Alameda CTC
2011 Performance Report

September 2012

ALAMEDA
County Transportation
Commission

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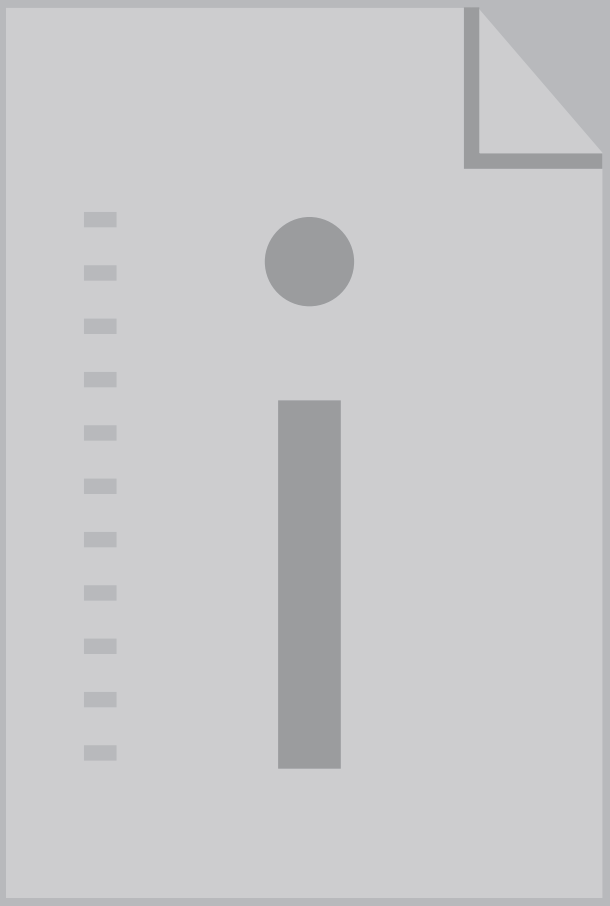

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Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
ACCMA	Alameda County Congestion Management Agency
ACE	Altamont Commuter Express
ACTA	Alameda County Transportation Authority
ACTIA	Alameda County Transportation Improvement Authority
Alameda CTC	Alameda County Transportation Commission
ADA	Americans with Disabilities Act
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Caltrans	California Department of Transportation
CCJPA	Capitol Corridor Joint Powers Authority
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CMA	Congestion Management Agency
CMP	Congestion Management Program
CTC	California Transportation Commission
CWTP	Countywide Transportation Plan
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	Greenhouse Gases
LAVTA	Livermore-Amador Valley Transportation Authority
LOS	Level of Service
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
NEPA	National Environmental Policy Act
PCI	Pavement Conditions Index
PM	Particulate Matter
SCS	Sustainable Communities Strategy
SR	State Route
SJRRC	San Joaquin Regional Rail Commission
SWITRS	Statewide Integrated Traffic Records System
TEP	Transportation Expenditure Plan
VHD	Vehicle Hours of Delay
VMT	Vehicle Miles Traveled

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Executive Summary

The Alameda County Transportation Commission (Alameda CTC) develops the Countywide Transportation Plan (CWTP) and the Congestion Management Program (CMP) to assist in guiding long term and nearer term transportation investment in Alameda County. Based on the adopted goals in the CWTP and CMP, specific performance measures are developed to provide an objective and technical means to measure how well projects and programs performed together to meet those goals.

The legislatively required CMP includes five elements; one is the Performance Element. In this regard, specifically, the CMP must contain performance measures that evaluate how highways and roads function, as well as the frequency, routing, and coordination of transit services. The performance measures should support mobility, air quality, land use, and economic objectives and be used in various facets of the CMP. Alameda CTC expanded the performance measures beyond what is required by the CMP legislation to monitor multi-modal transportation system performance as well as sustainability and climate change.

Alameda CTC monitors and tracks progress on how well the transportation system is performing through two documents: the annual State of Transportation in Alameda County (the Performance Report) and the biennial Level of Service Monitoring Report. The Performance Report—this document—summarizes how well the transportation system functions in Alameda County. This report is organized around the annual performance of roadways, transit, and bicycling and walking. Starting with this year, the report also includes a section on livable communities. Figure ES1

illustrates the relationship of the Performance Report with other Alameda CTC plans and documents.

This Performance Report covers Fiscal Year 2010-11. Since that time, the state budget has resulted in further reduced transportation funds, with even less funding going to roadway improvements and transit; therefore, the Performance Report statistics may not show the current, full effect of state budget cuts on the state of Alameda County's transportation system.

This section presents major findings about how the different transportation modes performed in Alameda County in 2010-11 as compared to previous years. The data are categorized by performance measures identified in the CMP, which have been updated to be consistent with CWTP.

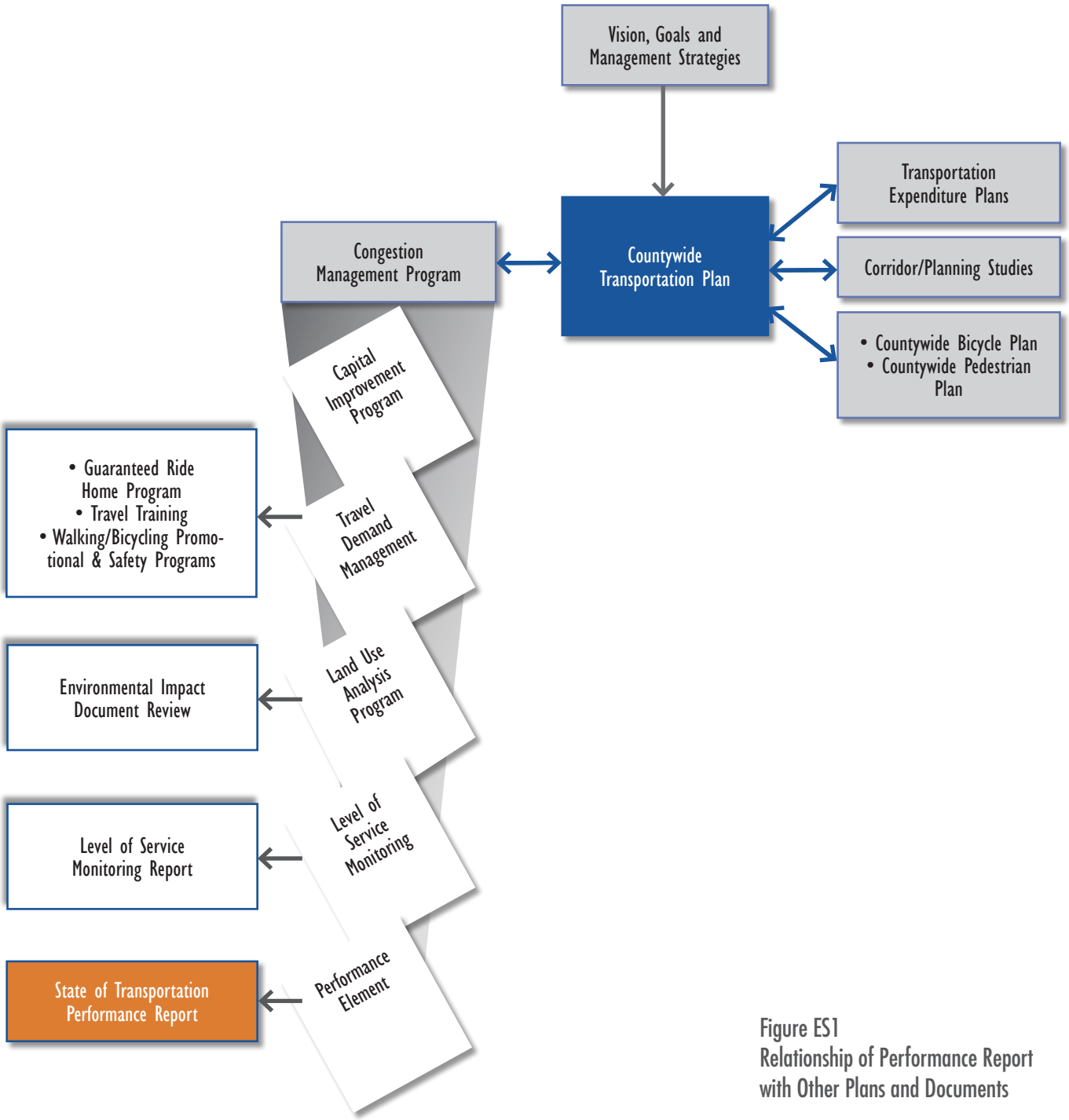

Figure ES1
Relationship of Performance Report with Other Plans and Documents

Roadways

Alameda County's roadways are the backbone of its transportation system, facilitating regional travel and connecting the county with major Bay Area destinations as well as communities within the county. It is important to remember that although roadways are most often associated with auto trips, they are also essential for carrying all modes of travel, including freight, auto, transit, bike, and pedestrian trips.

A variety of methods and data are used to measure the performance of roadways in Alameda County. For this 2010-11 Performance Report, data related to travel time and congestion measures are based on the 2010 Level of Service (LOS) Monitoring Study. The 2012 LOS Monitoring Study is currently underway, and its data will be reported in the 2011-12 Performance Report. All other reported data are consistent within the 2010-11 timeframe.

Summary: 2010 showed the highest rate of uncongested roadways (66 percent of freeways and 80 percent of arterials performing at LOS A or B) in Alameda County since 2000 likely due to the economic downturn and high price of gasoline. Collisions on Alameda County freeways generally decreased with the largest reduction on I-238. While freeways show improvement with 11 percent reduction in roadway lane-miles in need of rehabilitation, other state routes show degradation with 22 percent increase across the county on all state routes. Travel time between selected origin-destination pairs by auto has increased and by transit has slightly reduced between 2008 and 2010. The average pavement condition for Alameda County roadways has remained relatively consistent since 2006, approximately at 66 Pavement Condition Index (PCI), close to the 60-point threshold at which deterioration begins to accelerate.

Duration and Amount of Congestion

Prepared biennially (even-numbered years), the CMP requires that LOS standards be established and monitored on the CMP-designated roadway system. This measure determines how much traffic congestion is on county freeways and arterial roadways. Objectives of this monitoring effort are the following:

- Determine the existing average travel speeds and LOS.
- Identify roadway segments in the county that are operating at LOS F (severely congested).
- Identify long-term trends in traffic congestion on the CMP network.

For the purposes of this report, the CMP roadways were last monitored during spring 2010. Data from the 2012 LOS Monitoring Study that is underway will be reported in the 2011-12 performance report. LOS is measured from A to F with A representing no congestion and F representing the most congestion.

Overall, findings indicate congestion was reduced between 2008 and 2010. This is likely due to the continued economic downturn and high price of gasoline. Below are highlights from the 2010 LOS Monitoring Report as compared to 2008 findings:

- Over the last 12 years, average speeds on freeways and arterials during the evening peak remained relatively stable, while speeds on freeways during the morning peak has steadily increased between 2000 and 2010.
- Year 2010 showed the highest rate of non-congested freeways performing at LOS A since 2000.
- The percentage of freeways performing at LOS F increased from 11 to 13 percent in 2010, indicating localized congestion in specific locations.
- The percentage of uncongested arterials improved from 72 percent in 2008 to 80 percent in 2010.

In addition to LOS analysis, the Metropolitan Transportation Commission (MTC) has collected information since 2004 on how much time travelers are delayed because of congestion on freeways in Alameda County and the Bay Area. Caltrans collected this information prior to 2004. However, no new data has been collected since 2008, so updated freeway congestion data will be reported in future performance reports as it becomes available.

Average Speed

This measure assesses the speed of the vehicles traveling on county roadways. Average speed is the average vehicular travel speed over specified roadway segments during the peak period.

Over the last 10 years, travel time during the afternoon peak, as measured by speed, remained relatively stable. Travel time during the morning peak has steadily increased since 2000.

Between 2008 and 2010, the travel time surveys showed a 0.8 mile per hour (mph) increase in average speeds on the freeway system and a 3.0 mph increase in speeds on the arterials during the afternoon peak period. The few freeway corridors that experienced degradation in service levels were mostly caused by construction activity occurring in the county.

Travel Time

This measure determines the time it takes to travel from one location to another using the county's multi-modal transportation system. Since 1996, travel times have been compared for automobile and transit for 10 origin-destination pairs in Alameda County.

Travel times for automobile have increased, while transit travel times for transit have decreased since 2008. However, compared to 2002, auto travel time has improved on seven routes and transit travel time has degraded on six routes. Significant improvements in both auto and transit travel times are seen for travel between Fremont and San Jose for this period.

Ratio of Peak to Off-Peak Travel Time

Ratio of Peak-to-Off-Peak travel time is one of the new performance measures added based on the adopted measures from the 2012 CWTP. It measures the reliability of the county transportation system for auto, transit and truck modes and indicates whether the user can count on getting to their destination on time. Alternatively, this measure indicates the additional time spent on a trip made during peak traffic hours when compared to an identical off-peak trip. A travel time index value of 1.2 means that a 30 minute free flow trip will take 36 minutes (20 percent additional time) during the peak hour period or a 20 percent delay due to congestion and hence affects the reliability of travel during the peak period.

Data from the countywide model for year 2005 for selected origin-destination pairs shows that peak period travel time is longer for almost all of the time periods for these pairs, with the exception of travel between East Alameda County and Central San Jose for the afternoon peak periods, indicating travel during peak period is less reliable.

Road Maintenance

This measure evaluates the quality of roadway pavement throughout the county.

MTC monitors the quality of pavement on local streets throughout the county and ranks all roadway types ranging between excellent and poor. The MTC also weights the average Pavement Condition Index (PCI) for the general pavement condition in the county, as

well as for each jurisdiction. PCI is rated from 1 to 100, with 100 representing new roads.

In 2010, approximately 70 percent of all the roadways in Alameda County were reported to be in fair to excellent condition. Pavement in poor to very poor condition represented 30 percent of the county's roadways. Overall, the average PCI on Alameda County roadways for 2010 was 65.6, and has remained relatively consistent since 2006. However, the average Alameda County PCI represents pavement conditions throughout 15 jurisdictions. This average covered a range from 56 to 82 and varied by jurisdictions.

Alameda County has shortfalls for the local streets and roads funding through 2035 to maintain the existing PCI ($3.2 billion shortfall), and State of Good Repair that represents a PCI of 75 ($5.7 billion shortfall).

For state facilities, road quality is measured by the number of lane-miles needing rehabilitation. The 2010 Caltrans Pavement Survey showed that 93 lane-miles of freeways are in need of rehabilitation in Alameda County. The freeway with the greatest improvement shown in 2010 is I-680.

Collisions

This measure looks at the number and location of vehicular collisions occurring in the county. Although collision rates on Alameda County freeways generally declined over the past year, collisions along SR-13, I-680, and I-980 increased. Along SR-13, collisions more than doubled during the first nine months of 2010 as compared to the same period in 2009. Of all the freeways, I-238 had the largest reduction of collisions (more than 50 percent) likely due to the completion of the I-238 widening project. SR-24 and SR-84 also had relatively large reductions in collisions (20 percent and 35 percent, respectively).

Transit

Transit service in Alameda County includes multiple modes (rail, bus, ferry, and shuttle) and is provided by a number of public and private operators. The two major operators in the county—Bay Area Rapid Transit (BART) and Alameda County Transit (AC Transit)—account for the majority of transit usage. Shuttles also play a significant role in the county's transit network, as they often bridge gaps between activity centers and transit.

Transit ridership by rail (BART and ACE) and ferry increased between 2009 and 2010, while LAVTA and AC Transit showed a decline. Annual total transit ridership in Alameda County continued to decline in 2010-11 that began in 2003-04, with AC Transit experiencing the largest decline. Even though gross ridership on AC Transit fell likely the result of service cuts over the last several years, other indicators such as ridership per revenue vehicle hour and ridership per revenue vehicle mile either increased or stayed the same compared to 2009 indicating increased efficiencies with their operation.

Overall, it can be expected that as the economy begins to rebound—and if the state budget continues to result in cuts in transportation—Alameda County will be challenged to keep pace with needed transit investments and improvements.

Ridership

Through four different measures (annual ridership, weekday boardings, ridership per revenue vehicle mile, and ridership per revenue vehicle hour), ridership quantifies the number of people that use transit. Overall, transit ridership has declined more than 2 percent between 2009 and 2010. Livermore-Amador Valley Transportation Agency (LAVTA) maintained fairly level ridership numbers compared to the previous year. BART, Union City Transit, Alameda Harbor Bay Ferry, and Altamont Commuter Express experienced increased ridership while AC Transit experienced a decrease.

For the two major transit operators in the county - AC Transit and BART - weekday boardings compared to 2009-10 dropped for AC Transit by 3.3 percent and BART experienced an increase in ridership by 4.3 percent in 2010-11. However, ridership per revenue vehicle mile increased slightly for AC Transit from 2.9 to 3.0 revenue vehicle miles and remained same for BART at 1.7, and ridership per revenue vehicle hour improved for both operators, indicating efficiencies in service operations.

Service Coordination

Service coordination determines how well the services provided by different operators are being coordinated among destinations to provide better transfer opportunities for the travelers. Alameda County continues to provide multiple transfer points, where riders can connect between various transit providers.

Such coordination serves a number of transportation terminals during peak-commute periods, excluding school breaks. To date, the greatest numbers of transfer opportunities are found along the BART lines. In addition, AC Transit, Hayward Greyhound, and LAVTA continue to expand connectivity opportunities.

