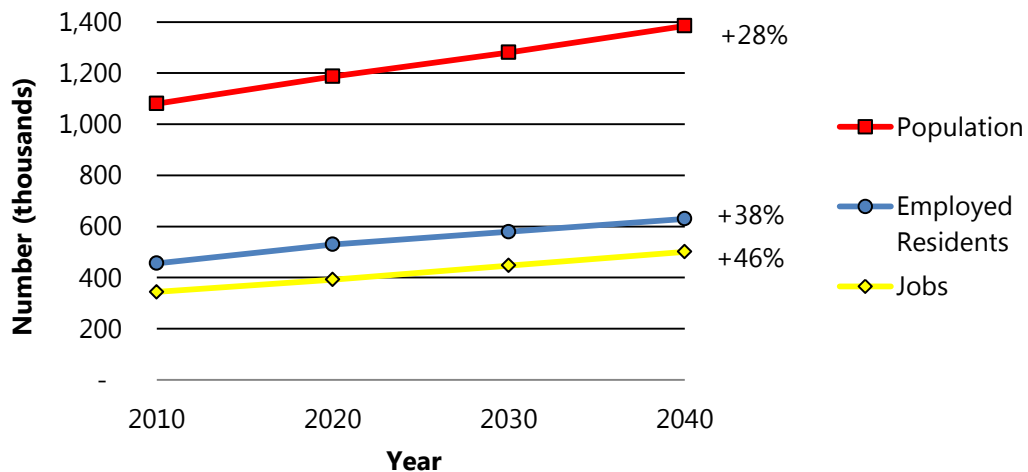
Forecasts of future population and employment growth in East County, as well as projections of future travel demand on major East County transportation facilities, are drawn from the most recent available regional travel model maintained by the Authority. The current Authority travel model contains land use projections consistent with those produced by the Association of Bay Area Governments (ABAG) as part of their Projections

2011 dataset, and also contains assumptions about transportation system improvements that are consistent with the financially-constrained Regional Transportation Plan.

A. Demographic Forecasts

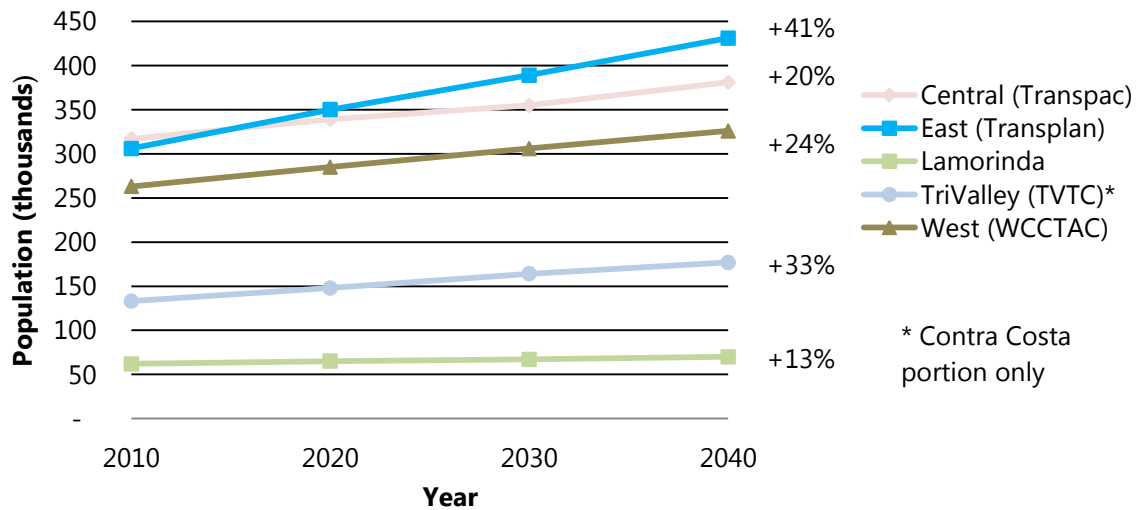
Countywide forecasts for population, employed residents, and jobs are shown in Figure 3-1. Population and job growth are expected to follow fairly similar patterns, with jobs growing at a faster rate (an average annual rate of 1.3 percent) than population (at an average annual rate of 0.8 percent).

Figure 3-1 Contra Costa County Demographic Forecasts



Subregional forecasts for population are shown in Figure 3-2. East County is represented by the blue line. The East County population is projected to grow at the fastest rate (41 percent between 2010 and 2040, or an annual average of 1.1 percent) of all the subregions; by 2040, East County is expected to have added about 125,000 new residents, becoming the most populous subregion in the County. There is expected to be almost 44,000 dwelling units added in East County in order to house the additional population.

Figure 3-2 Subregional Population Growth



Subregional forecasts for jobs are shown in Figure 3-3. Again, East County is represented by the blue line. Countywide, jobs are expected to grow faster than population, and East County is projected to experience significant job growth of 94 percent between 2010 and 2040 (or an annual average of 2.2 percent); the total number of jobs in East County is projected to be almost 100,000. While East County will experience the fastest job growth, Central County will continue to have the highest total number of jobs of any of the subregions.

Figure 3-3 Subregional Job Growth

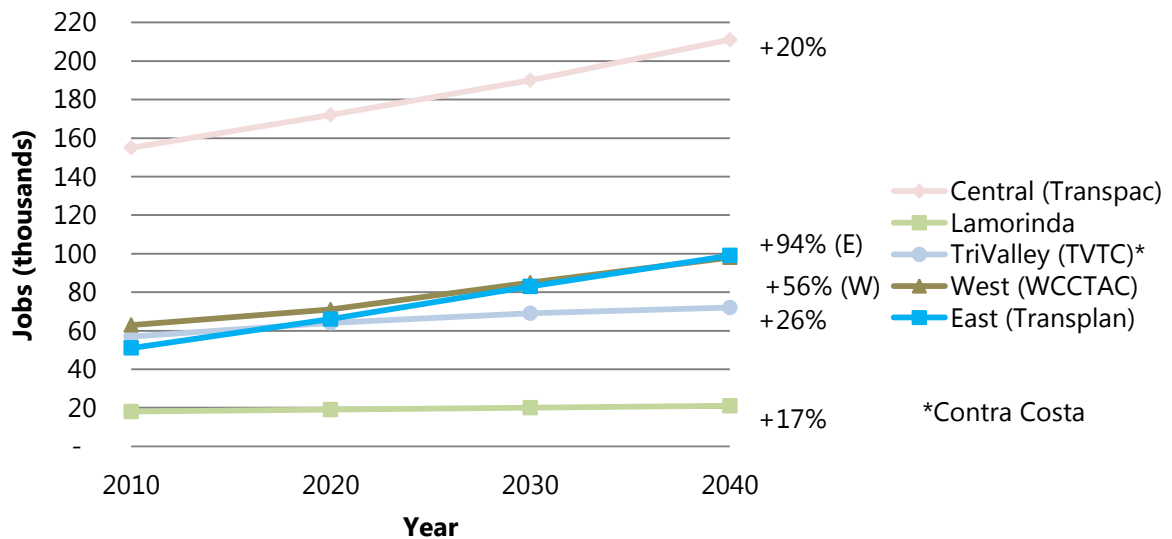
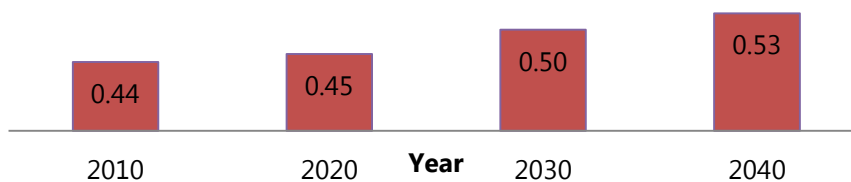


Figure 3-4 presents the ratio of jobs-to-employed residents for East County between 2010 and 2040. A ratio of 1.0 means that the number of jobs in that subregion equals the number of employed residents; this is a measure of the balance between housing and jobs, which affects transportation topics such as commuting patterns and travel time. The ratio of jobs-to-employed-residents in East County is expected to increase, from 0.44 in 2010 to 0.53 in 2040, indicating that the balance between housing and jobs is expected to improve. However, at a ratio of 0.53, that still means that many East County residents who are employed will be commuting to jobs outside of the subregion. The magnitude of out-commuting will still be highest in East County compared to the other subregions of the County.

Figure 3-4 East County Jobs per Employed Resident



B. Traffic Forecasts

The regional travel demand model maintained by the Authority was applied to generate estimates of the future traffic volumes expected on major roadways throughout the County. Figure 3-5 presents a map showing the projected growth in daily traffic volumes on several major facilities in East County. Figure 3-6 shows the projected growth in peak hour traffic across a few East County “screenlines,” which capture major east-west or north-south traffic flows. As is shown in these maps, traffic volumes throughout East County are anticipated to increase substantially by the year 2040, as the local population continues to grow. (It should be noted that the model results shown here are intended to give an idea of the order-of-magnitude changes in traffic volumes anticipated across the region; much more detailed and refined studies would be undertaken for any specific project.)

Figure 3-5 Projected Growth in Average Daily Traffic Volumes

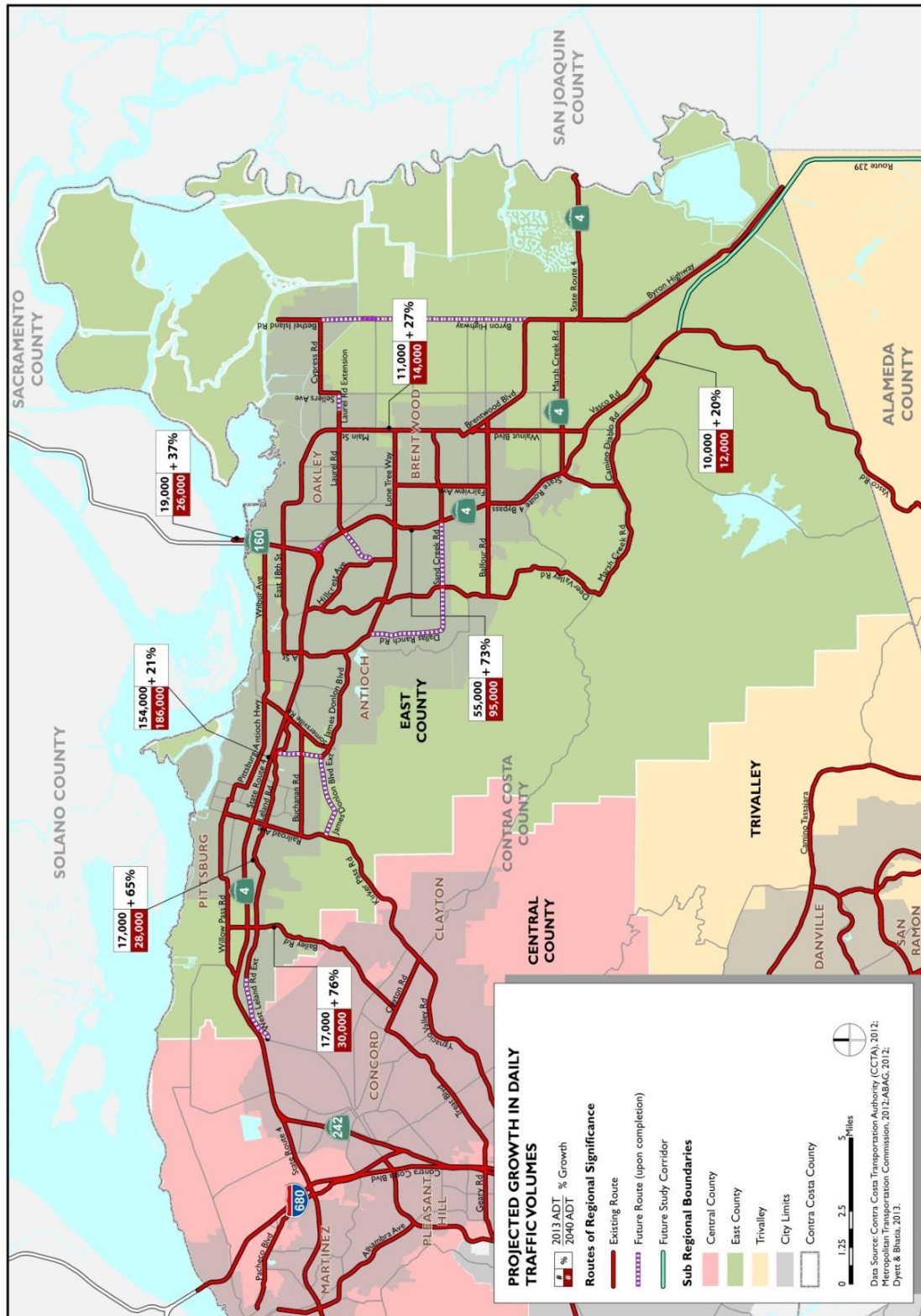
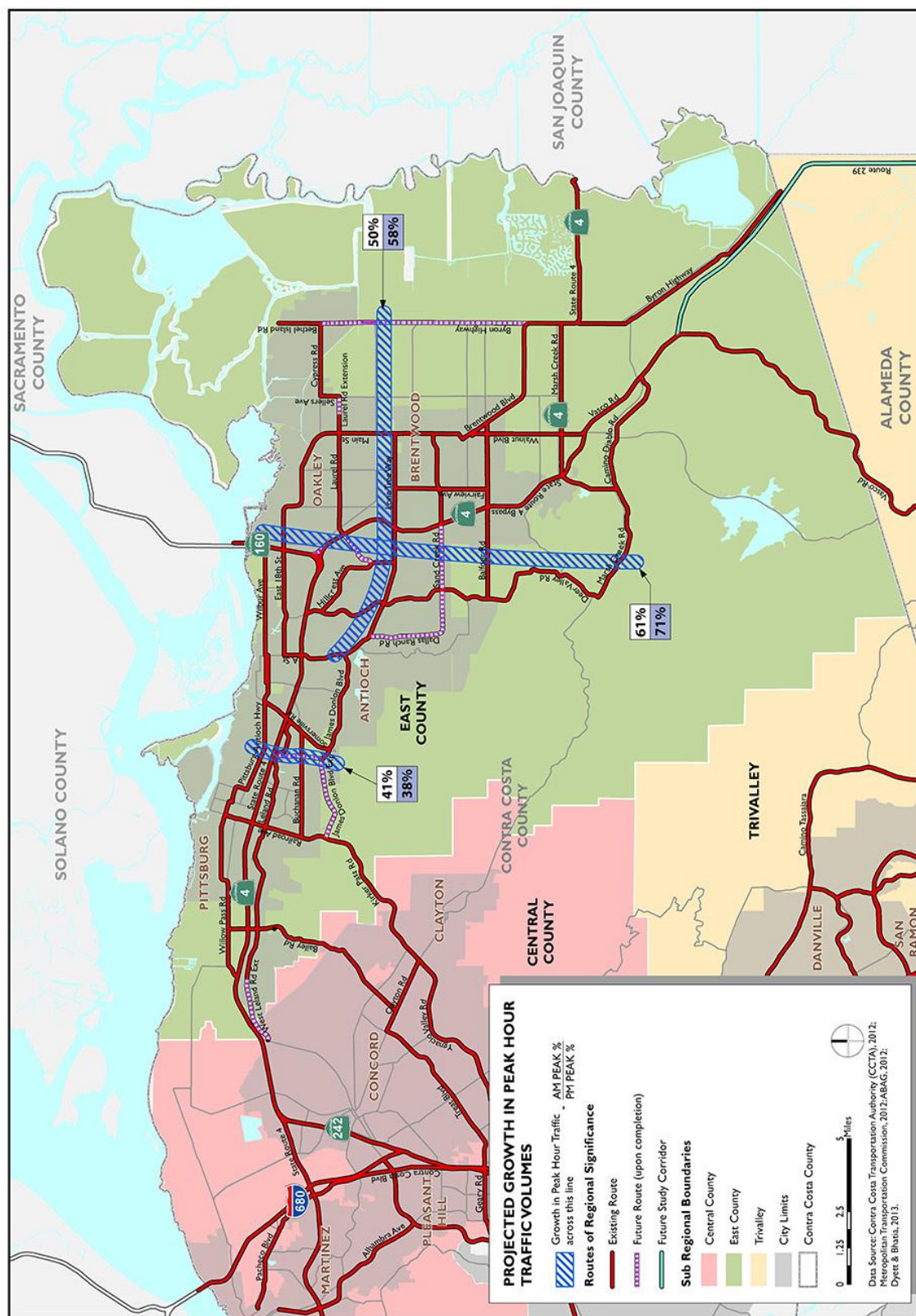


Figure 3-6







Chapter 4

Action Plan Goals and Objectives

There are five overarching goals and 14 sub-goals established for this Action Plan.

A. Action Plan Goals

I. **Maintain or Improve Efficiency of Freeway and Arterial Operations**

Regional Highway Transportation Facility Improvements

Continual investment in regional facilities is necessary to address the increasing levels of congestion along East County highways. Investments may include interchange upgrades, improving links between East County and other regions, or widening regional roadways.

Construct Targeted Traffic Engineering Improvements

In addition to corridor-wide improvements, targeted traffic engineering improvements alleviate conditions that exceed traffic service objectives on a smaller scale.