Vehicle Maintenance

This measure evaluates how often and to what extent transit vehicles need repairs, and how vehicle maintenance affects transit service. Bus and rail operators use different indicators to manage vehicle maintenance: bus operators report on Miles between Mechanical Road Calls, and rail operators report on the Mean Time between Failures. Improvements in vehicle maintenance are generally attributed to aggressive maintenance programs and operational improvements, while declines in maintenance are primarily due to aging fleets.

In Alameda County, bus operators include AC Transit, LAVTA, and Union City Transit. During 2010-11, AC Transit reported a 23 percent decrease in Miles between Mechanical Road Calls (compared to 2009-10), while LAVTA and AC Transit showed a 30 percent and a 70 percent increase, respectively.

Rail operators include BART and Altamont Commuter Express (ACE). In 2010-11, BART had a 7 percent increase in the Mean Time between Failures, while ACE showed an 11 percent decrease.

Routing

Using directional route miles, service coverage and total annual passenger boardings, routing quantifies how much transit service is provided.

In general, although service has varied year to year, 2010-11 shows continued decline in all three measures compared to 2008-09. Directional route miles and annual passenger boardings are among the lowest in the last 10 years, while directional route miles peaked in 2008-09 and annual passenger boardings in 2003-04 when it crossed the 100 million boardings mark.

Frequency

Frequency is measured by how often transit service is provided on each route. For example, BART and bus service are typically measured by the number of minutes between vehicles, and Capitol Corridor and ACE service is measured by the number of train lines provided throughout the day. Frequency of train service has remained fairly stable in the last 10 years, with 2.5 to 15 minute service during the peak periods. Bus frequency in the county peaked 10 years ago, and has declined since then. During the peak commute hours, 18 percent (19 routes) of buses arrived every 15 minutes or less in 2010-11, as opposed to 30 percent (39 routes) in 2001-02.

Bicycling

The Countywide Bicycle Plan was adopted in 2001, amended in 2006, and is currently being updated by Alameda CTC. Adoption of the updated Bicycle Plan is anticipated in October 2012. For the 2010-11 Performance Report, results and goals from the 2006 Bicycle Plan are reported. The Performance Report measures progress towards implementing the Bicycle Plan using four measures to measure progress toward meeting the 2006 Bicycle Plan's goals: completed high priority projects, bicycle counts, bicycle collisions and local bicycle plan status.

The County is making progress in implementing the High Priority Projects identified in the 2006 Bicycle Plan. As of 2011, 13 of 15 jurisdictions in Alameda County had an adopted stand-alone bicycle plan or combined Pedestrian/Bicycle Plan and one jurisdiction was in the process of developing a plan. Bicycle counts show that bicycling has increased countywide by 50 percent between 2002 and 2010. During the same period, the number of collisions increased by only 14 percent, suggesting that the rate of collisions, which is a more accurate indicator of safety of bicycling, has actually declined.

Completed High Priority Projects

This measure reports how many high priority projects were constructed in 2010-11. The Bicycle Plan includes a list of 16 High Priority projects, or projects expected to be completed by 2010 (within four years of adoption of the 2006 Bicycle Plan).

As of the end of FY 2009-10, one project had been constructed. In FY 2010-11, local jurisdictions reported progress on 9 of the 15 High Priority projects, including partial completion of one project—bicycle lanes on Fremont Boulevard from West Warren Avenue to the street's southern terminus (totaling 1.5 miles). Of the Bicycle Plan's 549-mile Vision Network, 240 miles have been constructed (about 44 percent of the Vision Network).

Bicycle Counts

This measure reports how the trends in the number of people traveling by bicycle. Between 2002 and 2010, bicycling increased by 50 percent, as shown in weekday evening bicycle counts conducted by the Alameda CTC at nine locations. Since 2010, the Alameda CTC and MTC have coordinated with local jurisdictions to monitor the number of bicyclists traveling through several major intersections in Alameda County. Additional countywide bicycle counts have also been conducted through other partnerships—all with the goal of measuring the levels of bicycling activity and countywide trends over time.

From 2008 to 2010, bicycle counts increased by 20 percent. Although there was an overall average increase in counts at the set of nine locations, counts increased at six sites and decreased at three. In 2010, the counts for a two-hour period ranged from a high of 476 bicyclists (Hearst/Milvia in Berkeley) to a low of 6 bicyclists (Stoneridge/Hopyard in Pleasanton).

Bicycle Collisions

Between 2008 and 2009, bicyclist collisions resulting in injuries and fatalities decreased by 2 percent (from 669 to 653 collisions). Since 2002, the number of bicycle collisions has varied, but overall it has risen by 14 percent. There were two fatalities in 2009, which was slightly below the eight-year average of three fatalities per year.

Local Bicycle Plan Status

This measure assesses how many jurisdictions have bicycle plans. As of 2011, 13 of the 15 jurisdictions in Alameda County had an adopted stand-alone bicycle plan or combined pedestrian/bicycle plan, and one jurisdiction (Newark) was in the process of developing a plan.

Walking

The first Countywide Strategic Pedestrian Plan was adopted in 2006 and is currently being updated. Adoption of the Pedestrian Plan is anticipated in October 2012. For the 2010-11 Performance Report, results and goals from the 2006 Pedestrian Plan are reported. The Pedestrian Plan identifies and prioritizes pedestrian improvements and programs that will increase walking and improve safety countywide. Performance measures to monitor progress toward the Pedestrian Plan's goals and objectives include four measures: completed projects, pedestrian counts, pedestrian collisions and local pedestrian plan status.

As of 2011, nine of the 15 jurisdictions in Alameda County had an adopted stand-alone pedestrian plan or combined pedestrian/bicycle plan, and two more jurisdictions were in the process of developing a plan. Pedestrian counts have increased countywide by 41 percent between 2002 and 2010. During the same 8-year period, the number of collisions decreased by 31 percent, suggesting that the rate of collisions, which is a more accurate indicator of safety of walking, has significantly declined countywide.

Completed Projects

This measure reports how many improvements to pedestrian access were completed. Capital projects in the Pedestrian Plan are focused in areas of countywide significance, which is defined as "places that serve pedestrians traveling to and from a variety of locations through Alameda County and beyond." The three targeted areas are transit, activity centers, and inter-jurisdictional trails.

Nine projects of countywide significance were completed in FY 2010-11, including seven that made improvements to accessing transit and four projects along trails (the Bay Trail and Iron Horse Trail), and Atlantic/Webster Streets Intersection Improvements in Alameda.

Pedestrian Counts

Pedestrian counts are collected to monitor the trend in terms of how many people walk at key intersections. Between 2009 and 2010, walking increased by 15 percent, as shown in weekday evening pedestrian counts conducted by the Alameda CTC at 21 locations. Since 2002, a variety of countywide pedestrian counts have been conducted to measure levels of pedestrian activity and countywide trends.

Six locations in the county were counted in 2002 and again in 2010. Over these eight years, there was a 41 percent increase in the number of pedestrians counted, showing a long-term overall upward trend in walking in the county.

Pedestrian Collisions

From 2008 to 2009, pedestrian collisions—resulting in injuries and fatalities—decreased by 18 percent to 591 pedestrians. The number of pedestrian fatalities also decreased to 10 people in 2009, which was much lower than the 8-year average of 23 fatalities per year. This is an overall trend of decreasing pedestrian collisions, even as the number of people walking increases.

Local Pedestrian Plan Status

This measure appraises how many jurisdictions have pedestrian plans. As of 2011, 9 of the 15 jurisdictions in Alameda County had an adopted stand-alone pedestrian plan or combined pedestrian/bicycle plan, and two more jurisdictions were in the process of developing a plan. Four jurisdictions neither had a local pedestrian master plan nor was one under development: Dublin, Hayward, Livermore, and Piedmont.

Livable Communities

This is a new section added in this performance report. Many legislative and regulatory changes have led to a new focus on coordinating transportation planning and investment decisions with existing and future land use patterns. New performance measures were identified to track progress of the performance of the countywide transportation system and land use developments in terms of meeting the climate change and sustainability goals adopted in the CWTP. Since this is the first time data is reported for these measures, these will be used as reference points to track progress in the future. There are six measures that establishes the baseline data and are intended to track the adopted goals regarding sustainability and greenhouse gas reduction:

- Trips by Alternative Modes,
- Average Daily Travel Time for Bicycle and Pedestrian Trips,
- Low Income Households Near Activity Centers,
- Low Income Households Near Transit,
- CO_2 Emissions, and
- Fine Particulate Emissions.

Based on the 2010 American Community Survey, 67 percent of Alameda County workers drove alone to work and 27 percent used alternative modes and 5 percent worked at home. In 2005, the average bike trip in the county took 17 minutes while the average walk trip was about 23 minutes. In terms of air quality, the daily CO_2 emissions in Alameda County in 2005 was 12,727 tons/day (18.6 pounds/capita) and the PM 2.5 was 2.3 tons/day.

Data for the measure 'Low Income Households Near Transit' will be reported in the 2011-12 Performance Report.

Trips by Alternative Modes

This measure evaluates how many trips are taken by walking, bicycling, or using transit. In 2010, the American Community Survey reported that 67 percent of Alameda County commuters drove alone to work, followed by 27 percent of trips made by alternative modes, including transit, carpooling, walking, or bicycling. Five percent worked at home.

Average Daily Travel Time for Bicycle and Pedestrian Trips

In addition to the share of bike and walk trips as related to all modes of travel assessed in "travel by alternative modes" measure above, the average travel time by these modes is also measured to monitor how long it takes to make these trips. A longer travel time will indicate more willingness of the travelers to travel far by these modes getting out of their automobile and also contribution to better health. Based on results from the countywide travel demand model, in 2005, average walk trips took 23 minutes and bike trip was 17 minutes.

Low-Income Households Near Activity Centers

This measure is defined as the ratio of share of households by income group within a given travel time to activity centers. It is measured as share of households (by income group) within 30-minute bus/rail transit ride and 20-minute auto ride to at least one major employment center and within walking distance of schools. Estimated using off-model tools, as shown in Figure 37, the lowest-income households show increased access to activity centers, with access declining as income increases.

CO_2 Emissions

This measure reports the amount of CO_2 emissions being released by cars and light-duty trucks through use of the county roadways. Assembly Bill 32 and Senate Bill 375 set new targets for reducing CO_2 emissions from transportation.

For 2005, the daily CO_2 emissions estimated is 12,726.6 tons/day (18.6 pounds per capita) in Alameda County, which forms the baseline for CO2 emissions going forward. The next countywide model update, anticipated to begin later this year, will incorporate year 2010 data. Therefore, data representative of conditions in year 2010 will be included in the subsequent performance report.

Fine Particulate Emissions

This measure reports the amount of fine particulate matter released by vehicles using the county roadways and is related to a wide range of health and environment impacts. Similar to the CO_2 emissions measure above, field data is not available for this performance measure. However, the Alameda Countywide Transportation Model provides an estimate of 2.29 tons of $PM_{2.5}$ pollutant emissions per day for year 2005. As with CO_2 emissions, data for year 2010 will be reported in the performance report after the countywide travel demand model is updated.

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1 Introduction

The Alameda County Transportation Commission (Alameda CTC), a Joint Powers Authority, is a newly formed, countywide transportation agency, resulting from the July 2010 merger of the Alameda County Congestion Management Agency (ACCMA) and the Alameda County Transportation Improvement Authority (ACTIA). For more than two decades, ACTIA and the ACCMA collectively spearheaded transportation programs and projects in Alameda County.

In assuming the duties of the ACCMA, the Alameda CTC is the Congestion Management Agency for Alameda County and will continue to perform congestion management activities, coordinate countywide transportation planning, and program federal, state, and local funding for project and program implementation. As successor to ACTIA, the Alameda CTC will continue to deliver the Expenditure Plan for Measure B, which is the half-cent sales tax that was approved by 81 percent of county voters in 2000 for a variety of highway, transit, and local roadway projects, as well as special transportation services for seniors and disabled individuals. Embracing the successes of ACTIA and the ACCMA, the merger eliminates redundancies and creates efficiencies that have numerous positive outcomes. To help guide and improve Alameda County's transportation system, Alameda CTC's activities can be viewed in three parts:

- Developing plans that guide transportation system development and funding decisions.
- Programming the funds to agencies for transportation improvements.
- Delivering the projects, programs, legislative actions, and policy efforts set forth in the planning and programming documents.

Purpose and Organization of the Report

Each year, the Alameda CTC prepares the State of Transportation in Alameda County (the Performance Report). This report summarizes how the transportation system is functioning in Alameda County in terms of various adopted performance measures assessing the performance of each mode–roadway, transit, bicycling, and walking. Also included is a section on livable communities covering sustainability and climate change related measures.

Measures of the transportation system's performance provide feedback on the effectiveness of management strategies and investment decisions defined in the Countywide Transportation Plan (CWTP). Figure 1 illustrates how the Performance Report relates to other reports and responsibilities of Alameda CTC.

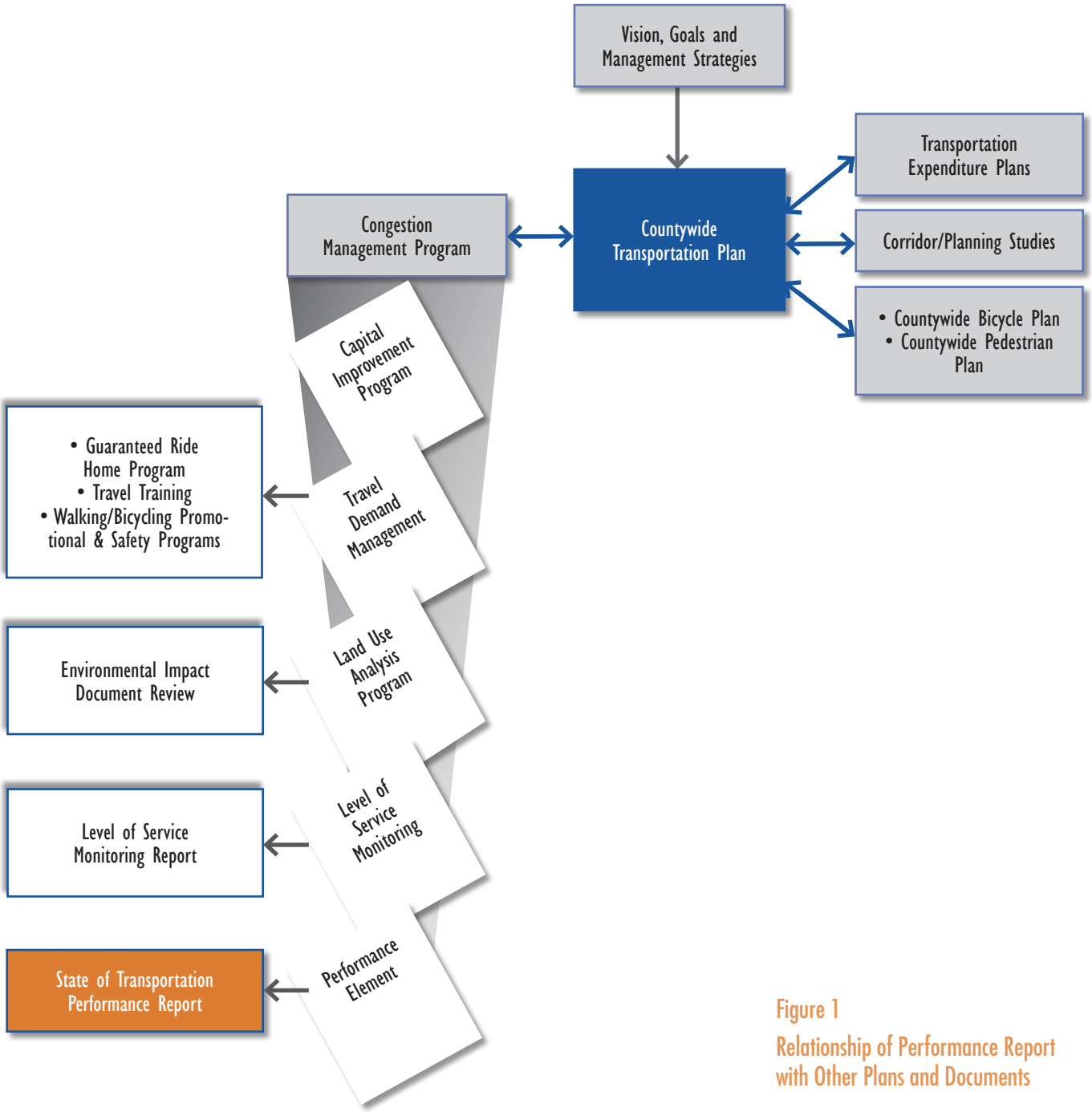

Figure 1
Relationship of Performance Report with Other Plans and Documents

This Performance Report covers Fiscal Year 2010-11. Since that time, the state budget has resulted in further reductions in transportation funds, with even less funding going to transit operations and roadway improvements; therefore, the overview of the Performance Report may not show the full effect of state budget cuts on Alameda County's current transportation system. Any changes to transit ridership and service are expected to be apparent in next year's (2011-12) Performance Report.

Alameda County Commuters

In 2011, the population in Alameda County increased about 0.8 percent to 1,521,157, as reported in State of California Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change—January 1, 2010 and 2011; May 2011. The county is seventh largest of the 58 counties in California in terms of population, and second largest of the nine counties in the San Francisco Bay Area.