Make Operational Improvements to Freeways and Arterials

Operational improvements are important for smoothing traffic flow and making optimal use of the investments in freeways and major arterials. Such improvements can include ramp metering, freeway service patrols, vehicle detectors and closed-circuit TV for real-time traffic monitoring, and changeable message signs or other traveler information systems.

2. Support an Efficient and Effective Transit System

Support Rail Transit Operations

A strong regional rail transit system supplements travel along East County highways, alleviating congestion in high demand areas. Rail transit projects, including the BART extension and services provided by the Altamont Commuter Express (ACE) and AMTRAK, should be supported and promoted.

Expand Transit Service

Public transit is an important element of the East County transportation system, serving the mobility needs of the population and providing alternatives to driving. In particular, bus services can readily complement BART service by allowing East County residents to access the BART system without using their cars. Planning for expansion of transit service at the



regional or corridor level should also consider other modes, including possible ferry and rail service.

Provide Intermodal Transit Centers

Significant East County transit stations can function as intermodal transit centers, allowing travelers to efficiently transfer between different transit services. Decreasing transfer time or otherwise improving the transfer experience increases the likelihood that travelers will choose transit on a regular basis.



Expand Park-and-Ride Lots

Park-and-ride lots at strategic locations allow East County commuters to significantly shorten their driving trips and make use of the public transit services that connect East County with other regions.

3. Improve Multimodal Mobility and Decrease Single-Occupant Vehicle Travel

Offer Transportation Demand Management Programs

Transportation demand management (TDM) strategies can benefit the region by promoting the use of travel modes that are more efficient and environmentally friendly, and by providing information so that travelers can make the most informed choices about their travel options. TDM strategies should be included in a package of options for decreasing the number of single-occupant auto trips.

Encourage Active Transportation

Active transportation (walking and bicycling) provides dual benefits: environmentally friendly travel that also achieves public health goals for higher levels of physical activity. The East County region is committed to supporting active transportation, through provision of appropriate infrastructure and elimination of physical barriers to bicycle and pedestrian travel.

Continue the Growth Mitigation and Monitoring Program

The Contra Costa County growth management strategy reduces the traffic impacts of future development in eastern Contra Costa County. Applying appropriate mitigation to development projects can result in development that minimizes impacts on regional routes and provides amenities that facilitate and encourage the use of active transportation.

4. Maintain Existing Transportation Network to Support Safety and Efficiency

Encourage Adequate Maintenance

East County jurisdictions should work towards ensuring adequate funds and systems to properly maintain the transportation system. This applies to Routes of Regional Significance, public transit vehicles and facilities, bicycle and pedestrian facilities and park-and-ride lots.

5. Manage the Effects of New Growth on the Transportation System

Monitor and Update the East County Sub-Regional Transportation Mitigation Fee

The East Contra Costa Regional Fee and Finance Authority (ECCRFFA) administers the sub-regional transportation impact fee for East County that is designed to use revenues generated by new growth to improve the regional transportation system to serve the travel demands of that growth.

Transportation Funding

Funding for adequate transportation systems and services comes from a wide variety of sources, and resources are limited. The East County is committed to advocating for increased transportation funding at the federal, State and regional level.

Pursue Balanced Growth in East County

East County jurisdictions have long been focused on growth policies and programs to promote more employment development within East County, in order to support shorter commutes for area residents and to more efficiently use available transportation capacity in what is now the “reverse commute” direction.

B. Multimodal Transportation Service Objectives

I. Definition of Multimodal Transportation Service Objectives

The CCTA *Implementation Guide* gives the RTPCs significant flexibility in choosing MTSOs for their Action Plans. As long as the objective is quantifiable, and includes a timeframe for achievement of the objective, it can be proposed for inclusion in the Action Plan. Unless otherwise specified, the MTSOs proposed here are to be achieved either on an on-going basis or concurrent with completion of major projects within the specified corridor.

Selection of the MTSOs outlined below was based in part on whether or not the objective could be easily measured through observation, and, more importantly, forecasted through use of the Countywide Model. MTSOs that are difficult to measure or to forecast using the Countywide Model were not selected.

Through the adoption of Measure J, the analysis requirements of MTSOs have become more formalized. These measures will be subject to analysis for impacts of various proposed development and transportation projects, in accordance with Measure J. However, there is also a need to periodically monitor other transportation goals beyond these MTSOs; these are considered as additional objectives within this Action Plan.

Four MTSOs are proposed to be carried forward from the previously adopted action plan into this East County Action Plan Update; the MTSOs are defined and described in the table on the following page. Also carried forward from the previous plan is an area-wide objective related to transit productivity; this objective is intended to express support for regional transit services and may become an MTSO in a future version of this plan.



Table 4-1
Descriptions of MTSOs

MTSO Measure	Definition	Example	Sources of Information	Application
Delay Index	A measure of delay experienced by motorists on a roadway segment during a peak commute hour in a single direction. The Delay Index is calculated by measuring the time it takes to travel a segment of road during peak-period congested conditions, and comparing it to the time it takes to travel the same segment during uncongested, free-flow conditions.	It takes 40 minutes to drive from Point A to Point B during rush hour. The same drive takes 20 minutes during uncongested conditions at midday. Delay Index = $40 / 20 = 2.0$	Travel speeds on freeways to be monitored through Caltrans Performance Measurement System (PeMS) data, or through travel time runs conducted during congested periods.	All freeways in East County.
Signalized Intersection LOS	A measure of traffic conditions at a signalized intersection. LOS is expressed in ratings from “A” through “F”, with “A” meaning that all traffic clears the intersection on every cycle and “F” meaning that drivers must wait through multiple cycles to clear the intersection.	Based on the number of seconds of delay experienced by drivers passing through the intersection. This metric should be calculated using the methods specified in CCTA Technical Procedures.	Intersection turning movement counts are collected every two years by CCTA as part of the MTSO monitoring program.	Suburban arterial routes (listed on pages 26-27).
Roadway Segment LOS	A measure of traffic efficiency and smoothness of flow along roadway segments that are not constrained by a nearby traffic signal.	Should be calculated in accordance with the methods specified in CCTA Technical Procedures. Under the current Technical Procedures, would use the procedure for a two-lane rural highway in the 2010 HCM.	Counts of volumes along roadway segments are collected every two years by CCTA as part of the MTSO monitoring program.	Rural roads (listed on pages 27-28).
HOV Lane Usage	A measure of the efficient utilization of the HOV lane.	Measured by counting the number of vehicles using the HOV lanes at the highest HOV volume section.	HOV volumes to be determined based on HOV lane utilization report published by Caltrans.	Freeways with HOV lanes.

2. Area-wide Objective on Transit Productivity

One additional objective established in this Action Plan is for transit productivity. Its designation as an area-wide measure indicates that it is important to monitor, but not mandatory when analyses of MTSOs are required. There are two measures within this objective.

Bus Riders per Service Hour: A measure of the average number of riders boarding a fixed-route bus during an hour of scheduled bus service when persons may board with a fare or pass.

Example:

Transit boardings on a route =
15,000 in a single month

Transit service hours on the route = 1,000 hours in a single month

Transit productivity = 15 riders per revenue service hour

BART Ridership: A measure of the average number of weekday riders on all BART trains between Bay Point and North Concord Stations.

Example:

Daily riders between 3,800 and 4,200 during the sample month

Average daily riders = 4,000 during the sample month



3. Route-Specific Multimodal Transportation Service Objectives

Freeways

Current traffic volumes on the SR 4 freeway often exceed the common standards of peak hour level-of-service (such as “D” or “E”). Anticipated growth that has already been approved is likely to occur faster than the ability of local jurisdictions and Caltrans to provide capacity relief. It is unreasonable to expect that uncongested conditions can be achieved over a long-term planning horizon.

Travelers in urban and suburban areas have come to accept peak hour congestion, especially on the freeway routes. It is desirable, however, to ensure that point-to-point travel times be kept to a tolerable maximum, that HOV lanes be fully utilized, and that transit ridership be encouraged. The following MTSOs are applied (as appropriate) to all freeways in East County, including SR 4 and SR 160.

MTSOs on Freeways:

- *The Delay Index should not exceed 2.5 during the AM or PM peak period.*
- *HOV lane utilization should exceed 600 vehicles per lane in the peak direction during the peak hour.*

Suburban Arterial Routes

These are routes where the capacity and quality of service is typically controlled by the operations of the signalized intersections. Level of Service D is the threshold traffic level where drivers typically start becoming concerned about congestion. At LOS of E or lower, drivers may have to wait through more than one signal cycle in order to pass through an intersection. This category covers the following routes:

- Auto Center Drive
- Bailey Road
- Balfour Road
- Brentwood Boulevard/Main Street
- Buchanan Road
- Deer Valley Road (improved portion)
- East 10th Street/Harbor Street (in Pittsburg)
- East 18th Street
- Fairview Avenue
- Hillcrest Avenue
- James Donlon Boulevard (including future extension)
- Laurel Road
- Leland Road (both West and East)/Delta Fair Boulevard
- Lone Tree Way/A Street

- Oak Street/Walnut Boulevard (within Brentwood)
- Ninth Street/Tenth Street (in Antioch)
- Pittsburg-Antioch Highway
- Railroad Avenue/Kirker Pass Road
- Sand Creek Road/Dallas Ranch Road
- Somersville Road
- Standard Oil Avenue (future route)
- Wilbur Avenue
- Willow Pass Road

MTSOs on Suburban Arterial Routes:

- *Maintain LOS D or better at all signalized intersections, except:*
 - *On Bailey Road, where LOS E will be acceptable; or,*
 - *At Traffic Management Program (TMP) sites that use performance measures other than average intersection delay.*
- *Within Priority Development Areas, any physical improvement identified as a result of applying the above standard shall be evaluated for its effects on all intersection users, including pedestrians, cyclists, and transit users.*

Rural Roads

The primary issue on rural roads is traffic flow and safety. While some of these routes may have traffic signals at major intersections, the spacing between intersections is so great that the signals do not control the capacity of the route. Therefore, these routes are evaluated using roadway segment evaluation techniques. These routes include:

- Byron Highway
- Camino Diablo
- Cypress Road/Bethel Island Road
- Deer Valley Road (unimproved portion)
- Marsh Creek Road
- Sellers Avenue
- SR-4 Non-Freeway portion: Balfour Road to San Joaquin County Line
- Walnut Boulevard (south of the City of Brentwood)

- Vasco Road

Level-of-Service D provides a reasonable standard for these rural roads. If any of these roads is improved or widened, a new traffic service objective should be considered.

MTSOs on Rural Roads:

- *Peak hour level-of-service shall not exceed level-of-service D for non-signalized rural roadways*

Current and Forecasted MTSO Values

CCTA is responsible for regular monitoring of the MTSOs for all the subregions, as well as for the forecasting of future MTSO values. Appendix A contains the results of that monitoring and forecasting process for East County. The traffic analysis and computer modeling for the 2017 Action Plans were conducted using land use assumptions based upon the current general plans of the local jurisdictions (based on ABAG Projections 2013 (P-2013)).





Chapter 5

Proposed Regional Actions

This chapter outlines specific projects, programs, actions and measures intended to achieve the MTSOs presented in Chapter 4. Additional actions not listed in this Chapter may be implemented as well to achieve the Goals of this Action Plan. Each action is numbered below, and identifies the jurisdiction(s) or entities responsible for implementing that action.

A. Maintain or Improve Efficiency of Freeway and Arterial Operations

I. Regional Highway Transportation Facility Improvements

Since the last update of the Action Plan, there has been significant progress on improvements along the SR 4 corridor, including widening of SR 4 through Antioch and completion of several elements of the facility formerly known as the SR 4 Bypass (now designated as SR 4) through Antioch, Oakley and Brentwood.

1a) **Current SR 4 Freeway Projects:** For projects currently under construction, TRANSPLAN and the local jurisdictions should continue to work with the Contra Costa Transportation Authority (CCTA) and Caltrans to ensure successful completion of the new facilities. The following projects are currently under construction, with estimated completion dates ranging from late 2013 to late 2015:

- SR 4 widening and interchange reconstruction from Loveridge Road to Hillcrest Avenue, including median to accommodate eBART
- SR 4 widening from Laurel Road to Sand Creek Road, and construction of the Sand Creek Road interchange

1b) **Future SR 4 Freeway Projects:** For projects not yet under construction, TRANSPLAN and the local jurisdictions should work in cooperation with CCTA and Caltrans to complete studies and design, and initiate construction. Anticipated projects include:

- SR 160/SR 4 Connector Ramps
- Balfour Road interchange
- Marsh Creek Road interchange
- Vasco Road interchange
- Widening of SR 4 from Balfour Road to Vasco Road (Segment III)

1c) **TriLink (also referred to as SR 239):** Work with CCTA and Caltrans on the ongoing TriLink feasibility study. Tasks include public workshops, committee meetings, board presentations, and Project Study Report (PSR). Estimated study completion in 2014. (TRANSPLAN, Brentwood, Contra Costa County)

- 1d) **SR 84:** Work with Alameda County jurisdictions to determine the feasibility of a Route 84 extension into East County. (TRANSPLAN, Contra Costa County)
- 1e) **James Donlon Boulevard Extension (previously known as Buchanan Road Bypass):** Pursue completion of project. (City of Pittsburg, ECCRFFA)
- 1f) **Main Street/Brentwood Boulevard:** Pursue the widening of Main Street/Brentwood Boulevard through Oakley and Brentwood to Discovery Bay. Specific elements include:
- Improve Interchange at SR 160 and Main Street. (CCTA, Caltrans, Oakley)
 - Improve and widen Main Street from SR 160 to Delta Road. (Oakley, ECCRFFA)
 - Widen Brentwood Boulevard from Delta Road to Sellers Avenue (Brentwood, ECCRFFA)
 - Improve California Delta Highway from Sellers Avenue to Marsh Creek Road (where State Route 4 rejoins). (Contra Costa County)
- 1g) **Byron Highway – Vasco Road Connector (also known as Armstrong Road Connector):** Pursue project to connect Vasco Road with Byron Highway; note that a Byron Airport Connector element is included in the current TriLink (SR 239) feasibility study. (Contra Costa County)
- 1h) **Southern Parallel Arterial Improvements:** Pursue projects to provide additional vehicle capacity on arterial routes parallel to and south of SR 4 in Antioch, Pittsburg, and Contra Costa County, including the extension of West Leland Road to Willow Pass Road. (Antioch, Pittsburg, Contra Costa County)
- 1i) **Northern Parallel Arterial Improvements:** Pursue projects to provide additional vehicle capacity on arterial routes parallel to and north of SR 4 in Antioch, Pittsburg, and Contra Costa County. This includes widening Pittsburg-Antioch Highway to four lanes. (Antioch, Pittsburg, Oakley)
- 1j) **Vasco Road:** Improve safety along Vasco Road with widened pavement and median barrier; coordinate with the Tri-Valley Transportation Council (TVTC) and be consistent with the TVTC Gateway Constraint Policy. Also seek opportunities to work with TVTC to advance a Vasco Road Corridor project into the Countywide Comprehensive Transportation Plan and Bay Area Regional Transportation Plan,

subject to the conditions of the “East County Corridors (Vasco Rd, SR 4, and Byron Highway)” Project in the Measure J Expenditure Plan. (Contra Costa County, TRANSPLAN)

- 1k) **SR 160:** Study future needs along this route including potential interchange improvements at SR 160 and Wilbur Avenue. (TRANSPLAN, Oakley, CCTA)



2. Construct Targeted Traffic Engineering Improvements

- 2a) Monitor conditions on the regional route system and construct improvements as necessary to alleviate conditions that exceed traffic service objectives.
Improvements will be listed in the Countywide Transportation Project List (CTPL) maintained by CCTA. (CCTA, Local jurisdictions)

3. Make Operational Improvements to Freeways and Arterials

Operational improvements are important for smoothing traffic flow and making optimal use of the investments in freeways and major arterials. Such improvements may include ramp metering, freeway service patrols, vehicle detectors and closed-circuit TV for real-time traffic monitoring, or changeable message signs or other traveler information systems. In addition, new technologies are rapidly being developed that will further improve travel safety and efficiency, and reduce environmental impacts of vehicular travel.

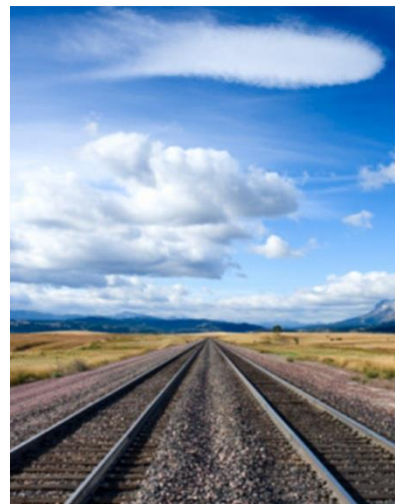
- 3a) Review and implement appropriate operational strategies originally recommended in the East Central Commute Corridor Traffic Management Plan, such as selective

- control point metering, to maximize traffic flow without creating excessive localized air pollution and reducing parallel street capacity. (TRANSPLAN, Pittsburg)
- 3b) Coordinate with Caltrans and local jurisdictions for ongoing cooperation regarding ramp metering operations at freeway interchanges. (Local jurisdictions, CCTA, Caltrans, MTC)
 - 3c) Identify and plan for future rail grade separations where feasible. (Local jurisdictions, CCTA)
 - 3d) Encourage coordination with the California Highway Patrol to promote safer traffic operations, including facilitating enforcement. (Local jurisdictions, CCTA, Caltrans)
 - 3e) In cooperation with CCTA, encourage the ongoing investigation of new transportation-related technologies that have the potential to improve traveler safety, smooth traffic flow and reduce delay, and/or reduce the environmental or quality-of-life impacts associated with current travel modes. (Local jurisdictions, CCTA)

B. Support an Efficient and Effective Transit System

I. Support Rail Transit Operations

- 1a) Support construction of eBART from the current BART terminus at Pittsburg/Bay Point to a new station at Hillcrest Avenue and support on-going study of the next eBART segment to the future Mokelumne Trail station. (Local jurisdictions, TRANSPLAN)
- 1b) Participate in any future studies regarding rail options for East County that may be conducted by the Capitol Corridor Joint Powers Authority, Caltrans, Altamont Commuter Express (ACE) and/or AMTRAK, and the San Joaquin Joint Powers Authority. (Local jurisdictions, TRANSPLAN, CCTA)



2. Expand Transit Service

Public transit is an important element of the East County transportation system, serving the mobility needs of the population and providing alternatives to driving. In particular, bus services can readily complement BART service by allowing East County residents to access the BART system without using their cars. Expansion of bus transit, both within East County and between East County and other regions, should be emphasized. Planning for expansion of transit service at the regional or corridor level should also consider other modes, including possible ferry and rail service.