The 2010 American Community Survey from the U.S. Census provided information on how long Alameda County commuters traveled to work. As shown in Figure 2, in 2010, commuters traveled 27.4 minutes, which is 3.4 minutes shorter than they traveled in 2000. The 1990 commuter travel time was 25.8 minutes. This reduction in 2010 is likely due to the economic downturn and related decrease in congestion as well as increases in gas prices.

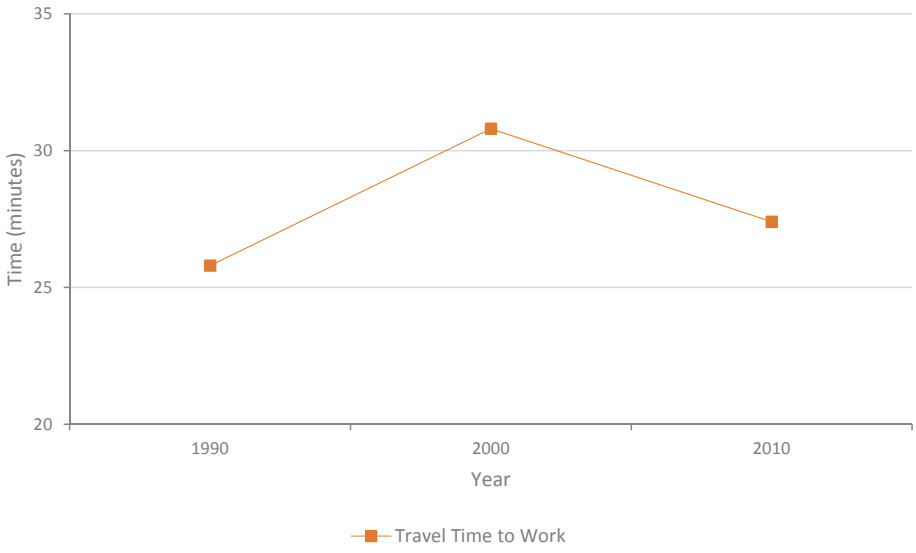

Figure 2
Travel Time To Work

Source: U.S. Census, 2010
Note: Data represents travel by auto, transit, and carpool.

Roadways

The roadways section focuses on a portion of the transportation system defined as the CMP-designated roadway system and the Metropolitan Transportation System (MTS), a roadway network of regional or countywide significance in Alameda County. The CMP network, a subset of the MTS, consists of 134 miles of interstate freeways, 71 miles of conventional state routes, and 26 miles of local arterial roadways. The MTS roadway network includes the entire CMP-designated roadway system plus major arterials that are critical to the region's movement of people and freight. About 215 miles of state facilities and 306 miles of local arterial roadways on the MTS are in Alameda County.

Transit

Transit service in Alameda County includes multiple modes and is provided by a number of public and private operators. The two major operators in the county are BART and AC Transit, which account for the vast majority of transit usage in the county. The following three types of transit services are available in Alameda County:

- **Rail**—Provided by the Bay Area Rapid Transit (BART); Capitol Corridor between Sacramento and San Jose; and Altamont Commuter Express (ACE) between Stockton and San Jose.
- **Bus**—Provided by Alameda County (AC) Transit, Livermore-Amador Valley Transit (LAVTA) and Union City Transit; public-private shuttle services throughout the county; and subscription bus service in East County.
- **Ferry**—Provided by the Alameda/Oakland Ferry and Alameda Harbor Bay Ferry.

Bicycling

Alameda CTC adopted the updated Countywide Bicycle Plan in 2006, which includes a bicycle network totaling 549 miles. The Bicycle Plan is now being updated and is expected to be adopted in Fall 2012. The Bicycle Plan has three levels of investment: Vision, Financially Constrained Network, and High Priority projects.

The 212-mile Financially Constrained Network, a subset of the Vision, is based on bikeways that could be completed with available revenues (as projected in 2006) over the next 25 years (through 2035). The High Priority projects consist of 16 projects, totaling 28 miles of bikeways, which were estimated to cost $36 million to construct. These 16 projects were selected as the highest priority projects for each jurisdiction that could be completed within four years of the 2006 Bicycle Plan adoption (by 2010).

Walking

Alameda CTC adopted the first Countywide Strategic Pedestrian Plan in 2006. It is currently being updated, and is expected to be adopted in Fall 2012. The plan identifies and prioritizes pedestrian improvements and programs to encourage walking and improve pedestrian safety on a countywide level. A goal of the Countywide Pedestrian Plan is for every jurisdiction in the county to have a local pedestrian master plan.

Livable Communities

Introduced in this reporting cycle and included based on the 2012 CWTP and 2011 CMP, this category responds to emerging legislative requirements (AB 32 and SB 375) and community interests related to sustainability and climate change in terms of adopted new measures.

Performance Measures Data Sources

Measuring the performance of each mode for the Performance Report relied primarily on available data and established data collection processes. Figure 3 illustrates agencies that provided data for each mode.

MODE	DATA PROVIDED BY
Roadways	• California Department of Transportation (Caltrans) • Metropolitan Transportation Commission (MTC) • Alameda County Transportation Commission (Alameda CTC)
Transit	• Union City Transit (UC Transit) • Bay Area Rapid Transit (BART) • Altamont Corridor Express (ACE) • Alameda Contra Costa Transit (AC Transit) • Alameda Harbor Bay Ferry • Alameda Oakland Ferry • Livermore-Amador Valley Transit Authority (LAVTA)
Bicycles	• Metropolitan Transportation Commission (MTC) • Alameda County Transportation Commission (Alameda CTC) • Local Jurisdictions
Pedestrians	• Metropolitan Transportation Commission (MTC) • Alameda County Transportation Commission (Alameda CTC) • Local Jurisdictions
Livable Communities	• United States Bureau of Census • Alameda County Transportation Commission (Alameda CTC)

Figure 3 Sources of Data

Figures 4 through 8 summarize the performance measures and the link each measure has with fulfilling objectives defined in the CMP.

- Mobility
- Air Quality
- Land Use
- Economic Vitality

ROADWAYS		Mobility	Air Quality	Land Use	Economic Vitality
Measure	**Definition**	**CMP Objective**			
 Duration and Amount of Congestion	• How much traffic congestion is found on county freeways and arterial roadways? • How long are travelers delayed due to congestion?	✔	✔		✔
 Average Speed	• How fast or slow are motorists traveling?	✔	✔		
 Travel Time	• How long does it take to travel from one location to another?	✔	✔	✔	
 Road Maintenance	• What is the condition of roadway pavement throughout the county?				✔
 Collisions	• How safe are the county roadways to travel? • Are the number of accidents decreasing?	✔	✔		

Figure 4
Measures and Objectives—Roadways

TRANSIT		Mobility	Air Quality	Land Use	Economic Vitality
Measure	**Definition**	**CMP Objective**			
 Ridership	• How many people use transit?		✔	✔	✔
 Service Coordination	• How well are services being coordinated between operators?	✔	✔		
 Vehicle Maintenance	• How often do transit vehicles need repair?		✔		
 Routing	• How much transit service is provided?	✔	✔	✔	
 Frequency	• How often is transit available?	✔	✔	✔	

Figure 5
Measures and Objectives — Transit

BICYCLING		Mobility	Air Quality	Land Use	Economic Vitality
Measure	**Definition**	**CMP Objective**			
 Completed High Priority Projects	• How many high priority projects were constructed?	✔	✔		
 Bicycle Counts	• How many people travelled by bicycle?	✔	✔	✔	
 Bicycle Collisions With Motor Vehicles	• How many bicyclists encounter vehicle collisions?	✔	✔		
 Bicycle Plans	• How many jurisdictions have bicycle plans, and how current are these plans?	✔	✔	✔	

Figure 6
Measures and Objectives—Bicycles

WALKING	Definition	Mobility	Air Quality	Land Use	Economic Vitality
		CMP Objective			
 Completed Projects	• How many improvements to pedestrian access were completed?	✔	✔		
 Pedestrian Counts	• How many people walk at key intersections?	✔	✔	✔	
 Pedestrian Collisions With Motor Vehicles	• How many pedestrians encounter vehicle collisions?	✔	✔		
 Pedestrian Plans	• How many jurisdictions have pedestrian plans, and how current are these plans?	✔	✔	✔	

Figure 7
Measures and Objectives—Pedestrians

LIVABLE COMMUNITIES		Mobility	Air Quality	Land Use	Economic Vitality
Measure	**Definition**	**Objective**			
Trips By Alternative Modes	• How many travelers are walking, bicycling or taking transit?	✔		✔	✔
Low Income Housing Near Activity Center	• How many low income households are near activity centers?			✔	✔
Low Income Housing Near Transit	• How many low income households are near transit?	✔		✔	✔
Daily CO_2 Emissions	• How much greenhouse gas emission is generated from Alameda County traffic?		✔		✔
Daily Fine Particulate Emissions	• How much fine particulate matter is released by Alameda County traffic?		✔		✔

Figure 8

Measures and Objectives—Livable Communities

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2 Roadways

Alameda County's roadways are the backbone of its transportation system, facilitating regional travel and connecting the county with major Bay Area destinations, such as Silicon Valley in the south, San Francisco in the west, San Joaquin Valley in the east and the Oakland International Airport and Port of Oakland, located within the county. The county transportation system also balances the need for serving local trips connecting communities within the county while facilitating regional trips.

New data for many roadway performance measures is not available yet, and therefore, will be reported in the next update to the Performance Report.

In summary, 2010 showed the highest rate of uncongested roadways (66 percent of freeways and 80 percent of arterials performing at LOS A or B) in Alameda County since 2000 likely due to the economic downturn and high price of gasoline. Collisions on Alameda County freeways generally decreased with the largest reduction on I-238. While freeways show improvement with 11 percent reduction in roadway lane-miles in need of rehabilitation, other state routes show degradation with 22 percent increase across the county on all state routes. Travel time between selected origin-destination pairs by auto has increased and by transit has slightly reduced between 2008 and 2010. The average pavement condition for Alameda County roadways has remained relatively consistent since 2006, approximately at 66 Pavement Condition Index (PCI), close to the 60-point threshold at which deterioration begins to accelerate.

Although most often associated with auto trips, roadways are also essential for carrying all modes of travel, including freight, auto, transit, bike, and pedestrian trips. Therefore, ensuring that the roadways are properly designed, operated, and maintained will benefit multiple modes of travel. The roadway system within the Alameda County Congestion Management Program (CMP) consists of facilities with different functional classifications to accommodate a variety of trip types. Figure 9 shows the countywide roadway network.

The network consists of the following:

- 134 miles of interstate freeways
- 71 miles of conventional state routes
- 26 miles of local arterial roadways
- 94 miles of arterials and major collectors

The high volume of trips carried by the roadway system makes it a critical component of the county's transportation system.

The following are the roadway performance measures and the agencies where data were collected from:

- Duration and Amount of Congestion—Alameda CTC (even numbered years) and MTC/Caltrans (annually when available)
- Average Speed—Alameda CTC (even numbered years)
- Travel Time—Alameda CTC (even numbered years)
- Road Maintenance—Caltrans and MTC (annually)
- Collisions—Caltrans (annually)

Most recent data available for all these measures, with the exception of collisions and roadways in need of rehabilitation, were already reported in the 2009-10 Performance Report—Executive Summary, in Fall 2011. Updated data will be presented in the next update to the Performance Report.

Duration and Amount of Congestion

The duration and amount of congestion in Alameda County is measured through the Level of Service (LOS) and vehicle hours of delay (VHD) analysis.

Levels of Service and Congestion

Biennially, the Alameda CTC monitors the amount of congestion by measuring the LOS on all freeways and arterial roadways in the CMP-designated network. The most-recent LOS monitoring study was completed in year 2010. (The Year 2012 LOS monitoring study was underway during the preparation of this report, and the updated data was not available.) Therefore, the data presented here is the same as that in the 2009–10 Performance Report - Executive Summary, published as part of the 2011 CMP.

LOS is based on travel speeds and is categorized into six levels with LOS A representing no congestion and LOS F representing the most congestion (see Appendix A1). The data are based on an average afternoon (weekday PM) commute period.

A systemwide summary of freeway and arterial congestion in Alameda County is presented in Figure 10 and Figure 11, respectively. As of 2010, 66 percent of the freeways within the CMP-designated network were considered uncongested, 21 percent were moderately congested, and 13 percent were congested in the afternoon. Generally, the congestion levels on the freeway system had seen little to no significant change when compared to 2008.

As in 2008, 2010 continued to show the highest rate of non-congested freeways since 2000, which was at the peak of the dot com economic boom. Decreased levels of congestion are likely due to the downturn in the economy, combined with increased gas prices.

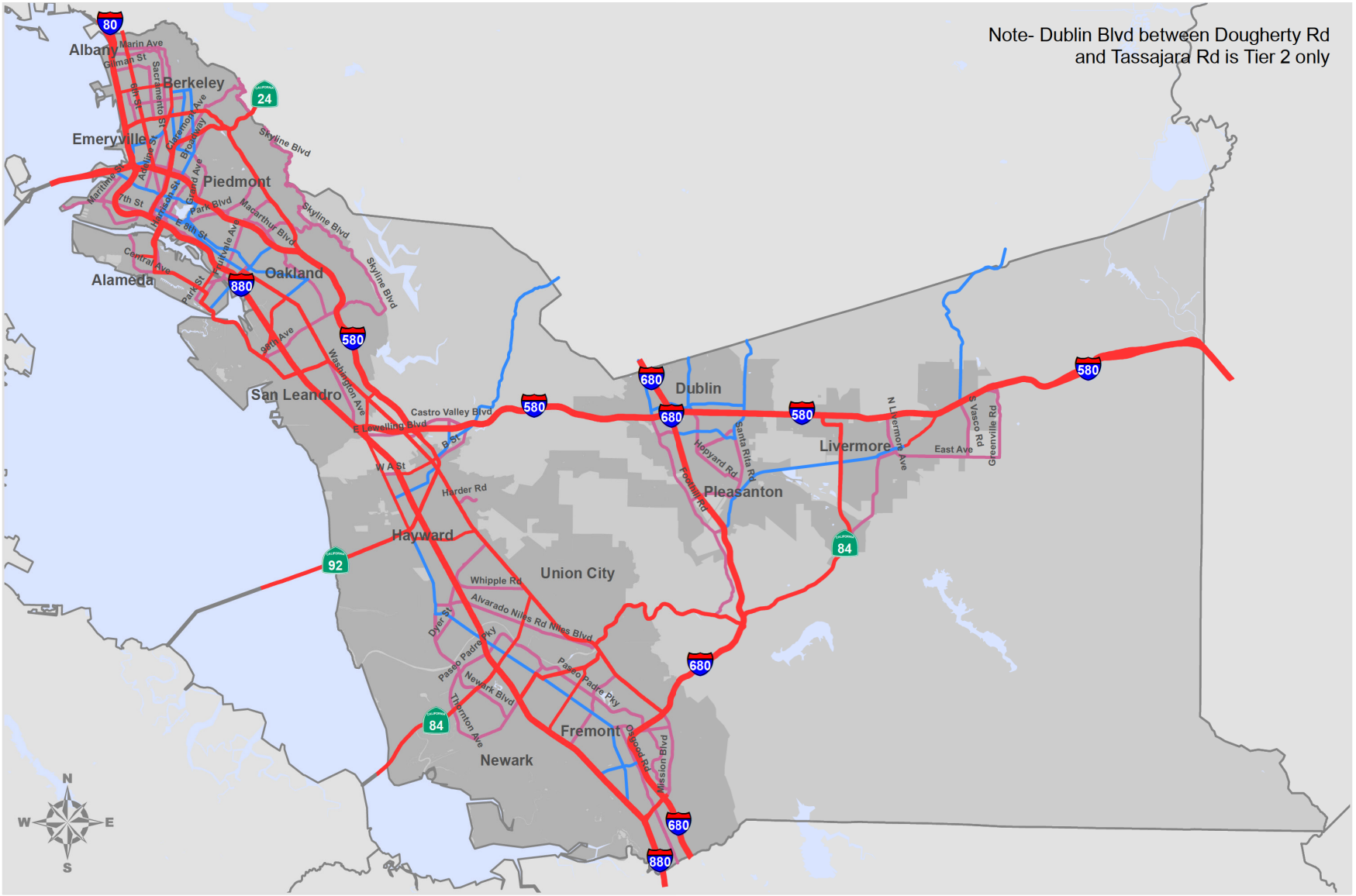

Figure 9

Countywide Transportation System

Source: 2011 Congestion Management Program

Legend

- Interstate/Freeway (CMP - Tier 1 & MTS)
- State Highway (CMP - Tier 1 & MTS)
- Principal Arterial (CMP - Tier 1 & MTS)
- Principal Arterial (CMP - Tier 2 & MTS)
- MTS Routes