- 2a) Work with Tri-Delta Transit to provide bus-oriented improvements along local routes, and to improve and expand service. (Local jurisdictions)
- 2b) If a community is considering transit-oriented development, encourage adoption of development guidelines that would incorporate transit-oriented design, where feasible, to be determined by each local jurisdiction. (Local jurisdictions)
- 2c) Continue working with TRANSPLAN and CCTA to pursue funding opportunities for expanded bus service. (Local jurisdictions, Tri-Delta Transit)
- 2d) Consider traffic signal management / bus prioritization technology on major arterials in Antioch, Oakley and Pittsburg as described in the State Route 4 Corridor Management Plan. (Local jurisdictions, Tri-Delta Transit)
- 2e) Encourage the funding and provision of alternative-fueled vehicles and related fueling stations for transit operators to improve air quality, as they expand their bus fleets. (Tri Delta Transit, Contra Costa Transportation Authority, Local jurisdictions)
- 2f) Encourage the region's bus transit operators to increase and improve coordination where possible, particularly in linking East and Central County bus services. (Tri Delta Transit, County Connection)
- 2g) Encourage local jurisdictions to design safety treatments (such as crosswalks, bus bulbs, bus pullouts and Americans with Disabilities Act improvements) at transit stops where appropriate, and to seek regional funding when possible. (Tri Delta Transit, Local jurisdictions)

3. Provide Intermodal Transit Centers

Significant East County transit stations can function as intermodal transit centers, allowing travelers to efficiently transfer between different transit services.



- 3a) Develop BART, eBART and other rail stations as major transportation and business hubs for East County. (BART, CCTA, Tri-Delta Transit, Local jurisdictions)
- 3b) Consider the adoption of station-area specific plans to guide development and transportation infrastructure around intermodal transit centers. (Local jurisdictions)
- 3c) Explore the feasibility and development of ferry service to East County. (TRANSPLAN, CCTA)
- 3d) Continue exploring development of new rail station sites as appropriate with rail corridor proposals. (Local jurisdictions)

4. Expand Park-and-Ride Lots

Park-and-ride lots allow East County commuters to significantly shorten their driving trips and make use of the public transit services that connect East County with other regions. Park-and-ride lots should be considered at strategic locations across East County.

- 4a) Continue to pursue development of additional park-and-ride lots along the SR 4 corridor and at other appropriate locations, including potential shared-use agreements at shopping centers which have unused spaces. (Tri-Delta Transit, Local jurisdictions, Caltrans)
- 4b) Maintain and improve park-and-ride lots in East County. (511CC, TRANSPLAN, BART, Tri-Delta Transit, Local jurisdictions)

- 4c) Promote greater awareness of East County park-and-ride lots for transit and ridesharing where capacity is available. (511CC, TRANSPLAN, Local jurisdictions, BART)

C. Improve Multimodal Mobility and Decrease Single-Occupant Vehicle Travel

I. Offer Transportation Demand Management Programs

Transportation demand management (TDM) strategies can benefit the region by promoting the use of travel modes that are more efficient and environmentally friendly, and by providing information so that travelers can make the most informed choices about their travel options.

- 1a) Continue to provide and promote express commuter bus service to major employment centers. (511CC, Tri-Delta Transit)
- 1b) Monitor and report on the effectiveness of East County TDM programs. (511CC)
- 1c) Promote alternatives to the single occupant vehicle through public outreach, working with employers and residents. (511CC, Tri-Delta Transit)
- 1d) Promote transit, carpooling, bicycle use, and walking to students, employees and residents at K-12 schools, technical schools and college sites. (511CC)
- 1e) Promote and deliver Safe Routes to School programs. (511CC)
- 1f) Encourage tele-work, compressed work week and other alternative work location strategies to reduce traffic congestion at peak hours. (511CC)

2. Encourage Active Transportation

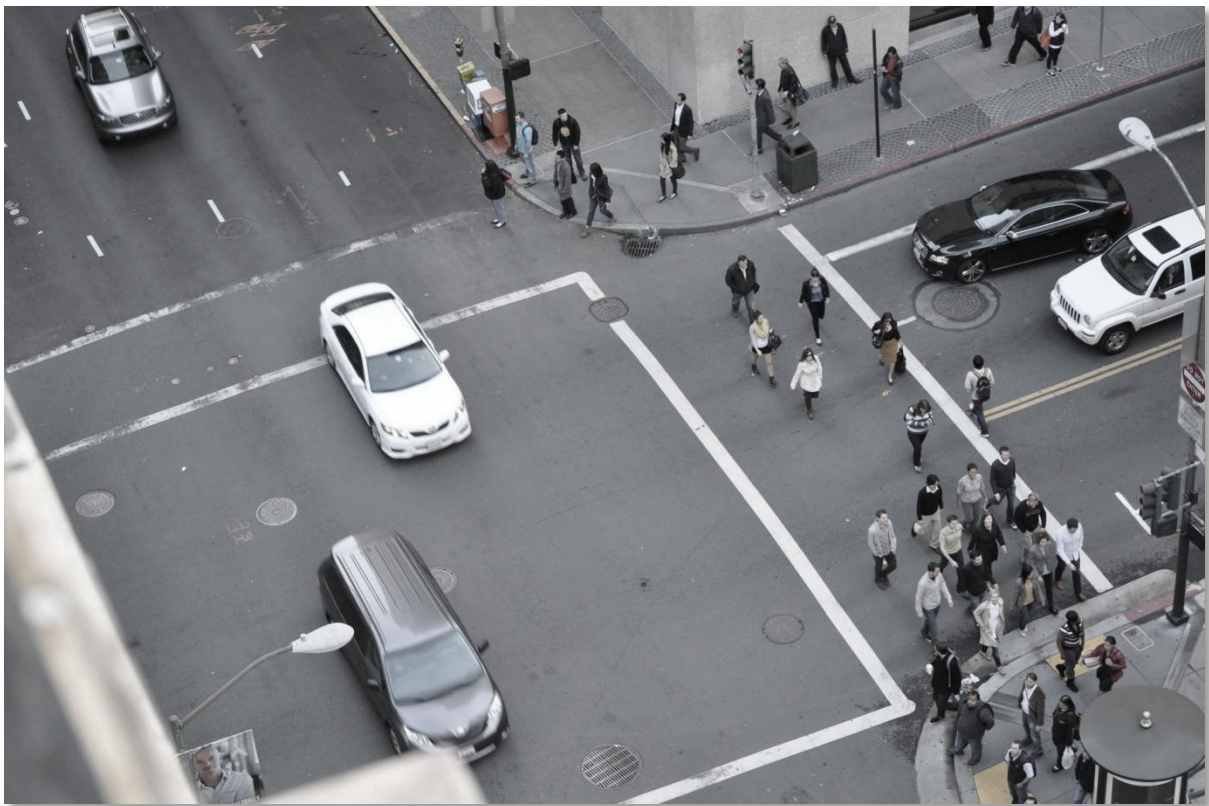
Active transportation (walking and bicycling) provides dual benefits: environmentally friendly travel that also achieves public health goals for higher levels of physical activity. The East County region is committed to supporting active transportation, through provision of



appropriate infrastructure and elimination of physical barriers to bicycle and pedestrian travel.

- 2a) Continue to update and implement local and regional bicycle plans.
(TRANSPLAN, Local jurisdictions, East Bay Regional Park District)
- 2b) Maintain existing regional multipurpose trails such as the Delta de Anza Trail through Oakley, Antioch, Pittsburg and Bay Point, the American Discovery Trail through Antioch to the summit of Mount Diablo, and the Marsh Creek Regional Trail through Brentwood, Oakley, and north to the Delta. (TRANSPLAN, Local jurisdictions, East Bay Regional Park District)
- 2c) Complete unbuilt segments of regional multipurpose trails such as the Mokelumne Coast-to-Crest Trail, Delta de Anza Trail, Union Pacific Rail Trail, Big Break Regional Trail, and the Marsh Creek Trail. (TRANSPLAN, Local jurisdictions, EBRPD)
- 2d) Emphasize the construction of unbuilt segments of Class II and Class III bikeways on the Countywide Bikeway Network, as identified in the 2009 Contra Costa Countywide Bicycle and Pedestrian Plan. (Local jurisdictions)
- 2e) Facilitate planning and design of the Great California Delta Trail, linking the Delta shoreline in Contra Costa County to the Bay Trail and to San Joaquin, Solano, Sacramento, and Yolo counties. (Local jurisdictions)
- 2f) Support improvements to the Delta-De Anza Trail, particularly in addressing the gap along Bailey Road; this is the subject of a current study through the SR 4/Bailey Road Interchange improvement project. (East Bay Regional Park District, Caltrans, Contra Costa County)
- 2g) Complete the East Bay Municipal Utility District (EBMUD) Trail, linking Los Medanos College in Pittsburg to Brentwood. (Local jurisdictions)
- 2h) Study bikeway connections parallel to SR 4 such as improvements on Kirker Pass Road and Marsh Creek Road. (Local jurisdictions)
- 2i) Study bikeway and pedestrian needs at school areas, including participation in Safe Routes to School and Safe Routes to Transit programs, to help plan, fund and construct future facilities in these areas. Projects should support the Countywide Safe Routes to School Master Plan. (511CC)

- 2j) Provide bike racks, lockers and other secure bike parking options at key locations and activity centers throughout the county. (511CC)
- 2k) Encourage consideration of bicycle and pedestrian use in neighborhood planning and design, to ensure that infrastructure such as soundwalls do not create barriers to travel through neighborhoods on bicycle or on foot. (Local jurisdictions)
- 2l) Maintain existing and provide new shoulders, bicycle lanes, and sidewalks on all streets and rural roads to provide for better bicycle and pedestrian connectivity and safety where feasible. (Local jurisdictions)
- 2m) Support and deliver education programs for students and others to learn how to bicycle and walk safely. (511CC, Local jurisdictions)
- 2n) Improve trail crossings at arterials. (Local jurisdictions)



3. Continue the Growth Mitigation and Monitoring Program

The Contra Costa County growth management strategy reduces the traffic impacts of future development proposals in eastern Contra Costa County. Applying appropriate

mitigation to development projects can result in development that minimizes impacts on regional routes and provides amenities that facilitate and encourage the use of active transportation.

- 3a) Traffic studies are required for any development project or General Plan amendment that generates 100 or more net new peak hour vehicle trips, in order to achieve compliance with the Measure J Growth Management program. Results of traffic studies for projects and General Plan amendments that generate 100 or more net new peak hour vehicle trips should be shared with other jurisdictions, consistent with TRANSPLAN procedures, to allow for collaboration and comment. General Plan amendments that generate 500 or more net new peak hour vehicle trips must undergo the CCTA General Plan Amendment Review Procedure, outlined in Chapter 4 of the *Contra Costa Growth Management Program Implementation Guide*. (Local jurisdictions)

D. Maintain Existing Transportation Network to Support Safety and Efficiency

I. Encourage Adequate Maintenance

East County jurisdictions should work towards ensuring adequate funds and systems to properly maintain the transportation system. This applies to Routes of Regional Significance, public transit vehicles and facilities, bike and pedestrian facilities and park-and-ride lots.

- 1a) Maintain and enhance local pavement management systems. (Local jurisdictions)
- 1b) Continue to explore ways to increase revenue to maintain roads and provide arterial street improvements countywide (such as through gasoline taxes and toll bridge revenues). (Local jurisdictions)
- 1c) Work with MTC to provide funding to maintain and enhance local transit facilities and to purchase replacement of rolling stock. (MTC, CCTA, Transit operators)

E. Manage the Effects of New Growth on the Transportation System

I. Monitor and Update the East County Sub-Regional Transportation Mitigation Fee

The East Contra Costa Regional Fee and Finance Authority (ECCRFFA) administers a sub-regional transportation impact fee that is designed to use revenues generated by new growth to improve the regional transportation system to serve the travel demands of that growth.

- 1a) Periodically update the fee structure to ensure it will produce sufficient funds in light of current and anticipated growth rates and construction costs in East County. (ECCRFFA)
- 1b) Continue to update its Strategic Plan to reflect new trends or growth assumptions. (ECCRFFA)
- 1c) Continue to participate in the fee program through the East Contra Costa Regional Fee & Financing Authority. (ECCRFFA, Local jurisdictions)
- 1d) Explore ways to advance revenues from the fee program through the use of bonds or other financial mechanisms, such as tolls, gasoline taxes and other user fees. (TRANSPLAN)

2. Transportation Funding

Funding for adequate transportation systems and services comes from a wide variety of sources, and resources are limited. The East County is committed to advocating for increased transportation funding at the federal, State and regional level.

- 2a) Work with regional and state agencies to obtain a greater local share of gasoline taxes, toll bridge revenues and other sources for major projects. (TRANSPLAN, CCTA, Tri-Delta Transit, BART)
- 2b) Continue to explore ways to increase revenue to maintain roads and provide arterial street improvements countywide, such as through gasoline taxes and toll bridge revenues. (Local jurisdictions)

3. Pursue Balanced Growth in East County

East County jurisdictions have long been focused on growth policies and programs to promote more employment development within East County, in order to support shorter commutes for area residents and to more efficiently use available transportation capacity in what is now the “reverse commute” direction.

- 3a) Coordinate with economic development agencies and non-governmental organizations (NGOs) on a cooperative East County effort to attract new employment development. (Local jurisdictions)
- 3b) Support the study of new transportation facilities (such as TriLink/SR 239) that could attract new business development in East County by improving accessibility between East County and neighboring regions. (Local jurisdictions, TRANSPLAN, CCTA)
- 3c) Work with MTC and other agencies to implement regional initiatives such as OBAG/PDA development strategies. (Local jurisdictions, TRANSPLAN, CCTA)



Chapter 6

Procedures for Notification, Review and Monitoring

Action Plans are required to include a set of procedures to share environmental documents, review general plan amendments, and monitor progress in attaining the traffic service objectives. The procedures for notification, monitoring, and review are described below.

A. Circulation of Environmental Documents

The Action Plan is required to have a set of procedures to share environmental documents. This notification is to occur through the CEQA analysis process, at the following two junctures: first, upon issuance of a Notice of Preparation (NOP), and second, at the stage of Notice of Completion (NOC) of the draft EIR.

The Action Plan is to set the threshold level at which EIRs are to be circulated to neighboring jurisdictions. The maximum thresholds established by the Authority are 100 net new peak hour vehicle trips for development projects that do not involve a General Plan Amendment (GPA), and 500 net new peak hour vehicle trips for development projects that require a GPA. Following are examples of projects that could generate in excess of 100 net peak hour vehicle trips:

- A single-family residential development of more than 100 units
- A condominium development of more than 180 units
- A retail center of at least 14,000 square feet
- A general office building of at least 44,000 square feet

I. Procedure for Circulation and Review of Environmental Documentation

The following procedures are to be followed by the jurisdictions of TRANSPLAN regarding circulation of environmental documentation:

1. For any proposed project or general plan amendment that generates more than 100 trips during the peak hour for which an environmental document (Negative Declaration, or Environmental Impact Report or Statement) is being prepared, the Lead Agency shall issue a notice of intent to issue a Negative Declaration or a Notice of Preparation for an EIR to all Regional Transportation Planning Committee chairs or designated staff person, and to each member jurisdiction of TRANSPLAN.
2. TRANSPLAN shall notify its member jurisdictions of receipt of such notices from jurisdictions in other areas.

3. TRANSPLAN shall review development projects for compliance with the program for evaluating new development proposals outlined in Action C-3 in Chapter 5.
4. At signalized intersections where a TMP is in effect, the analysis of project impacts shall be based upon the applicable MTSO for signalized suburban arterials assuming normal traffic operations without the TMP. Further analysis may be performed to evaluate the impacts of the project on TMP operations. The Authority's Technical Procedures, however, do not require an operations analysis for TMPs, and the level of detail required for such an analysis is considered beyond the scope of a typical traffic impact study. Furthermore, the time period, mode of operation, and specific management strategy for corridors subject to a TMP may vary significantly from year to year, depending on specific objectives, field observations, enforcement levels, and driver acceptance.