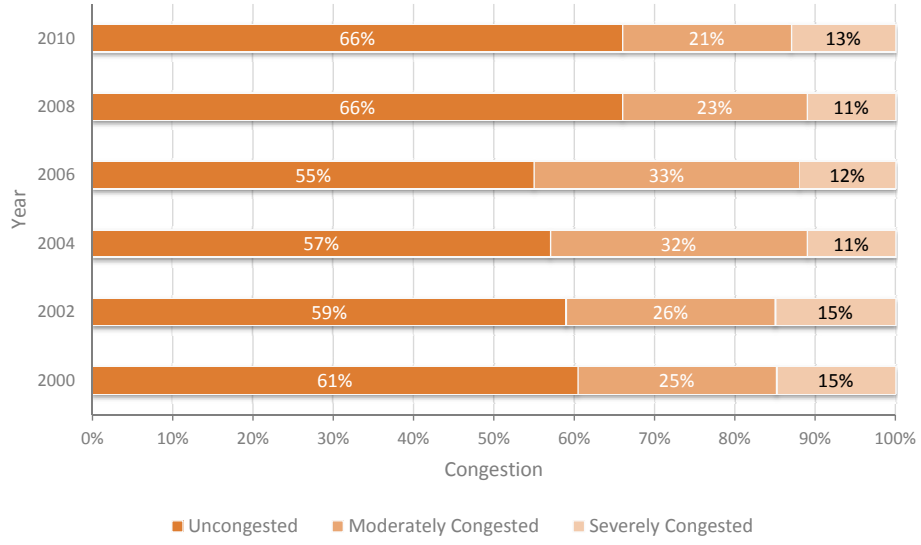

Figure 10
Freeway Congestion — Weekday PM Peak Period

Source: LOS Monitoring Report, 1996-2010

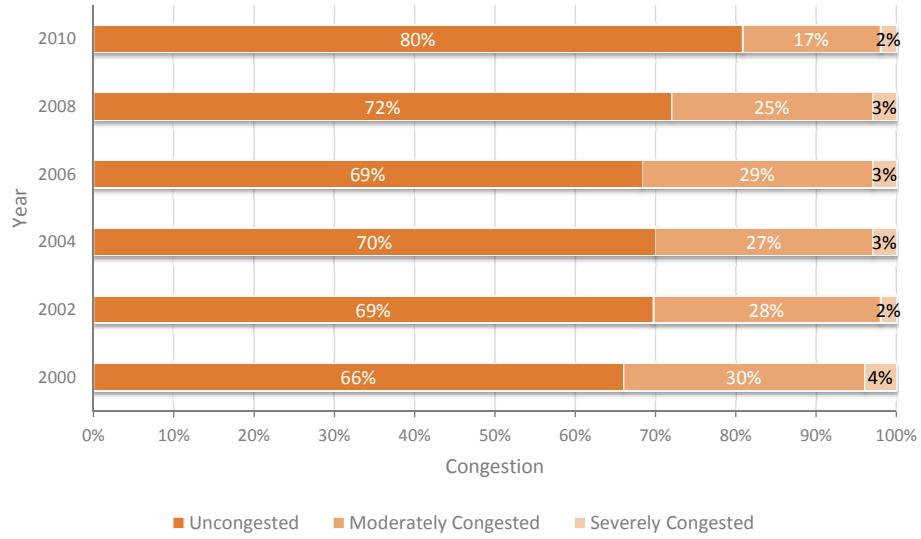

Figure 11
Arterial Congestion — Weekday PM Peak Period

Source: LOS Monitoring Report, 1996-2010

A systemwide summary of afternoon congestion on arterials in Alameda County is presented in Figure 12. As of 2010, 80 percent of arterials within the CMP-designated network operated at acceptable LOS and were considered uncongested; 17 percent were moderately congested and 2 percent were congested. Generally, congestion decreased on arterial with the number of uncongested arterials improving and the number of moderately and severely congested arterials decreasing, when compared to 2008.

Figure 12 shows the most congested locations (LOS F) in the county during afternoon and morning peak periods.

Vehicle Hours of Delay and Top 10 Congested Corridors

MTC has been collecting congestion and travel time data since 2004 on freeways in Alameda County and the Bay Area. Caltrans collected this data prior to 2004. However, no new data has been released from MTC since their last study in 2008. This additional freeway congestion data will be reported again if MTC or Caltrans resume data collection.

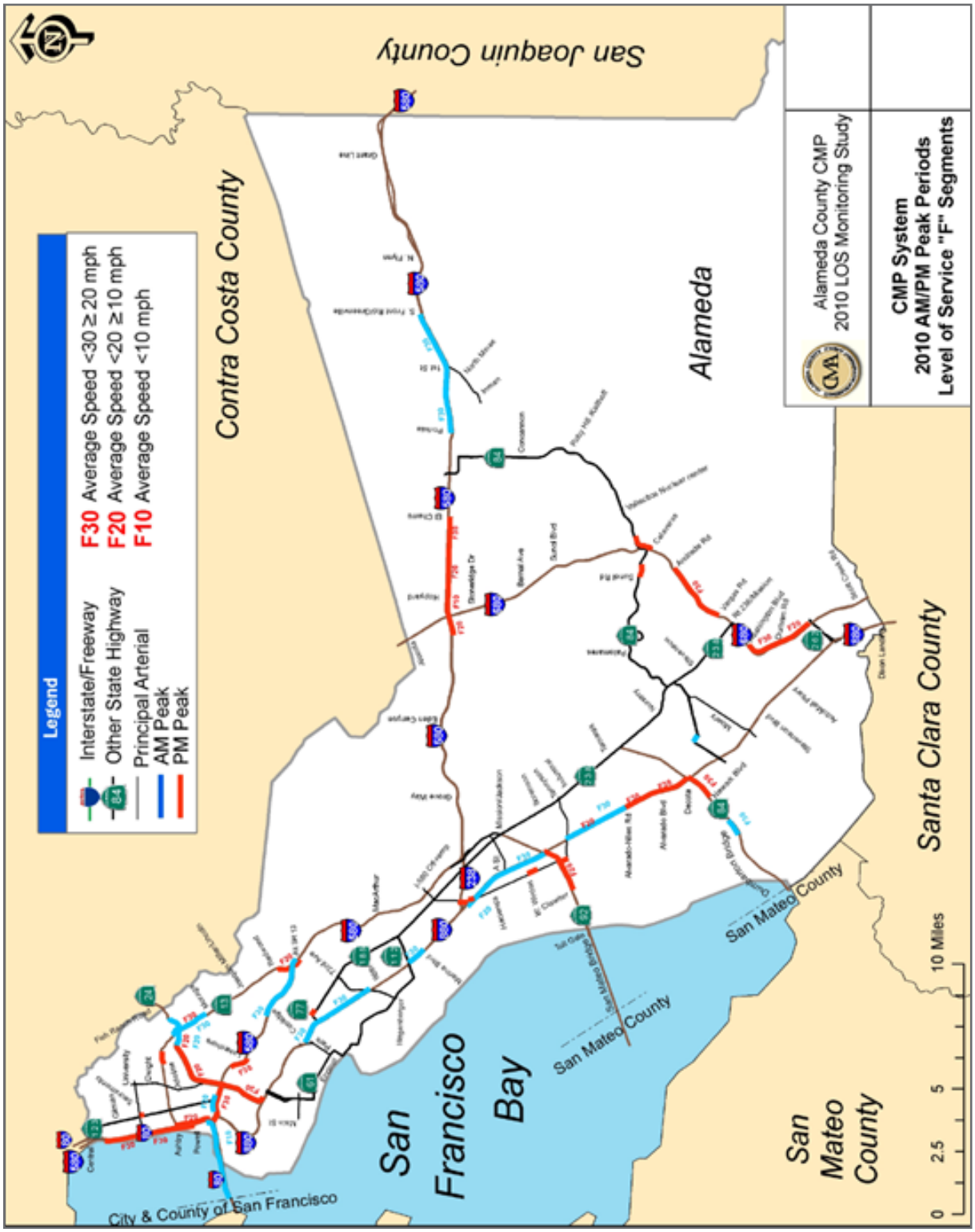

Figure 12
LOS F Roadways

Source: 2010 LOS Monitoring Study

Average Speed

The average vehicular travel speed is measured over specified segments in each lane during the peak periods. Although Alameda CTC is required to collect data biennially for the afternoon peak period, the agency also collects similar data for the morning peak period. Figure 13 indicates that over the last 12 years, average speeds on freeways and arterials during the afternoon peak remained relatively stable, while speeds on freeways during the morning peak has steadily increased between 2000 and 2010. Average travel speeds on arterials and freeways decreased slightly in 2010 as compared to 2008. The decrease in average speeds while congestion improved is likely due to lower speeds on the roadways within a given LOS range.

Appendix A3 compares average vehicle speeds for selected freeway segments during the afternoon peak period. Weekday PM average speeds for freeways remained similar for 2010 when compared to 2008 on most freeway segments within Alameda County. However, there are several locations where speeds increased or decreased significantly since 2008.

The freeway segments that experienced significant decrease in speed during the average weekday PM peak period are shown in Table 1. The freeway segments that experienced significant increase in speed during the average weekday PM peak period are shown in Table 2.

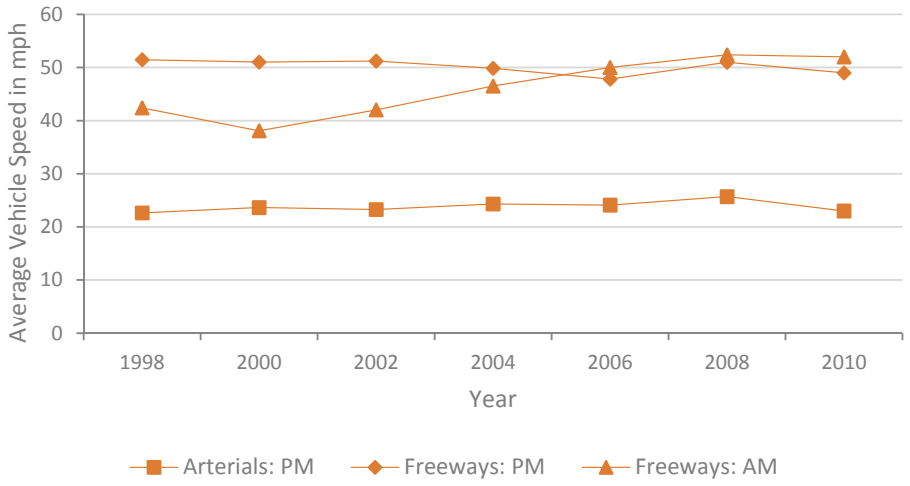

Figure 13
Average Speed

Appendix A2 compares average vehicle speeds for selected freeway segments during the morning peak period. Notable observations when comparing 2008 and 2010 include the following:

- The average speed on I-238 (westbound) approximately doubled.
- I-680 (southbound) between Sunol Boulevard and SR-84 experienced a nearly 30 percent reduction in average speed while the segment between Sheridon Street and Mission Boulevard experienced a 39 to 45 percent increase in average speed.
- The average speed on I-580 (westbound) between I-680 and the San Joaquin County Line increased for nearly all segments.

Table 1: Segments Experiencing Significant Decrease in Speed During Average Weekday PM Peak Period

FREEWAY SEGMENT		2008	2010
I-80			
Central Avenue	I-580 Interchange	B (56.4)	D (46.7)
I-580 Interchange	University	B (56.0)	F (23.7)
I-580			
Coolidge	SR-13 off-ramp	D (46.6)	F (31.4)
I-880			
SR-92	A Street	C (52.1)	E (38.4)
I-980 Interchange	23rd Street	C (50.1)	E (30.2)
I-238 Interchange	A Street	B (56.2)	E (32.3)
I-980			
I-880 Interchange	SR-24 Interchange	C (53.4)	F (29.7)
SR-13			
Moraga Avenue	Hiller	E (40.7)	F (24.2)

Table 2: Segments Experiencing Significant Increase in Speed During Average Weekday PM Peak Period

FREEWAY SEGMENT		2008	2010
I-80			
Bay Bridge Toll Plaza	I-580 off-ramp	F (28.6)	C (54.2)
I-238			
I-880 Interchange	I-580 Interchange	D (41.7)	A (62.3)
I-580 Interchange	I-880 Interchange	F (24.8)	A (61.8)
I-580			
Grove	Eden Canyon	B (56.5)	A (72.9)
1st Street	Greenville	E (37.7)	B (56.0)
I-680			
Scott Creek Road	SR-262/Mission Interchange	E (39.6)	B (56.0)
I-880			
Dixon Landing	SR-262/Mission Interchange	E (33.7)	C (52.1)
A Street	I-238 Interchange	D (46.6)	A (62.7)
Auto Mall Parkway	SR-262/Mission Interchange	D (44.2)	A (62.4)
SR-84			
Dumbarton Bridge Toll Plaza	Thornton Avenue	E (37.6)	B (58.9)
Thornton Avenue	Newark Boulevard	F (25.5)	A (65.8)

Travel Time

Travel times for automobiles and transit have been compared for 10 origin/destination pairs within Alameda County since 1996. The results (Table 3) indicate that, overall, automobile travel times have increased, while transit travel times have decreased since 2008. Compared to 2008, transit travel times have improved across the board in 2010, with 6 of 9 origin-destination pairs showing reduction in travel times. In spite of the improvements, travel times for transit were between 2 and over 5.5 times longer than those for automobile.

Table 3: Travel Times for Origin/Destination Pairs

ORIGIN-DESTINATION	2002	2004	2006	2008	2010
Hayward to Newark—11.2 miles (Kaiser Medical Center to Thornton Ave.)					
Auto	22	16	19	14	15
Transit	79	90	86	74	57
Emeryville to Berkeley—4.8 miles (Chiron to Marin Circle)					
Auto	25	28	22	22	24
Transit	56	53	45	70	59
Bicycle	30	33	30	32	47
Hayward to Livermore—34.5 miles (Cal State University to Delaware Way)					
Auto	49	61	61	54	51
Transit	141	120	113	143	NA
Oakland to San Leandro—10.8 miles (Downtown to Chapel Ave.)					
Auto	32	41	34	27	27
Transit	56	70	66	78	67
Fremont to Pleasanton—18.0 miles (NUMMI Plant to Hansen/Valley Avenue)					
Auto	33	27	39	26	37
Transit	125	146	181	145	154
Fremont to San Jose—14.8 miles (Thornton Ave./Fremont Blvd to Fujitsu)					
Auto	49	30	33	27	28
Transit	118	94	111	82	73
Fremont to San Jose—14.8 miles (Thornton Ave./Fremont Blvd to HOV Lane)					
Auto	34	27	25	23	23
Transit	(Transit Service to be added when facility is in place)				
Oakland to Pleasanton—26.6 miles (Federal Building to Hansen and Valley Ave. in Pleasanton)					
Auto	60	45	57	41	52
Transit	70	77	75	107	74
Fremont to Alameda—5.2 miles (Washington Hospital to Searidge)					
Auto	53	64	52	43	48
Transit	70	123	102	94	91
Alameda to Oakland—6.8 miles (Naval Air Station to College Ave.)					
Auto	21	22	21	22	24
Transit	45	45	43	51	52

Source: Alameda County CMA, 1998-2010 LOS Monitoring Reports

Note: All values in minutes

Ratio of Peak to Off-Peak Travel Time

The ratio of peak to off-peak periods is one of the new performance measures added based on the measures from the 2012 CWTP. It measures the reliability of the county transportation system for auto, transit, and truck modes and indicates whether the user can count on getting to their destination on time. Alternatively, this measure indicates what the additional time is spent on a trip made during peak traffic hours when compared to an identical off-peak trip. A travel time index value of 1.2 means that a 30 minute free flow

trip will take 36 minutes (20 percent additional time) during the peak hour period or a 20 percent delay due to congestion, hence affecting the reliability of travel during the peak period. Appendix A4 shows the data for this measure between selected origin-destination pairs. Data from the countywide model for year 2005 for selected origin-destination pairs shows that peak period travel time is longer for almost all of the time periods for these pairs, with the exception of travel between East Alameda County and Central San Jose for the afternoon peak periods, indicating travel during peak period is less reliable.

Road Maintenance

MTC monitors the pavement condition of local streets by weighting the average Pavement Condition Index (PCI) for the general pavement condition within defined networks. This monitoring is conducted for the entire county and for each city within the county including the unincorporated areas. The latest information is provided in MTC's 2011 Pothole Report. Roadway types that are monitored include arterials, collectors and residential streets.

As shown in Table 4, the PCI uses a classification scale weighted between 0 and 100, with the highest rating being new pavement. The average PCI for Alameda County roadways for year 2010, according to MTC's 2011 Pothole Report, was 66. A PCI score of 60 is considered to be a threshold at which pavement deterioration begins to rapidly accelerate, requiring major rehabilitation.

Table 4: Rating of Pavement Condition

Very Good-Excellent (PCI = 80-100)	Pavements are newly constructed or resurfaced and have few if any signs of distress.
Good (PCI = 70-79)	Pavements require mostly preventive maintenance and have only low levels of distress, such as minor cracks or spalling, which occurs when the top layer of asphalt begins to peel or flake off as a result of water permeation.
Fair (PCI = 60-69)	Pavements at the low end of this range have significant levels of distress and may require a combination of rehabilitation and preventive maintenance to keep them from deteriorating rapidly.
At Risk (PCI = 50-59)	Pavements are deteriorated and require immediate attention including rehabilitative work. Ride quality is significantly inferior to better pavement categories.
Poor (PCI = 25-49)	Pavements have extensive amounts of distress and require major rehabilitation or reconstruction. Pavements in this category affect the speed and flow of traffic significantly.
Failed (PCI = 0-24)	Pavements need reconstruction and are extremely rough and difficult to drive.

Alameda County Facilities

The 2010 pavement conditions for each of the jurisdictions in Alameda County in terms of PCI are provided in Appendix A5. In terms of lane-miles, approximately 36 percent of roadways are classified as good or very good, 34 percent as fair, and 30 percent as at-risk. The average PCI for all Alameda County roadway facilities was 65.6 in 2010 and has remained relatively consistent since 2006. This represents an overall fair classification, but is far below the PCI score of 75 that MTC established as a target in its long-range Transportation 2035 Plan adopted in 2009 and is close to the 60-point threshold at which deterioration begins to accelerate.