B. Review of General Plan Amendments

This Action Plan was developed using land use forecasts that generally reflect future land development allowed within the framework of the adopted General Plans for jurisdictions within East County. General plan amendments enacted after adoption of the Action Plan could therefore adversely affect ability to meet the Action Plan goals, policies and objectives.

The CCTA *Implementation Guide* outlines the process for notification and review of the impact of proposed general plan amendments that exceed a specified threshold size. Furthermore, the process outlined below has been adopted by TRANSPLAN.

I. Procedure for Review of General Plan Amendments

The development review process identified in Action C-3 pertains to the review of General Plan Amendments. In addition to the project review procedures, the following procedures are to be followed for general plan amendments that generate more than 100 net peak hour vehicle trips:

The jurisdiction considering the amendment must either demonstrate that:

- The amendment will not violate Action Plan policies or adversely affect the ability to meet Action Plan MTSOs, or
- Propose modifications to the Action Plan that are acceptable to TRANSPLAN and will prevent the general plan amendment from adversely affecting the regional transportation network.

If neither of these can be done, approval of the general plan amendment by the lead jurisdiction may lead to compliance issues with the CCTA growth management program.

C. Schedule for Action Plan Review

The Action Plans should be periodically reviewed for effectiveness, and updated if there are significant changes in local or regional conditions. See Chapter 3 of the CCTA *Growth Management Program Implementation Guide* for guidance on the development and updates of Action Plans.

In general, the Action Plan review process involves:

- Regular monitoring of traffic conditions on regional routes and reporting to TRANSPLAN on MTSO performance.
- If any of the MTSOs have not been met, TRANSPLAN may consider preparing a focused revision to the Action Plan.
- A complete review of the Action Plan should be made on a four- to five-year cycle.
- Individual corridors may be reviewed as deemed appropriate by TRANSPLAN.

D. Implications for Compliance with the Measure J Growth Management Program (GMP)

The CCTA *Implementation Guide* describes the GMP conditions for compliance that relate specifically to Routes of Regional Significance and the Action Plans as listed below:

1. Participating in the preparation and adoption of Action Plans.
2. Implementation of actions to attain MTSOs.

3. Placing conditions on project approvals consistent with the Growth Management Strategy.
4. Circulation of environmental documents as specified in the Action Plan and consistent with Authority policy.
5. Participation in the General Plan Amendment review procedure.

If, however, through CCTA's monitoring program it is determined that the MTSOs are not being met, then this information would be conveyed to TRANSPLAN for consideration in its periodic review of the Action Plan. The *Implementation Guide* states that if satisfactory progress is observed, then implementation of the Action Plan will continue. If progress has not been satisfactory, a revision to the Action plan may be necessary.

Process for Addressing MTSO Exceedances

From time to time, the MTSOs are monitored to determine whether they are being achieved. In addition, the MTSOs are evaluated to determine if they can be achieved in the future. For this update to the Action Plan, the MTSOs were monitored in 2013, and the traffic forecasts were prepared and evaluated for 2040. In both cases, exceedances of the adopted MTSOs were observed.

Under adopted CCTA policy, exceedance of an MTSO does not constitute a compliance issue with the Growth Management Program.

The primary purpose of the MTSOs is to provide TRANSPLAN with a quantitative measure of transportation system performance that can be consistently applied as a metric for gauging the impacts of future growth and mitigating those impacts. The MTSOs that TRANSPLAN has adopted for its Plan are by no means the "lowest common denominator." To the contrary, they reflect TRANSPLAN's broader objective to ensure an acceptable level of mobility for its residents and workers to sustain the economy and maintain quality of life.

It is not surprising, therefore, given the level of expected growth in East County, coupled with the constraints on adding new capacity to the system, that some MTSOs may be exceeded either today or in the future.

When an exceedance has been determined, either through monitoring or during the Action Plan update process, the only action required under this Plan is that TRANSPLAN

document the condition, and continue to monitor and address the MTSOs in future updates to the Plan under the timeframe established in this chapter.

In the case where a proposed development project or General Plan Amendment causes an exceedance, or exacerbates a situation where an already exceeded MTSO is worsened, then the procedures in this chapter regarding development application review and general plan amendments shall apply.



Appendix A:

MTSO Values

CCTA regularly monitors the values of the MTSOs defined by all of the subregions in their Action Plans for Routes of Regional Significance. The most recent monitoring effort was conducted in early 2013. CCTA is also responsible for forecasting the values of the MTSOs at a given horizon year (which for the purposes of this plan is the year 2040). The 2040 forecasts are the result of applying the CCTA regional travel demand model and reporting the future traffic volumes generated by that model application. It should be noted that the model results are intended to give an idea of the order-of-magnitude changes in traffic volumes anticipated across the region; much more detailed and refined studies would be undertaken for any specific project. This appendix contains the 2013 values reported for the TRANSPLAN area as part of the regular monitoring effort and the 2040 forecasts of those values. Please see the CCTA report titled “2013 CMP and MTSO Monitoring Report” for further information.

Delay Index Results

Table A-1: East Contra Costa County Freeway MTSO Values SR-4 Freeway Analysis - AM Peak Hour								
Direction	Free Flow Speed (mph)	MTSO	2013 Observed		2040 Forecast No Project		2040 Forecast With Actions	
		Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index
EB	65	2.5	61	1.1	53	1.2	54	1.2
WB	65	2.5	49	1.4	31	2.1	51	1.3
Note: Delay Index for this report is calculated as the distance-weighted average speed across all freeway segments within the East County area.								

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-2: East Contra Costa County Freeway MTSO Values SR-4 Freeway Analysis - PM Peak Hour								
Direction	Free Flow Speed (mph)	MTSO	2013 Observed		2040 Forecast No Project		2040 Forecast With Actions	
		Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index	Speed (mph)	Delay Index
EB	65	2.5	46	1.4	36	1.8	45	1.4
WB	65	2.5	51	1.3	52	1.2	52	1.2
Note: Delay Index for this report is calculated as the distance-weighted average speed across all freeway segments within the East County area.								

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Table A-3: East Contra Costa County Freeway MTSO Values SR-4 HOV Utilization							
Direction	MTSO (vph)	2013 Observed (vph)		2040 Forecast No Project		2040 Forecast With Actions	
		AM	PM	AM	PM	AM	PM
EB	600	-	1029	-	2077	-	1571
WB	600	826	-	1742	-	1148	-

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Rural Roadway Results

Table A-4: East Contra Costa County Rural Roadway MTSO Values

Roadway Segment	Beginning/End	MTSO	2013 Observations				2040 Forecast No Project				2040 Forecast With Actions			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)	LOS	Speed (mph)
Byron Highway	Delta Rd/Subarea limit	D	D	42.8	D	43.1	E	16.6	E	23.2	A	56.2	A	58.1
Marsh Creek Road	Bixler Rd/Subarea limit	D	C	45.5	C	45.7	D	44.8	C	45.2	C	45.2	C	45.6
Camino Diablo Road	Marsh Creek Rd/Bixler Rd	D	C	49.1	C	48.6	B	50.4	C	48.4	B	51.2	C	47.9
Deer Valley Road	Prewett Ranch/Antioch limit	D	D	42.7	D	44.1	E	33.8	E	22.5	D	44.2	C	45.4
Walnut Boulevard	Camino Diablo/Armstrong Rd	D	D	40.7	D	40.5	D	40.6	D	40.5	D	40.7	D	40.5
Cypress Road	Sellers Ave/Sandmound Blvd	D	D	41.2	D	42.0	D	41.0	D	41.1	D	41.1	D	41.7
Deer Valley Road	Antioch limit/Marsh Creek	D	D	41.0	D	41.0	D	40.3	E	39.0	D	41.3	D	41.6
Sellers Avenue	Contra Costa Canal/Marsh Creek Rd	D	C	47.9	C	47.1	C	47.9	C	47.0	D	44.2	D	43.4
State Route 160	Within County Limits	D	D	41.3	D	40.3	SR-160 will be converted to a freeway							
Balfour Road	Sellers Ave/Bixler Rd	D	D	46.4	C	47.0	C	46.3	C	46.8	C	46.3	C	46.7
Vasco Road	Marsh Creek Rd/Subarea limit	D	C	47.8	C	47.8	E	20.1	E	25.3	E	36.3	D	44.0
Note: Text shown in red indicates not meeting the MTSO.														