The PCI range for Alameda County jurisdictions in 2010 was between 56 and 82 (Figure 14). The majority of jurisdictions within Alameda County ranged from "Fair" (PCI of 60-69) to "Good" (PCI of 70-79).

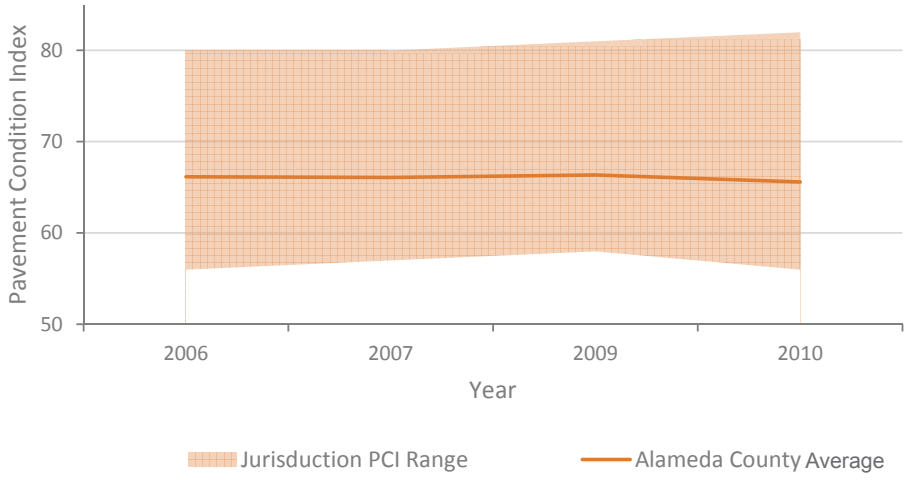

Figure 14
Pavement Condition Index

Source: Metropolitan Transportation Commission, Pothole Report, 2011

Local Streets and Roads Shortfall

Maintenance needs for local streets and roads have been calculated for two scenarios. The first scenario provides estimated projections to maintain local roadways at their current PCI for each jurisdiction, while the second scenario estimates the needs to bring the roadways system up to a state of good repair. A summary of capital needs for the various jurisdictions within Alameda County is presented in Figure 15. The total estimated funding shortfall to maintain the existing PCI of roadways in Alameda County is approximately $3.2 billion (Appendix A6). In order to bring Alameda County roadways to a state of good

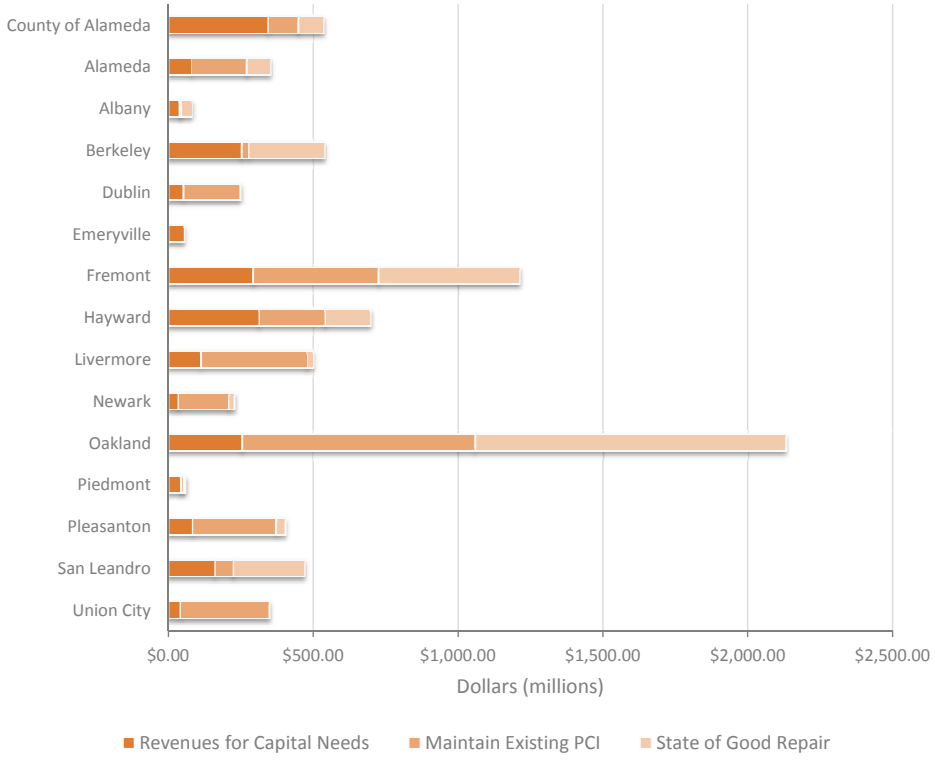

Figure 15
Roadway Capital Needs
By Jurisdiction

Source: Metropolitan Transportation Commission, Plan Bay Area 28 Year Local Street and Road Capital Maintenance Needs and Revenues, 2011

repair (PCI = 75), the additional funding needed is estimated to be $5.7 billion (see Appendix A7). The projected funding shortfalls are depicted in Figure 16.

The funding gap projected for Alameda County represents the second largest funding gap in the Bay Area, second to Santa Clara County.

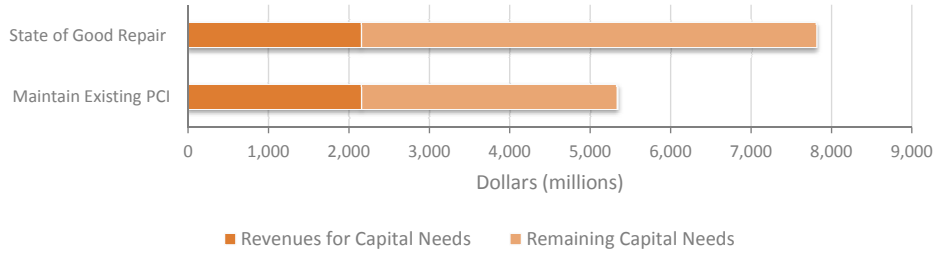

Figure 16
Estimated Capital Needs for Roadway Maintenance

Source: Metropolitan Transportation Commission, Plan Bay Area 28 Year Local Street and Road Capital Maintenance Needs and Revenues, 2011

State Facilities in Alameda County

Caltrans is responsible for maintaining the state highways and freeways system. Under the state system, assessment of pavement condition differs from the PCI assessment. Since 1978, the types of ride (i.e., rough ride) and structural problems have been monitored. The combination of these two factors is the initial step in determining if a segment should be scheduled for improvement.

As required by SB 45, Caltrans has prepared a 10-year highway and freeway maintenance plan. The plan identifies roads needing rehabilitation and a schedule for completing the work. Goals are to:

- Reduce the lane mile backlog of pavement in poor condition;
- Switch from a "worst-first" to "preventive maintenance" strategy;
- Use long life pavement strategies; and
- Integrate maintenance and rehabilitation work.

Table 5 shows the number of lane-miles in need of rehabilitation for Interstates and State Highway facilities in Alameda County. The 2010 survey, that gathered 2009 data showed that 93 lane-miles of freeway are in need of rehabilitation—an 11 percent increase from the previous year. The largest improvement was on I-580.

Table 5: State Lane Miles in Need of Rehabilitation

HIGHWAY	2002/03	2003/04	2004/05	2005/06	2007/08	2008/09	2009/10
SR-13	13.5	15.0	15.3	15.3	9.6	NA	15.7
SR-24	4.6	3.9	6.5	3.8	0.4	0.9	1.7
I-80	NA	2.4	0.0	1.9	5.3	1.4	5.2
I-205	NA	2.5	0.8	0.9	0.9	0.0	0.0
I-238	0.9	2.9	5.6	0.1	2.0	1.8	0.0
I-580	54	122.1	95	142.7	88.5	45.5	40.8
I-680	45.1	32.8	62.5	70.1	36.7	25.9	20.0
I-880	12.5	11.2	13.5	21.7	9.1	7.6	9.3
I-980	NA	NA	0.4	0.4	1.2	0.8	0.2
Total	130.6	192.8	199.6	256.9	153.7	83.9	92.8

On the other hand, lane miles in need of rehabilitation on other state routes has increased since the last time data was collected (2006) to 94 miles, a 22 percent increase. Degradation occurred across the county on all state routes.

Collisions

This measure looks at the number and location of vehicular collisions that occurred in the county. As shown in Figure 17, collisions on all Alameda County freeways declined over the past year, with the exception of SR-13. Along SR-13, collisions more than doubled during the first nine months of 2010 as compared to almost the same period in 2009. Ongoing construction (widening) along the segment may have contributed to this increase. Of all the freeways, I-238 had the largest reduction of collisions (more than 50 percent reduction) likely due to the completion of I-238 widening project. SR-24 and SR 84 also had relatively large reductions in collisions at 20 percent and 35 percent, respectively. Appendix A8 and Appendix A9 provide detailed data on this performance measure.

Figure 17
Automobile Collision Count

Source: Caltrans District 4
Note: 2010 data is for January through September only. 2009 data is for January through October only.

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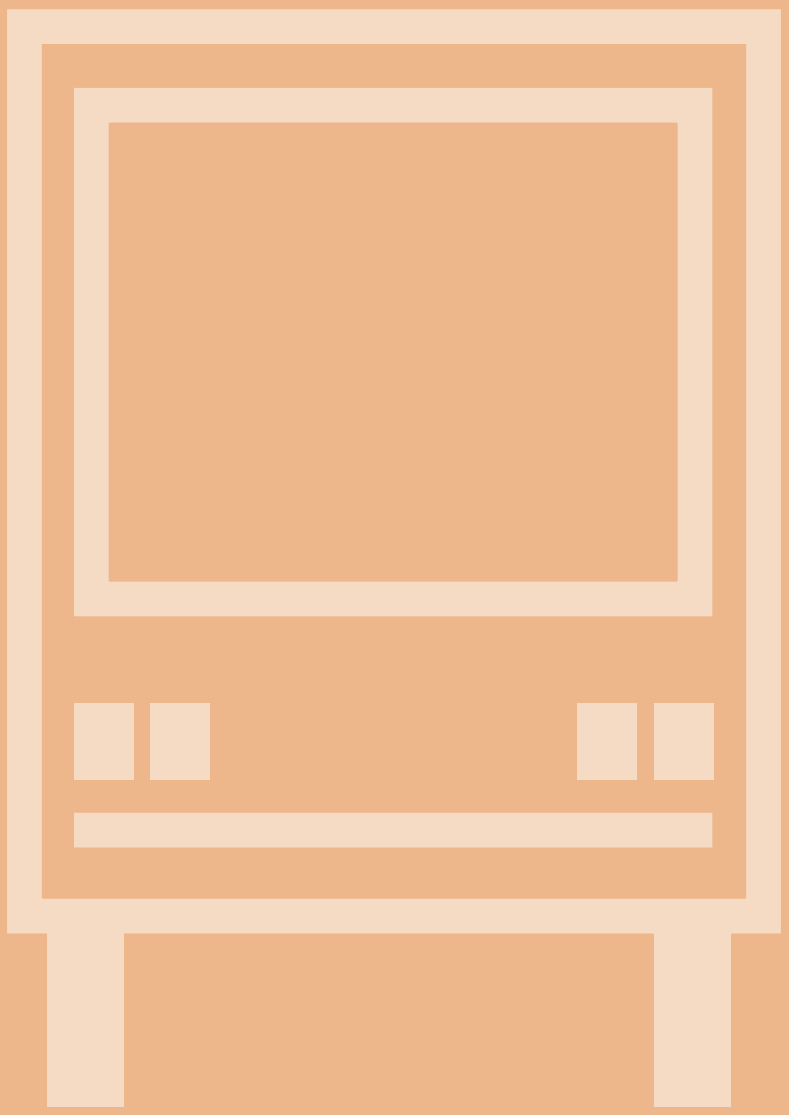


3 Transit

Transit service in Alameda County includes multiple modes and is provided by a number of public and private operators. The major operators in the county are BART and AC Transit, which account for the vast majority of transit usage in the county. Shuttles also play a significant role in the county's transit network, as they often bridge gaps between employment centers, medical or educational institutions, shopping centers and BART.

Transit ridership by rail (BART and ACE) and ferry increased between 2009 and 2010, while LAVTA and AC Transit showed a decline. Annual total transit ridership in Alameda County continued to decline in 2010-11 that began in 2003-04, with AC Transit experiencing the largest decline. Even though gross ridership on AC Transit fell likely the result of service cuts over the last several years, other indicators such as ridership per revenue vehicle hour and ridership per revenue vehicle mile either increased or stayed the same compared to 2009 indicating increased efficiencies with their operation.

The following types of transit services are available in Alameda County:

- **Rail**—provided by the Bay Area Rapid Transit (BART); Capitol Corridor between Sacramento and San Jose; and Altamont Commuter Express (ACE) between Stockton and San Jose.
- **Bus**—provided by Alameda-Contra Costa Transit District (AC Transit), Livermore-Amador Valley Transit Agency (LAVTA) and Union City Transit (UC Transit); public-private shuttle services throughout the county; and subscription bus service in East County.
- **Ferry**—provided by the Alameda/Oakland Ferry and Alameda Harbor Bay Ferry.

MTS Transit System map (see Appendix B1) shows the area of county served by transit.

Rail Operators

Bay Area Rapid Transit

Governed by an elected Board of Directors, the BART district provides electric third rail–powered, grade-separated rail service to Alameda, Contra Costa, San Francisco and northern San Mateo counties in the Bay Area. The system information is shown in Table 6.

In Alameda County, 16 of the 20 stations in the county are served by two or more lines. Approximately half of the current weekday ridership involves travel across the bay. Because BART is a grade-separated system with relatively few stops, service is fast and reliable—particularly service between Alameda County and San Francisco through the Transbay Tube under San Francisco Bay.

Table 6: BART Overview

Number of stations	44 total, including 20 stations in Alameda County
Number of weekday routes	Five
Weekday headways/ peak periods	Varies from 5 minutes minimum to 15-minute maximum headway
Evening service number of routes	Three
Evening service headways	20 minutes
Service hours weekdays	4:00 a.m. to 12 a.m.
Service hours week-ends	Saturday: 6 a.m. to 12 a.m.; Sunday: 8 a.m. to 12 a.m.
Average age of a rail car	31.7 years
Average life expectancy of a car	20 to 25 years for new cars, 15 years for rehabilitated cars

Capitol Corridor

Capitol Corridor is an intercity rail service managed by the Capitol Corridor Joint Powers Authority (CCJPA). It provides intercity connections between Sacramento and San Jose. For FY 2010-2011, Capitol Corridor maintained 32 weekday trains between Oakland and Sacramento, which includes 14 trains that connect between Sacramento and San Jose. Most Capitol Corridor riders travel from the Sacramento area to the Bay Area. In Alameda County, the Capitol Corridor stops at Berkeley, Emeryville (a connection to San Francisco via motor coach service), Oakland (Jack London Square and Coliseum), Hayward, and Fremont.

The Capitol Corridor is supported by capital and operating funds from the State of California. The rolling stock is owned by the state as well. As part of its System Transit Transfer Program, the CCJPA provides free transit transfers for use on AC Transit East Bay buses for customers and reimburses AC Transit for each transfer used. It also sells $10 BART tickets for $8 in the café cars (CCJPA pays for the difference.)

Table 7: Capitol Corridor Overview

Number of stations	16 total, including 6 stations in Alameda County
Number of weekday routes	Five
Weekday headways/ peak periods	Varies from 20 minutes to 2 hours 30 minutes
Evening service number of routes	N/A
Evening service headways	N/A
Service hours weekday	4:00 a.m. to 12:00 a.m.
Service hours week-end	Saturday: 6 a.m. to 12 a.m.; Sunday: 8 a.m. to 12 a.m.
Average life of train	20 years
Average life expectancy of a car	Unavailable

Altamont Commuter Express Rail

Altamont Commuter Express (ACE) provides commuter rail service between Stockton and San Jose only during the weekday morning and evening commute periods. San Joaquin Regional Rail Commission (SJRRC) is the owner and operator of the ACE Service, which is funded by SJRRC, the Alameda CTC, and the Santa Clara Valley Transportation Authority. In Alameda County, ACE stops at Vasco Road, Livermore, Pleasanton, and Fremont.

Table 8: ACE Overview

Number of stations	9 stations in Alameda County
Number of weekday routes	Three
Weekday AM headways	1 hour 5 minutes to 2 hours 50 minutes
Weekday PM headways	1 hour to 2 hours
Service hours weekday	4:20 a.m. to 8:50 a.m.; 3:35 p.m. to 7:45 p.m.
Average age of a rail car	N/A
Average life expectancy of a car	N/A

Bus Operators

AC Transit

AC Transit operates the following bus services:

- East Bay Local Service covers most of Alameda County and West Contra Costa County, including supplemental school service during the school months and community-based service that provides sporadic and direct midday service from community centers to shopping and other services.
- TransBay Service operates from East Bay to the temporary TransBay Terminal in downtown San Francisco, as well as service across the San Mateo Bridge to the Hillsdale Mall terminal in San Mateo.
- Dumbarton Express offers service across the Dumbarton Bridge, between Union City and Palo Alto. This service is provided through a consortium of AC Transit, BART, SamTrans, Union City Transit, and Valley Transportation Authority. Dumbarton Express is administered and operated by AC Transit as of end of June 2011.