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

Intersection Results

Table A-5: East Contra Costa County Intersection MTSO Values

Int. No	Primary Street	Secondary Street	MTSO	2013 Observations				2040 Forecast No Project				2040 Forecast With Actions			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
1	18th St-Main St (SR-4)	SR-160 SB ramps	D	B	15.3	B	17.0	B	14.7	B	15.1	B	14.5	B	15.6
2	Main St (SR-4)	SR-160 NB ramps	D	B	14.2	B	16.9	A	8.9	B	14.1	A	8.6	C	23.7
3	Main St (SR-4)	Nelroy Rd-Bridgehead Rd	D	C	23.4	C	29.5	C	20.2	C	29	C	22.2	D	38.2
4	Main St (SR-4)	Big Break Rd	D	C	24.5	D	37.3	F	168.3	F	^^^	F	140.0	F	^^^
5	Main St (SR-4)	Empire Rd-Charles Wy	D	C	24.1	C	23.2	D	46.5	D	36.8	E	62.5	F	116.3
6	Main St (SR-4)	Cypress Rd	D	D	36	C	22.6	D	44.1	C	34.5	D	43.7	C	34.4
7	Main St (SR-4)	Delta Rd	D	^^	^^	^^	^^	^^	^^	^^	^^	F	291.5	F	^^^
8	Brentwood Blvd (SR-4)	Lone Tree Wy	D	C	25.3	C	31.6	F	133.1	F	100.6	F	96.1	F	114.5
9	Brentwood Blvd (SR-4)	Sand Creek Rd	D	C	29.7	C	28.6	C	32.0	D	36.1	C	24.3	C	27.6
10	Brentwood Blvd (SR-4)	Central Blvd-Sycamore Rd	D	B	17.6	B	19.9	C	26.5	C	28.4	C	26.9	C	28.9
11	Brentwood Blvd (SR-4)	Oak St	D	C	27.7	C	26.3	D	48.0	E	57.1	C	22.8	C	30.3
12	Brentwood Blvd (SR-4)	Balfour Rd	D	D	54.7	D	54.3	F	122.8	F	93.8	D	41.3	D	48.5
13	Walnut Blvd	Oak St	D	B	18.8	B	14.8	D	54.2	D	37.6	C	23.9	B	17.4
14	Walnut Blvd	Balfour Rd	D	D	41.0	D	35.3	F	98.7	E	74.4	D	39.2	D	49.5
15	Walnut Blvd	Marsh Creek Rd	D	C	29.3	D	47.6	F	250.4	F	250.8	F	248.7	F	^^^
16	Bailey Rd	Willow Pass Rd	E	C	24.0	C	21.8	D	46.7	D	43.0	C	24.6	B	18.8
17	Bailey Rd	SR-4 WB ramps	E	C	21.6	B	13.6	C	34.9	C	24.9	C	25.3	B	17.4

Table A-5: East Contra Costa County Intersection MTSO Values

Int. No	Primary Street	Secondary Street	MTSO	2013 Observations				2040 Forecast No Project				2040 Forecast With Actions			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
18	Bailey Rd	SR-4 EB ramps	E	C	21.6	C	27.6	D	38.6	F	131.4	C	25.9	D	44.2
19	Bailey Rd	Leland Rd	E	D	39.1	D	39.0	F	100.1	F	123.5	F	82.1	F	132.7
20	Railroad Ave	Canal St-SR-4 WB on-ramp	D	D	38.1	C	21.2	E	68.2	C	29.9	E	58.0	C	23.9
21	Railroad Ave	SR-4 EB ramps	D	D	36.2	C	34.9	D	35.7	F	107.0	D	41.2	E	74.4
22	Railroad Ave	Leland Rd	D	E	59.0	F	81.9	F	141.9	F	144.2	F	125.2	F	132.7
23	Railroad Ave	Buchanan Rd	D	C	34.2	C	22.8	D	48.8	C	33.5	C	21.9	C	29.7
24	Somersville Rd	SR-4 WB ramps	D	C	21.4	C	25.6	D	36.2	D	38.8	B	19.3	C	23.5
25	Somersville Rd	SR-4 EB ramps	D	B	10.9	B	10.3	B	19.9	F	205.7	B	10.6	F	133.0
26	Somersville Rd	Delta Fair Blvd	D	C	31.1	D	36.5	D	38.1	D	49.7	D	41.4	D	54.7
27	Somersville Rd	Buchanan Rd	D	D	47.1	D	39.9	F	104.8	C	34.4	C	23.0	C	25.1
28	Lone Tree Wy-A St	SR-4 WB ramps	D	C	20.4	D	34.3	C	21.2	E	63.5	B	10.4	C	20.6
29	Lone Tree Wy	SR-4 EB ramps	D	C	29.5	C	29.7	D	36.2	C	35.0	B	12.8	B	17.0
30	Lone Tree Wy	W Tregallas Rd	D	B	16.0	C	20.2	D	50.0	C	34.4	D	36.3	C	34.4
31	Lone Tree Wy	James Donlon Blvd	D	D	47.7	D	36.9	D	49.6	C	29.7	E	77.4	D	45.2
32	Lone Tree Wy	Deer Valley Rd	D	D	41.1	D	43.6	D	48.2	D	40.3	D	38.7	C	30.2
33	Lone Tree Wy	Hillcrest Ave	D	C	33.9	C	34.7	C	27.4	C	32.2	C	22.3	C	24.2
34	Lone Tree Wy	Empire Ave	D	D	38.3	D	36.9	C	23.3	C	31.1	B	19.4	C	28.9
35	Lone Tree Wy	Fairview Ave	D	D	48.6	D	46.9	E	72.6	E	61.5	B	16.4	B	18.3
36	Lone Tree Wy	O'Hara Ave	D	D	38.1	D	37.9	D	49.9	F	104.0	F	88.1	E	62.7

Table A-5: East Contra Costa County Intersection MTSO Values

Int. No	Primary Street	Secondary Street	MTSO	2013 Observations				2040 Forecast No Project				2040 Forecast With Actions			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
37	Hillcrest Ave *	SR-4 WB ramps	D	C	26.4	C	27.6	D	38.9	C	32.4	A	6.7	A	7.4
38	Hillcrest Ave	SR-4 EB ramps	D	C	23.2	C	27.5	D	54.7	F	184.4	B	14.7	F	85.6
39	Hillcrest Ave	Deer Valley Rd	D	C	29.9	C	30.8	D	37.4	D	49.0	C	27.8	C	31.6
40	Leland Rd	Loveridge Rd	D	D	48.2	D	38.2	E	58.0	D	52.3	D	49.0	D	36.9
41	Buchanan Rd	Loveridge Rd	D	C	34.5	C	20.4	D	38.7	C	20.0	C	26.6	B	17.8

Text shown in red indicates not meeting the MTSO.

^^ Existing intersection configuration cannot be modeled in Synchro

^^^ Average intersection delay exceeds 300 seconds

* Under Year 2040 With Actions, this intersection is realigned to intersect with Sunset Drive

Year 2040 With Actions analysis assumed the following improvements:

- #51 Westbound approach is widened to provide one left-turn lane and three through lanes
Eastbound approach is widened to provide two through lanes and one shared through-right-turn lane
Northbound approach is widened to provide two left-turn lanes and two right-turn lanes
- #52 Eastbound approach is widened to provide a one left-turn lane, three through lanes, and one right-turn lane
- #53 Northbound approach is widened to provide one left-turn lane, three through lanes, and one right-turn lane
- #56 Converted from two-way stop to all-way stop control to get Synchro analysis to work
- #57 Northbound approach is widened to provide one left-turn lane, two through lanes and one right-turn lane
- #73 Northbound approach is widened to provide two left-turn lanes and two through lanes
- #74 Southbound approach is widened to provide two left-turn lanes and three through lanes
Eastbound approach is widened to provide two left-turn lanes and two right-turn lanes
- #77 Northbound approach is widened to provide two left-turn lanes and two through lanes

Table A-5: East Contra Costa County Intersection MTSO Values

Table A-5: East Contra Costa County Intersection MTSO Values															
Int. No	Primary Street	Secondary Street	MTSO	2013 Observations				2040 Forecast No Project				2040 Forecast With Actions			
				AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
				LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
#78	Eastbound approach is widened to provide one left-turn lane, one shared through-left lane, and one right-turn lane														
	Southbound approach is widened to provide two left-turn lanes and two through lanes														
#84	Eastbound approach is widened to provide one left-turn lane, one shared through-left lane, and two right-turn lanes														
	Eastbound approach is widened to provide one left-turn lane, three through lanes and one right-turn lane														
#85	Westbound approach is widened to provide one left-turn lane, three through lanes, and one right-turn lane														
	Eastbound approach is widened to provide one left-turn lane, one through lane, and one right-turn lane														
#86	Westbound approach is converted to provide one left-turn lane, one through lane, and one through-right lane														
	Intersection is realigned so that ramps are located at Sunset Drive														
	For the No Action Plan scenarios, only the WB off-ramp is realigned; intersection analysis remains on Hillcrest														
	For the Action Plan scenarios, both WB on and off-ramps are located at Sunset, where the intersection analysis occurs														
	Northbound approach is one left-turn lane and one shared left-right lane														
	Eastbound approach is one through lane and one right-turn lane														
	Westbound approach is one through lane and one left-turn lane														

Source: CCTA MTSO Monitoring Report, 2013 and CCTA Travel Model, 2014

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