Table 9: AC Transit Overview

Number of East Bay local routes	74, including two Limited Routes
Number of Routes Offering Community Destination-Based Service	Three
Number of Lifeline-funded routes, providing service to help meet needs of a low-income community	One
Number of Rapid and Limited Lines	Two Rapid Lines and two Limited Lines
Service across the Bay Bridge, the San Mateo Bridge and the Dumbarton Bridge	34
Number of "All-Nighter" routes providing Transbay and East Bay service when BART is not running	Six
Number of buses in active fleet	584
Average life expectancy of a bus	12 years

Livermore-Amador Valley Transportation Agency

LAVTA provides four local services to the cities of Dublin, Livermore, and Pleasanton and to the adjacent unincorporated areas of Alameda County:

- WHEELS Dial-A-Ride, an Americans with Disabilities Act (ADA) - mandated demand responsive service to elderly and disabled persons in Dublin, Pleasanton, and Livermore.
- Peak-period bus service to Pleasant Hill.
- Supplemental service during academic year for middle and high schools.
- BART West Dublin/Pleasanton Station–Opened in February 2011, is BART's newest station and is built between the existing Dublin/Pleasanton Station to its east and the Castro Valley Station to its west. Four transit lines serve this terminal. Made up of new and existing routes, "Rapid" was deployed with the opening of the new station. In addition, Routes 3 and 53, 70 Express, and the ACE Shuttle interface serve the station.

Table 10: LAVTA Overview

Number of active fixed routes buses	65, 9 buses used for express routes
Number of Lifeline routes	One
Number of paratransit vehicles	18
Weekday/Weekend service hours (Dublin and Livermore)	4:30 a.m. to 1:30 a.m.
Weekday service hours (Pleasanton)	4:30 a.m. to 8:00 a.m.; 5:00 p.m. to 1:30 a.m.
Saturday service hours	4:30 a.m. to 9:00 a.m.; 4:00 p.m. to 1:30 a.m.
Sunday and Holiday service hours	4:40 a.m. to 1:30 a.m.
Headways during peak periods	10 to 45 minutes, depending on the route
Average life expectancy of a bus	Unavailable
Average fleet age for fixed route	8 years

Union City Transit

Union City Transit provides fixed route and paratransit services within Union City. Union City Transit contracts with MV Transportation for operations and maintenance. Union City Transit coordinates its service with AC Transit, BART, and the Dumbarton Express.

Boardings recently increased as a result of the New Haven Unified School District reducing the number of eligible students who can ride the school bus.

Table 11: Union City Transit Overview

Number of fixed route buses in active fleet	1
Number of paratransit vehicles	Six
Weekday service hours	4:35 a.m. to 10:25 p.m.
Saturday service hours	6:40 a.m. to 7:30 p.m.
Sunday service hours	8:00 a.m. to 6:30 p.m.
Average age of fleet	5.5 years
Average life expectancy of a vehicle	10.5 years

Ferry Operators

Alameda/Oakland Ferry

Alameda/Oakland Ferry provides service between San Francisco Ferry Building, San Francisco's Pier 39, Alameda's Main Street terminal, and Jack London Square in Oakland.

The City of Alameda, together with the Port of Oakland, contracts to privately run Blue & Gold Fleet to provide weekday, year-round and seasonal service. Seasonal service is offered from Alameda, Oakland, and Angel Island State Park, as well as AT&T Park for Giants games.

Table 12: Alameda/Oakland Ferry Overview

Number of routes	11 commute and four midday departures
Headways during peak period	1 hour 5 minutes
Service hours	Weekday service: 6:00 a.m. to 9:25 p.m. arrival at SF's Pier 41. Weekend service: Times vary seasonally
Average age of a ferry	Unavailable
Average life expectancy of a ferry	Unavailable

Alameda Harbor Bay Ferry

Alameda Harbor Bay Ferry provides service between Alameda's Bay Farm Island and the San Francisco Ferry Building. Weekday service consists of three morning and four evening commute period trips.

Table 13: Alameda/Harbor Bay Ferry Overview

Number of routes	Three morning and four evening commute period trips.
Headways during peak period	1 hour
Service hours	Weekday service: 6:30 a.m. to 8:00 p.m. arrival at Alameda Harbor Bay. No midday service; no weekend service.
Average age of a ferry	NA
Average life expectancy of a ferry	NA

A variety of performance measures are used to measure the performance of transit in Alameda County, as listed below:

- Ridership
- Service Coordination
- Vehicle Maintenance
- Routing
- Frequency

Data for these measures were collected from individual operators through special request.

Ridership

Transit ridership is measured in terms of passenger boardings as follows:

- Annual Ridership
- Weekday Boardings
- Ridership per Revenue Vehicle Mile
- Ridership per Revenue Vehicle Hour

In 2010-11, compared to 2009-10, the weekday boardings for the two major transit operators in the county—AC Transit and BART—dropped by 3.3 percent and increased by 4.3 percent, respectively. However, ridership per revenue vehicle mile increased slightly for AC Transit from 2.9 to 3.0 and remained the same for BART at 1.7. Ridership per revenue vehicle hour improved by 2.5 (from 33 to 35.5) for AC Transit and by 1.7 (from (59.6 to 61.3) for BART, showing improvement in efficiencies in operations.

Annual Ridership

As shown in Appendix B2, Figure 18 and Figure 19, transit ridership in Alameda County declined in 2010-11. AC Transit continued to experience a decline in ridership levels compared to the previous year. During 2010-11, ACE, BART, Union City Transit and the ferries experienced a slight increase in the number of riders, and LAVTA experienced continued decrease in ridership since 2007-08.

Figure 18
Annual Ridership—AC Transit and BART

Source: Data provided by transit operators by special request.

Figure 19
Annual Ridership—Other Transit Services

Source: Data provided by transit operators by special request.

Weekday Boardings

The total number of weekday passenger boardings for AC Transit has dropped considerably over the past year. BART has seen an increase in weekday ridership between 2009-10 and 2010-11. Figure 20 shows the weekday ridership trend for the two major transit providers in the County. Appendix B3 provides detailed data on this performance measure.

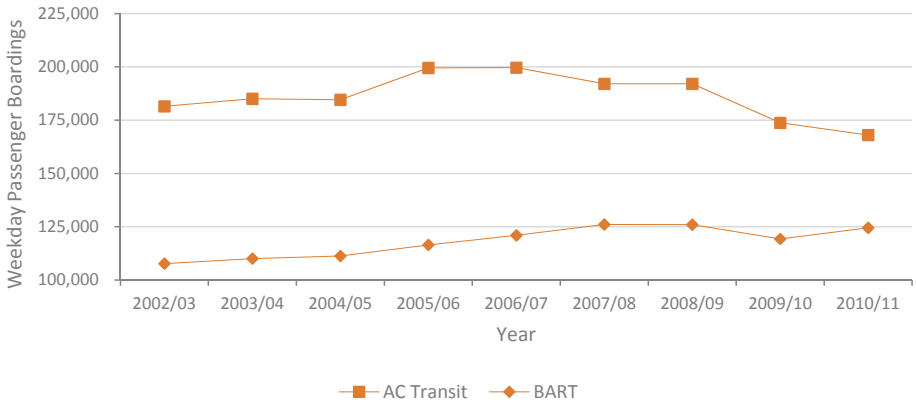


Figure 20
Weekday Passenger Boardings

Source: Data provided by transit operators by special request.

Ridership per Revenue Vehicle Mile

Ridership per Revenue Vehicle Mile (Figure 21) is the number of passengers divided by the number of miles each transit vehicle is in revenue service. This excludes miles traveled to and from storage facilities and other deadhead travel. According to this measure, ridership per revenue vehicle mile either stayed the same or slightly declined, with the exception of ferries over the past year (no specific reasons were available from ferry agencies at the time of this report preparation for the significant change in ridership per revenue vehicle mile for ferries). Appendix B4 provides detailed data on this performance measure.

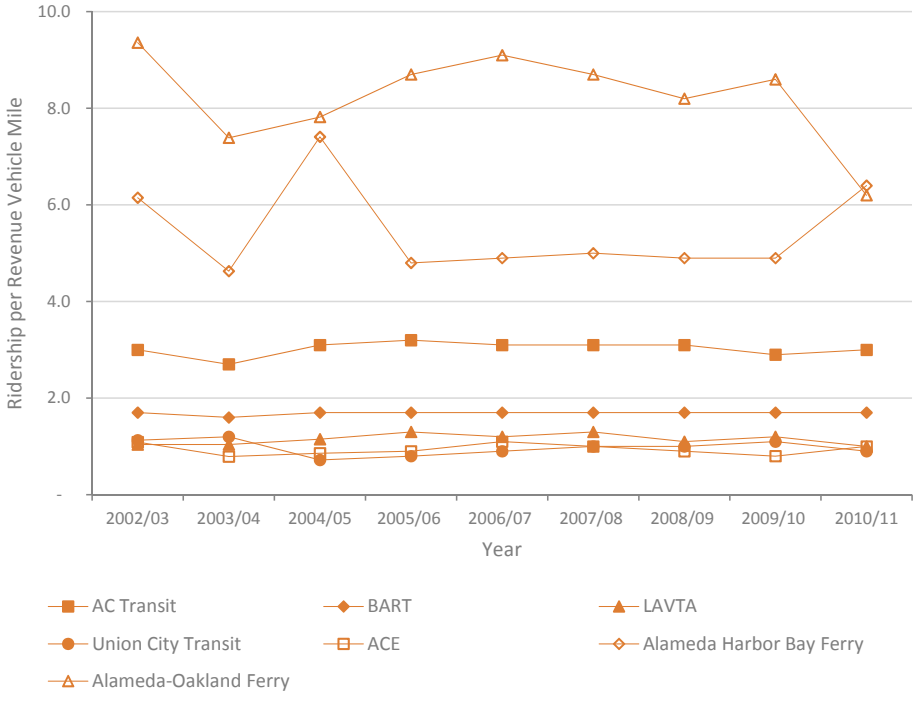


Figure 21
Ridership per Revenue Vehicle Mile

Source: Data provided by transit operators by special request.

Ridership per Revenue Vehicle Hour

Ridership per revenue vehicle hour, as shown in Figure 22, is the number of passengers divided by the number of hours each transit vehicle is in revenue service, including layover time. The measure excludes hours spent while traveling to and from storage facilities and during other deadhead travel. According to this measure, Alameda County transit ridership per revenue vehicle hour increased since last year, with the exception of LAVTA. This is likely due to patrons from the cancelled services boarding the available transit lines, particularly for bus transit, and from effective scheduling of available routes by the operators. Appendix B5 provides detailed data on this performance measure.

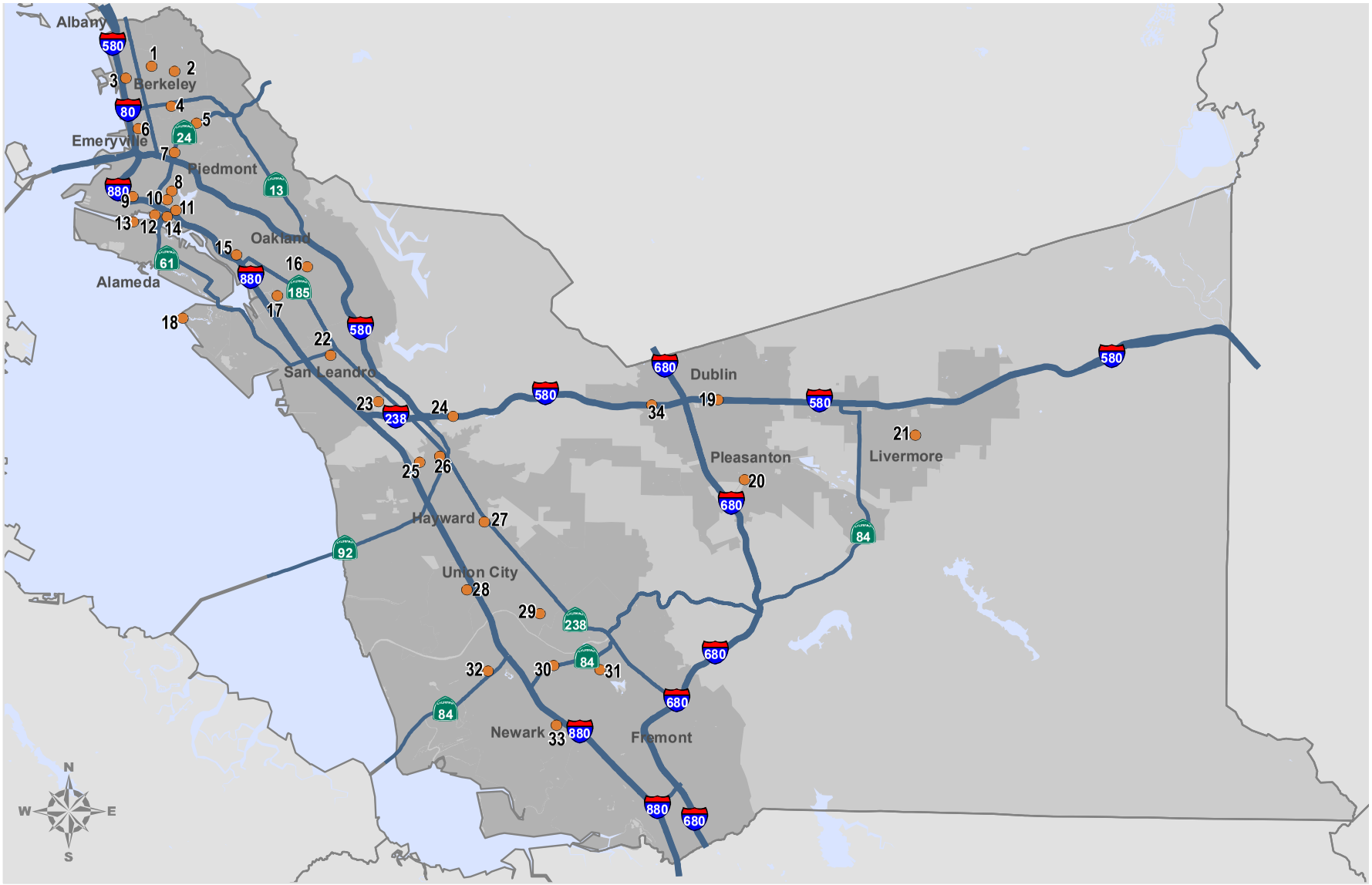
Figure 22
Ridership per Revenue Vehicle Hour

Source: Data provided by transit operators by special request.

Note: For Alameda-Oakland Ferry, WETA staff acknowledged that data for 2010/11 does not appear consistent with data for other measures

Service Coordination

Figure 23 and the accompanying Table 14 shows the number of transit lines serving major transportation terminals during the peak commute period in Alameda County. BART provides the greatest number of transfer opportunities at its stations, including Fremont (19 lines), Hayward (15 or more lines), Union City (18 lines), 12th Street (23 lines), Downtown Berkeley (19 lines), and Dublin/Pleasanton (17 lines). In addition, the Hayward Greyhound Station has 10 transfer opportunities; AC Transit has many lines connecting to Eastmont Mall and Newpark Mall; and LAVTA added a line at the Livermore Transit Center. Since FY 2009-10, AC Transit has had a reduction in service at Castro Valley BART Station from 6 to 2 lines. Also, West Dublin BART Station opened and is served with BART and LAVTA lines.



ALAMEDA County Transportation Commission

Figure 23

Transit Connections

Legend

- Transit & Intermodal Stations
- Interstate/Freeway (CMP - Tier 1 & MTS)
- Other State Highway (CMP - Tier 1 & MTS)

Table 14: Transit Connections

1	North Berkeley BART BART: 2 lines AC Transit: 1 line
2	Berkeley BART BART: 2 lines AC Transit: 14 lines UC Shuttles: 5 lines
3	Berkeley Amtrak Station Amtrak/Capitol Corridor: 1 line AC Transit: 3 line
4	Ashby BART BART: 2 lines AC Transit: 3 lines
5	Rockridge BART BART: 1 line AC Transit: 4 lines
6	Emeryville Amtrak Station Amtrak/Capitol Corridor: 1 line Amtrak/San Joaquin: 1 line AC Transit: 1 line
7	MacArthur BART BART: 3 lines AC Transit: 6 lines Emery-Go-Round: 2 lines
8	19th Street BART BART: 3 lines AC Transit: 15 lines
9	West Oakland BART BART: 4 lines AC Transit: 4 lines
10	12th Street/City Center BART BART: 3 lines AC Transit: 23 lines
11	Lake Merritt BART BART: 3 lines AC Transit: 4 lines
12	San Francisco/Oakland Ferry Terminal Ferry: 1 line AC Transit: 1 line
13	San F/Alameda Ferry Building Ferry: 1 line
14	Oakland Amtrak Station Amtrak/Capitol Corridor: 1 line Amtrak/San Joaquin: 1 line AC Transit: 4 line
15	Fruitvale BART BART: 3 lines AC Transit: 10 lines
16	Eastmont Mall AC Transit: 10 lines
17	Coliseum/Oakland Airport BART and Amtrak Station BART: 3 lines Air-BART: 1 line Amtrak/Capitol Corridor: 1 line AC Transit: 6 lines
18	Harbor Bay Ferry Ferry: 1 line AC Transit: 1 line
19	Dublin/Pleasanton BART BART: 1 line LAVTA: 11 lines CC Transit: 3 lines SJ Regional Transit District: 2 lines Modesto MAX: 1 line
20	Pleasanton ACE Station ACE: 1 line CC Transit: 1 line LAVTA: 2 lines
21	Livermore Transit Center (ACE Station) ACE: 1 line LAVTA: 9 lines
22	San Leandro BART BART: 3 lines AC Transit: 5 lines
23	Bayfair BART BART: 3 lines AC Transit: 11 lines LAVTA: 1 line
24	Castro Valley BART BART: 1 line AC Transit: 2 lines
25	Hayward Amtrak Station Amtrak/Capitol Corridor: 1 line AC Transit: 4 line
26	Hayward BART BART: 2 lines AC Transit: 15 lines Greyhound lines
27	South Hayward BART BART: 2 lines AC Transit: 8 lines
28	Union Landing Transit Center AC Transit: 3 lines Union City Transit: 3 lines
29	Union City BART BART: 2 lines AC Transit: 10 lines Dumbarton Express: 3 lines Union City Transit: 5 lines
30	Fremont/Centerville ACE & Amtrak Station ACE: 1 line AC Transit: 5 lines Amtrak/Capitol Corridor: 1 line
31	Fremont BART BART: 2 lines AC Transit: 15 lines Santa Clara VTA: 4 lines
32	Ardenwood Park N Ride Lot AC Transit: 4 lines Dumbarton Express: 2 lines
33	Newpark Mall AC Transit: 10 lines
34	West Dublin/Pleasanton BART BART: 1 line LAVTA: 5 lines

Vehicle Maintenance

Rail and bus transit operators have different indicators of vehicle maintenance: bus operators report on Miles Between Mechanical Road Calls, and BART and ACE report on the Mean Time Between Failures.

For all transit modes, fewer miles between road calls or failures can be a sign of an aging fleet. A larger number of miles generally indicates a newer fleet or a higher proportion of newer vehicles. It can also indicate improved maintenance of the fleet or improved transit operations.

Service calls are made for a variety of reasons, including mechanical problems, fare box issues, and broken lights. They include service calls to the dispatch yard, bus terminals (BART) as well as vehicles in-route and those that are either in-service or about to go into service.

Miles Between Mechanical Road Calls

As shown in Figure 24, AC Transit reported a 23 percent decrease in the amount of miles between road calls in FY 2010-11 compared to the previous year. LAVTA shows a 30 percent increase in miles between road calls and Union City Transit shows a 70 percent improvement during the same period. Appendix B6 provides detailed data on this performance measure.

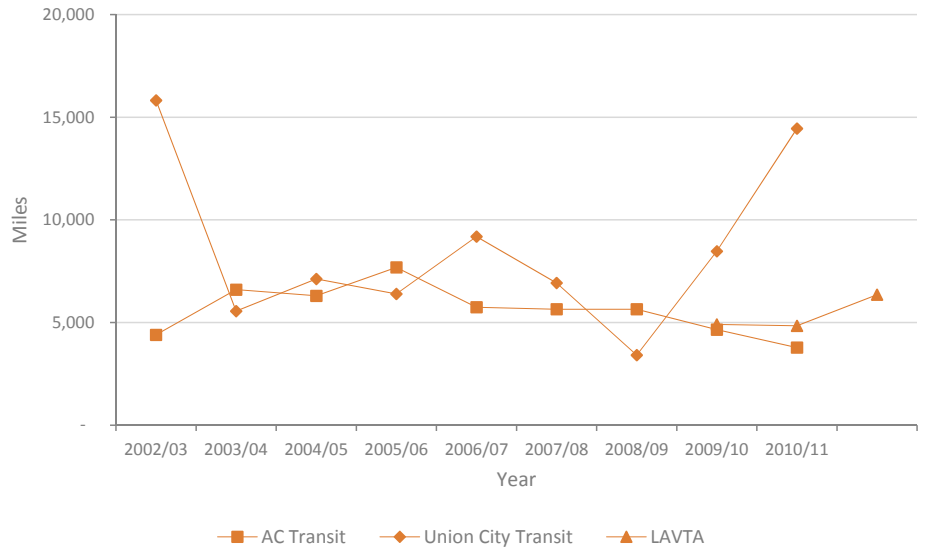


Figure 24
Miles Between Mechanical Road Calls

Note: LAVTA changed the reporting method since 2009, so prior data are not comparable.

Source: Data provided by transit operators by special request.

Mean Time Between Rail Service Delays

BART and ACE collect data to determine the average time between service delays. Train delays can be caused by personnel or mechanical failures. Figure 25 indicates that the BART system has remained relatively stable since 2007. BART's stable time between service delays may be due to ongoing asset management and preventative maintenance. The Mean Time between Service Delays for ACE in FY 2010-11 was reduced by 11 percent compared to the previous year.

Appendix B7 provides detailed data on this performance measure.

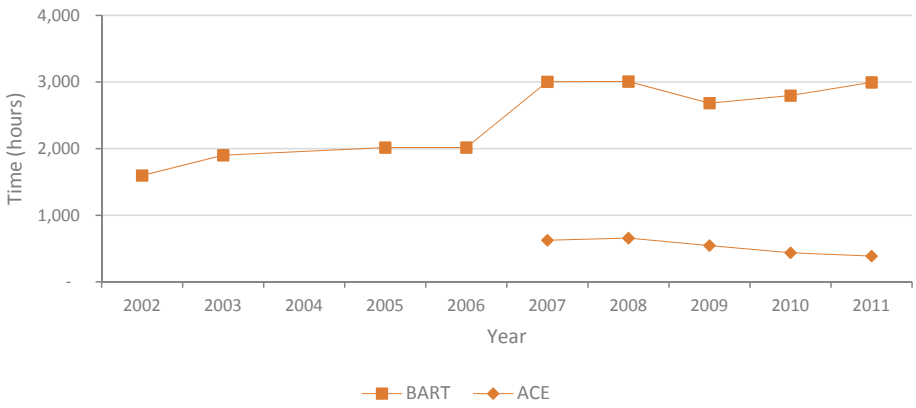


Figure 25
Mean Time Between Rail Service Delays

Source: Data provided by transit operators by special request.
Note: Data for prior to 2007 are not available for ACE.

Major Mechanical System Failures

The Federal Transit Administration defines a major mechanical system failure as a mechanical problem in which the vehicle does not complete its scheduled revenue trip or does not start its next scheduled revenue trip because actual movement is limited or because of safety concerns. The failure may occur in revenue service, including layover/recovery time or during deadhead. Revenue vehicle system failures are reported as major mechanical system failures if they either limit actual vehicle movement or are safety issues.

Examples of major bus failures include breakdowns of air equipment, brakes, doors, engine cooling system, steering and front axle, rear axle and suspension and torque converters. Major BART vehicle systems include automatic train operation, brake, auxiliary electric, door, propulsion, and electric couplers.

BART had 182 major system failures in FY 2010-11, representing a 9 percent decrease compared to the previous year.

Routing

Routing is used to determine how many transit passengers are being served using a combination of three measures:

- *Directional Route Miles* measures the amount of surface (roadway or trackway) that is covered by transit. For example, a one-mile segment of road over which transit operates in both directions would be reported as two miles, while a one-mile segment traversed by vehicles six times in the same direction would be counted as one-mile.
- *Service Coverage* measures the amount and intensity of service provided, including the number of routes and frequency on the transit system. For instance, a one-mile segment traversed by vehicles six times in the same direction would be counted as six-miles.
- *Total annual passenger boardings*. As shown in Table 15, year 2010-11 shows continued decline in all three measures compared to 2008-09. Directional route miles and annual passenger boardings are among the lowest in the last 10 years while directional route miles peaked in 2008-09 and annual passenger boardings peaked in 2004-05, when it crossed the 100 million boardings mark (see Appendix B2).

Table 15: Transit Routing [1]

MEASURE	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	% CHANGE LAST YEAR
Directional Route Miles[2]	1,811	1,773	1,698	1,874	1,757	1,851	1,917	1,951	1,676	1,624	-3%
Service Coverage (000's)[3]	363	318	348	345.0	322.3	335.4	385.0	376.0	357.0	355.0	0%
Annual Passenger Boardings (000's)	97,605	90,065	100,556	100,780	97,501	98,593	98,702	94,488	92,907	90,922	-2%

Note:

[1] *The summary totals include data from the following transit operators in Alameda County: AC Transit, Union City Transit, LAVTA, BART and Capitol Corridor.*

[2] *Directional Route Miles is a measure of surface area (roadway and trackway) served. For example, a one mile segment of road over which transit operates in both directions would be reported as two miles, while a one mile segment traversed by vehicle six times in the same direction would be counted as one mile.*

[3] *Service Coverage is Total Vehicle Miles/Directional Route Miles. A measure of the amount of service provided, including number of routes and frequency, on the transit system. For instance, a one mile segment traversed by six vehicles six times in the same direction would be counted as six miles.*

Frequency

Frequency is measured by how often transit service is provided on each route. For BART and bus, frequency is measured by the number of minutes between trains (headway). For Capital Corridor and ACE, frequency is measured by the number of train lines provided. Service hours vary by operator:

- AC Transit has provided 24-hours-a-day service since December 2005.
- AC Transit "All Nighter" routes provide Transbay and East Bay service at times when BART is not running.
- Union City Transit operates between 4:35 a.m. and 10:25 p.m.
- BART operates between 4:00 a.m. and 12:00 a.m.

BART serves 20 Alameda County stations. Depending on the trip's origin or destination, service is provided every 2½ to 15 minutes during the peak commute periods. During June 2011, BART service was every 20 minutes after 7:00 p.m. on weekdays and Saturdays, and all day on Sundays. One of the transfer points changed from 12th Street Station to 19th Street Station in Oakland. MacArthur Station (Oakland) and Bay Fair Station (San Leandro) provide transfers between BART lines.

Appendix B8 shows the number of bus and train routes in Alameda County by how often they arrive, (headway). Amtrak/Capitol Corridor and ACE are shown by the number of trains that run different times of day.

Figure 26 shows that the frequency of bus service peaked ten years ago and has declined since then. Last two years show lowest bus frequency compared to previous years. During the peak commute hours, 18 percent of Alameda County bus routes (18 routes) arrive every 15 minutes or less, and 60 percent (59 routes) arrive every 16 to 40 minutes.

Ferries neither scheduled major service changes nor had any service disruptions in FY 2010-11.

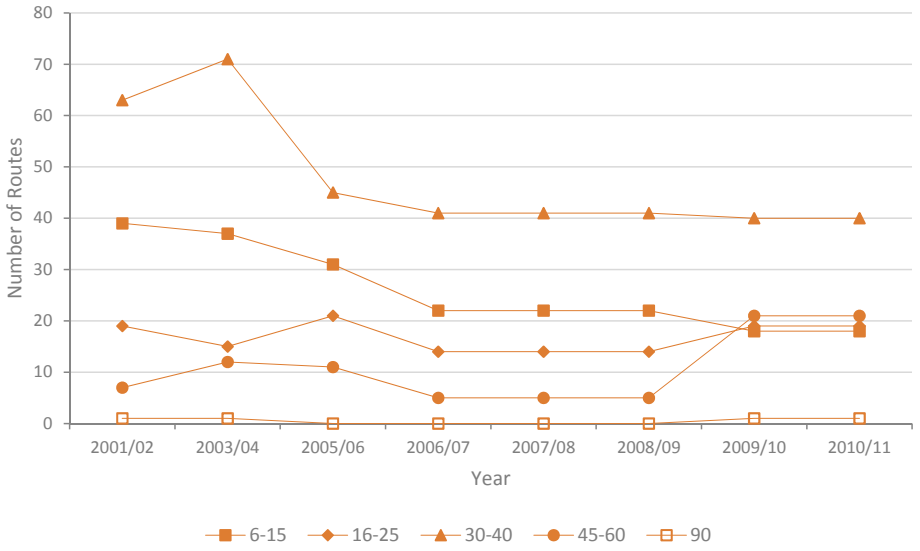


Figure 26
Bus Service Frequency in Peak Period

Source: Data provided by transit operators by special request.

Lifeline Transportation Funded Projects

MTC's regional Lifeline Transportation Program supports community-based transportation projects that result in improved mobility for low-income residents. The Alameda CTC administers Alameda County's Lifeline program. The Lifeline Program is included in the transit section of this report although pedestrian and bicycle improvements may be included. The Alameda CTC Board approved the following eight projects in 2009 for the Cycle 2 Lifeline Transportation Program:

- San Leandro LINKS shuttle, from BART to West San Leandro employment areas;
- A Quicker, Safer Trip to Library, West Oakland Library Shuttle;
- Meekland and Hacienda Avenue Transit Access Improvements, unincorporated Hayward;
- AC Transit Service Preservation in Communities of Concern – Alameda, Oakland, San Leandro, South Hayward, and unincorporated Hayward;
- Cycles of Change Neighborhood Bicycle Centers, Oakland and Alameda;
- LAVTA WHEELS Route 14 Service Provision, Livermore;
- LAVTA Route 14 Civic Center busway and stop improvements in Downtown Livermore;
- BART access improvements, secure bike parking at Berkeley and North Berkeley stations.

Alameda County's Cycle 3 Lifeline Transportation Program was approved by the Alameda CTC in May 2012 and MTC approved the program in June and July 2012. The 2011-12 Performance Report will include the Cycle 3 program information.

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4 Bicycling

The Alameda Countywide Bicycle Plan was first adopted by the Alameda CTC in 2001, and updated in 2006. The Plan includes projects and programs to improve bicycle access and safety within Alameda County, as well as facilitate connectivity with neighboring communities. The County is making progress in implementing the High Priority Projects identified in the 2006 Bicycle Plan. As of 2011, 13 of 15 jurisdictions in Alameda County had an adopted stand-alone bicycle plan or combined Pedestrian/Bicycle Plan and one jurisdiction was in the process of developing a plan. Bicycle counts show that bicycling has increased countywide by 50 percent between 2002 and 2010. During the same period, the number of collisions increased by only 14 percent, suggesting that the rate of collisions, which is a more accurate indicator of safety of bicycling, has actually declined.

The Alameda Countywide Bicycle Plan (the Bicycle Plan) has three levels of investment:

- The Vision Network, representing the entire proposed bikeway system, encompasses 549 miles of bicycle facilities.
- The Financially Constrained Network, a subset of the Vision Network, includes core bicycle facilities that were expected to be able to be completed with available revenues through 2035.
- High Priority projects, representing a 28-mile subset of the Vision Network, was originally projected to be completed by 2010.

Included in these levels of investment are three implementation components and four programs: the bikeway network, transit-priority zone projects, rehabilitation of on-street bicycle network projects, and programs such as signage, maintenance, parking, and education/promotion.

Four measures are used to evaluate progress toward the Bicycle Plan's goals:

- Completed High Priority Projects
- Bicycle Counts
- Bicycle Collisions
- Local Bicycle Master Plans status

Figure 32 summarizes bicycle performance measures and the related CMP objectives.

Completed High Priority Projects

Of the 16 High Priority projects included in the Plan, one is completed. (The San Leandro Slough Bridge, which is a part of the Bay Trail and connects San Leandro with Oakland, was built in FY 2009/10). In FY 2010/11 a segment of one of these 15 projects was completed. The City of Fremont constructed 1.5 miles of bicycle lanes along Fremont Boulevard from West Warren Avenue to the southern terminus of Fremont Boulevard. Overall, local jurisdictions report making progress on 9 of the 15 projects, while no progress was made on 4 projects, and 2 projects are on hold pending circumstances beyond the control of the project (see Appendix C1). Progress on the 9 projects include the following:

- Two projects are under construction.
- Five projects are being prepared for construction.
- Five projects are expected to be constructed sometime between 2011 and 2013.
- Three projects secured funding for future construction.

In addition, almost 3.5 miles of bikeways on the Vision Network were constructed, and some improvements were made on another 3.5 miles of additional bikeways, for a total of 7.0 miles of improved bikeways in eight jurisdictions in FY 2010/11. (Appendix C2 lists the 23 Vision Network projects that were built or improved.) Figure 27 illustrates completed High Priority bike projects in Alameda County.

As of July 2011, the countywide network has 240 miles of existing bikeways and is 44 percent complete. An additional 309 miles are planned for construction or enhancements.

Bicycle Counts

Between 2002 and 2010, bicycling increased by 50 percent, with 20 percent of increase taking place between 2008 and 2010, as shown in weekday evening bicycle counts conducted by the Alameda CTC, see Figure 28 and Appendix C3. Since 2002, the Alameda CTC and MTC have coordinated with local jurisdictions to monitor the number of bicyclists traveling through several major intersections in Alameda County. Additional countywide bicycle counts have also been conducted through other partnerships, all with the goal of measuring the levels of bicycle activity and countywide trends over time.

The Alameda CTC (in partnership with the MTC) instituted a regular annual bicycle (and pedestrian) count program in 2010, with the goal of counting 63 locations around the county. Counts were conducted in 2010 at each intersection for two time periods: (1) evening (4-6 p.m.) and (2) either during midday (12-2 p.m.) or mid-afternoon (2–4 p.m.), depending on whether the count location is near a school, in which case the later time period is counted to capture children bicycling after school.

Although there was an overall increase in counts at the set of nine locations, counts increased at six sites and decreased at three. In 2010, the counts for the 2-hour period ranged from a high of 476 bicyclists (Hearst/Milvia in Berkeley) to a low of 6 bicyclists (Stoneridge/Hopyard in Pleasanton).

In addition to the evening period counts increasing between 2008 and 2010, the midday period (12-2 p.m.) and the mid-afternoon period (3-4 p.m.) also saw an increase in bicycling between these two years.

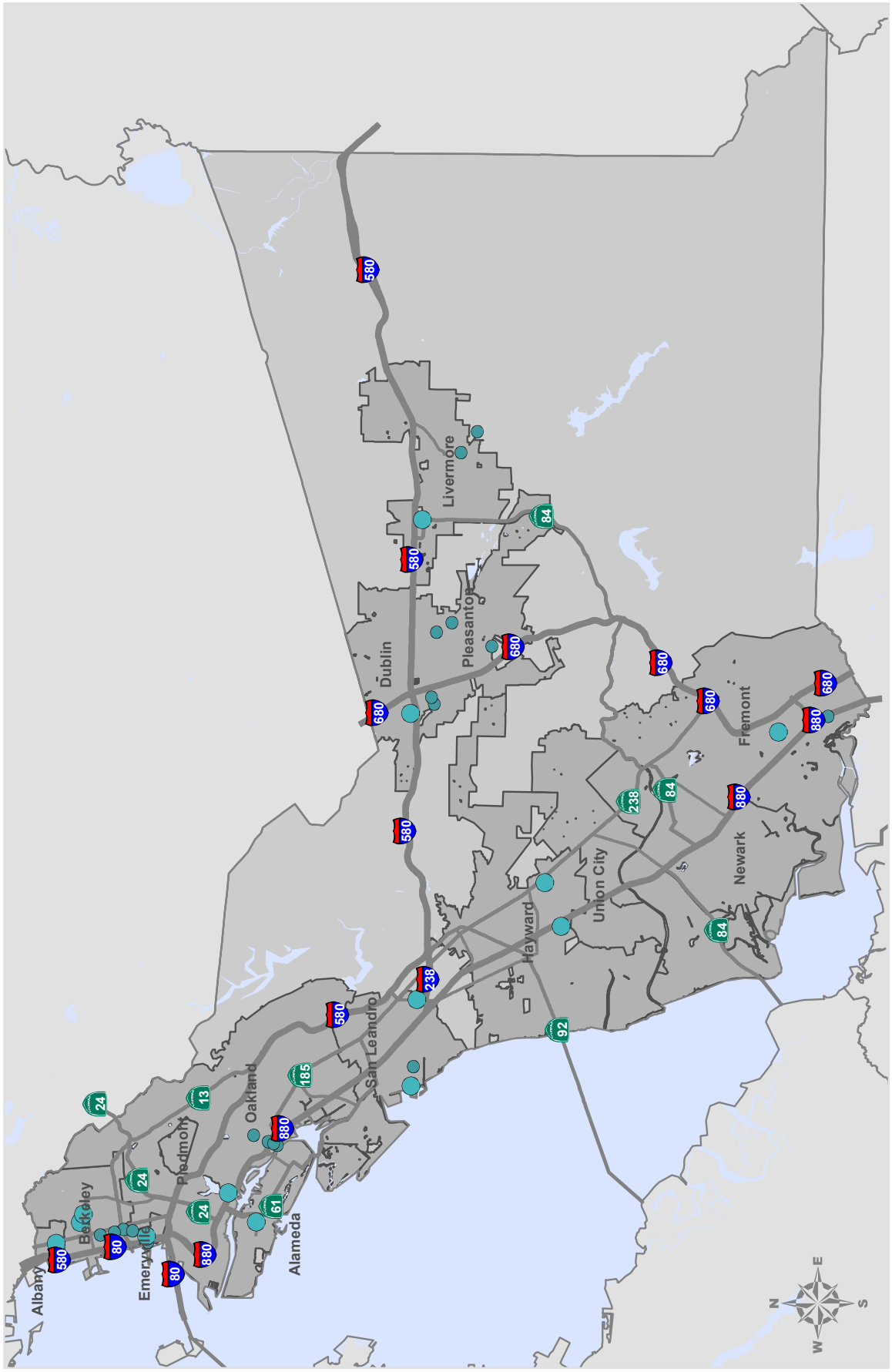

Figure 27
Bicycle Plan Projects Completed or Underway

The only period with comparable data between 2009 and 2010 was for the mid-afternoon period (2–4 p.m.), which showed a slight drop in bicycling of 2 percent; however, only four count locations had comparable data, and so the data set is very small and may not represent overall trends in bicycling during this period.

In future years, given the establishment of the annual count program in 2010, with counts being conducted at 63 locations, the data set from year to year will be much richer and provide a fuller picture of bicycling in Alameda County. This data will be reported in future Performance Reports.

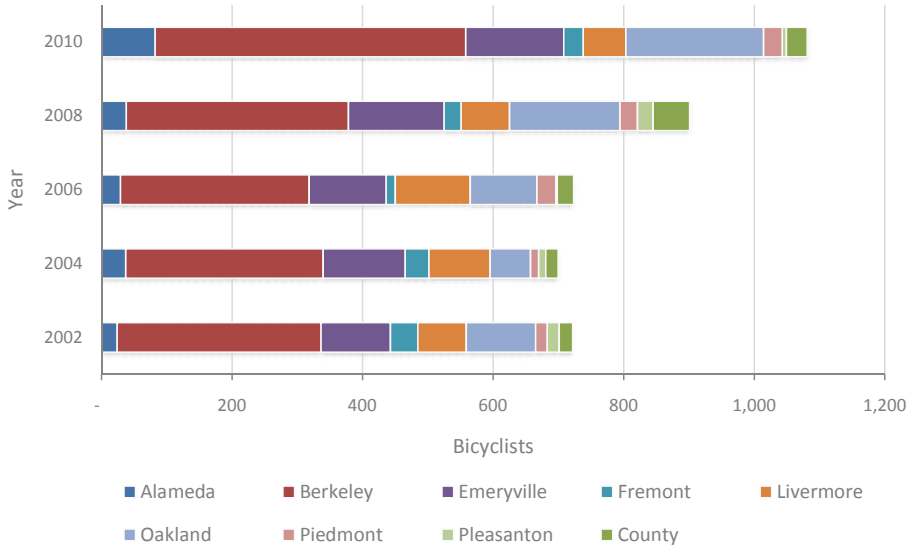

Figure 28
Total Bicyclists Counted by Year

Source: Alameda County Transportation Commission

Bicycle Collisions

Tracking the number of bicycle collisions reveals countywide and local safety trends for bicyclists. Data is collected from the Statewide Integrated Traffic Records System (or SWITRS), which is compiled by the state. The most recent data available is through the year 2009.

Between 2002 and 2009, the number of bicyclist collision—resulting in injuries and fatalities—has varied (Figure 29). From 2002 through 2005, there was a slight downward trend in collisions. However, between 2005 and 2008, collisions began increasing, with a large spike between 2007 and 2008 for unknown reasons, but possibly because of an increase in bicycling around the county. Between 2008 and 2009, this trend was reversed, with the total number of collisions dropping slightly by 2 percent; however, the 2009 figures are still 14 percent higher than in 2002 (see Appendix C4).

In 2009, there were 653 bicycle collisions resulting in injuries or fatalities. More than half of all of the collisions occurred in Berkeley and Oakland (57 percent), where bicycling rates are also high.

The total number of fatalities, though not insignificant, is relatively low for bicyclists, and therefore it is difficult to measure countywide trends from year to year. Since 2002, annual bicycle fatalities each year have ranged between one to four. In 2009, there were two fatalities — both in Hayward.

As noted in the previous section, bicycle counts have increased countywide by 50 percent between 2002 and 2009. During the same 8-year period, the number of collisions increased by only 14 percent, suggesting that the rate of collisions, which is a more accurate indicator of the safety of bicycling, has actually declined countywide.

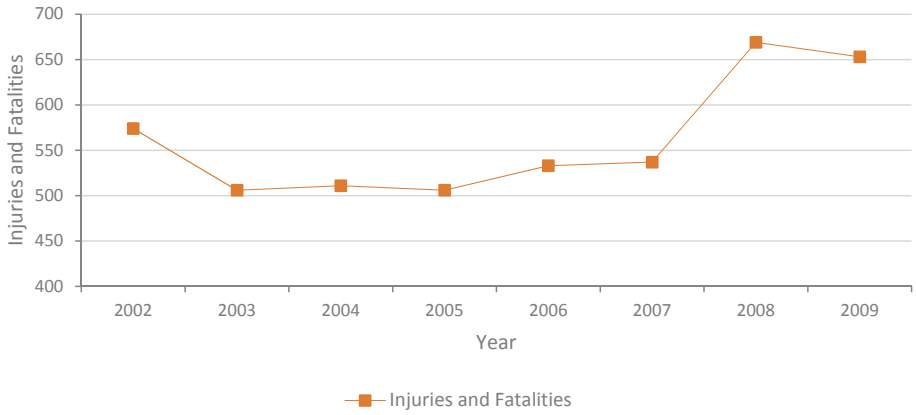

Figure 29
Bicycle Collisions

Source: California Highway Patrol, SWITRS, Previously Created Reports, 2002 to 2009, as posted in March 2012 (www.chp.ca.gov/switrs/index.html)

Local Bicycle Plan Status

Having up-to-date, adopted, local bicycle plans in every jurisdiction in the county ensures that bicycling needs are considered at the local level and that resources are more efficiently utilized through project prioritization. It also assists in developing a countywide bicycle plan that is meaningful and representative of the entire county. As of 2011, 13 of the 15 jurisdictions in Alameda County had an adopted stand-alone bicycle plan or combined pedestrian/bicycle plan, and one jurisdiction (Newark) was in the process of developing a plan (see Figure 30). Only the City of Piedmont did not have a local bicycle plan. These plan status for all jurisdictions in the county is shown in Appendix C5.

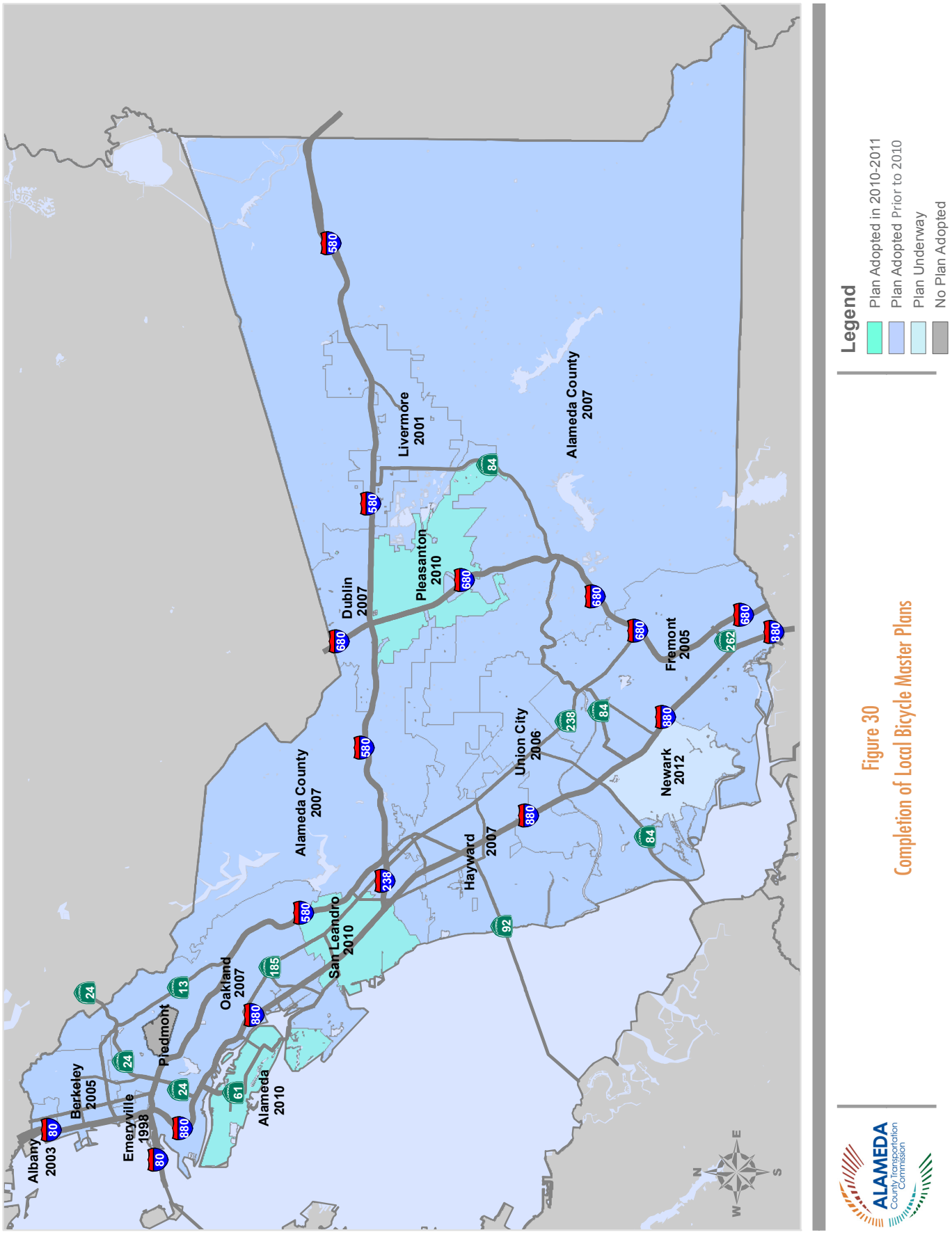

Figure 30
Completion of Local Bicycle Master Plans

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5 Walking

The Alameda CTC adopted the first Countywide Strategic Pedestrian Plan in 2006. The Plan identifies and prioritizes pedestrian improvements and programs to encourage walking and improve pedestrian safety on a countywide level. As of 2011, nine of the 15 jurisdictions in Alameda County had an adopted stand-alone pedestrian plan or combined pedestrian/bicycle plan, and two more jurisdictions were in the process of developing a plan. Pedestrian counts have increased countywide by 41 percent between 2002 and 2010. During the same 8-year period, the number of collisions decreased by 31 percent, suggesting that the rate of collisions, which is a more accurate indicator of safety of walking, has significantly declined countywide.

The Alameda CTC adopted the first Countywide Strategic Pedestrian Plan (the Pedestrian Plan) in 2006, and it is currently being updated and is scheduled for adoption in October 2012. The Pedestrian Plan identifies and prioritizes pedestrian improvements and programs to encourage walking and improve pedestrian safety on a countywide level.

The capital projects included in the Pedestrian Plan are focused in areas of countywide significance, which is defined as "places that serve pedestrians traveling to and from a variety of locations through Alameda County and beyond." The three targeted areas, and corresponding capital projects and programs, include the following:

- Access to Transit—Projects improve access to key transit within one-half mile of a transit stop or line.
- Access to Major Activity Centers—Pedestrian projects that improve access to and within downtowns and major commercial districts plus provide access to approximately 100 other major activity centers.

- Inter-jurisdictional Trails—Trails that link populated areas. Three main examples include San Francisco Bay Trail, the Iron Horse Trail, and the planned East Bay Greenway. (The East Bay Greenway is identified as a new proposed trail, although not mapped in the current Pedestrian Plan. Portions of it are included in the Vision Network of the 2006 Countywide Bicycle Plan. The preliminary alignment runs between the Ohlone Greenway in Albany and the southern Alameda County border).

Four measures are being used to evaluate progress toward the Pedestrian Plan's goals:

- Completed Projects
- Pedestrian Counts
- Pedestrian Collisions
- Local Bicycle Master Plans status

Completed Projects

In FY 2010-11, local jurisdictions reported that nine projects with countywide significance (Figure 31) were completed (Appendix D1). Of these projects seven made improvements to accessing transit, and four projects involved improving inter-jurisdictional trails (Bay Trail and Iron Horse Trail).

It is certain that many other pedestrian projects were constructed around the county, including projects with countywide significance. However, unlike bicycle projects, pedestrian projects are not generally tracked as a group at the local level, and therefore providing good reporting on what has been constructed in the Pedestrian Plan is challenging. Improved reporting approaches are being explored in the Pedestrian Plan update as a way to measure implementation of the Pedestrian Plan.

Pedestrian Counts

Between 2009 and 2010, walking increased by 15 percent, as shown in weekday evening pedestrian counts conducted by the Alameda CTC at 21 locations (Figure 32). Since 2002, a variety of countywide pedestrian counts have been conducted to measure levels of pedestrian activity and countywide trends over time. The Alameda CTC (in partnership with the MTC) instituted a regular annual pedestrian (and bicycle) count program in 2010, with the goal of counting 63 locations around the county. Counts were conducted in 2010 at each intersection for two time periods: (1) evening (4–6 p.m.) and (2) either during midday (12–2 p.m.) or mid-afternoon (2–4 p.m.), depending on whether the count location is near a school or not, in which case the later time period is counted to capture children walking after school.

Between 2009 and 2010, while overall pedestrian counts increased by 15 percent, the counts at the 21 individual locations varied (see Appendix D2). Counts increased at 15 sites, decreased at 5 sites and stayed that same at 1 site. In 2010, the counts for the 2-hour period ranged from a high of 1,957 pedestrians (12th/Broadway in Oakland) to a low of 5 pedestrians (Warm Springs/Grimmer in Fremont), representing a variety of land uses and development patterns.

Besides the weekday evening period, there was only one comparable data set between 2009 and 2010, which was for the mid-afternoon (2–4 p.m.) period. It also showed an increase in pedestrians, as counted at four locations.

Six locations in the county were counted in 2002 and again in 2010. Over these eight years, there was a 41 percent increase in the number of pedestrians counted (Figure 33), showing a longer-term overall upward trend in walking in the county.

In future years, given the establishment of the annual count program in 2010, with counts being conducted at 63 locations, the data set from year to year will be much richer and provide complete picture of walking in Alameda County. This data will be reported in future Performance Reports.

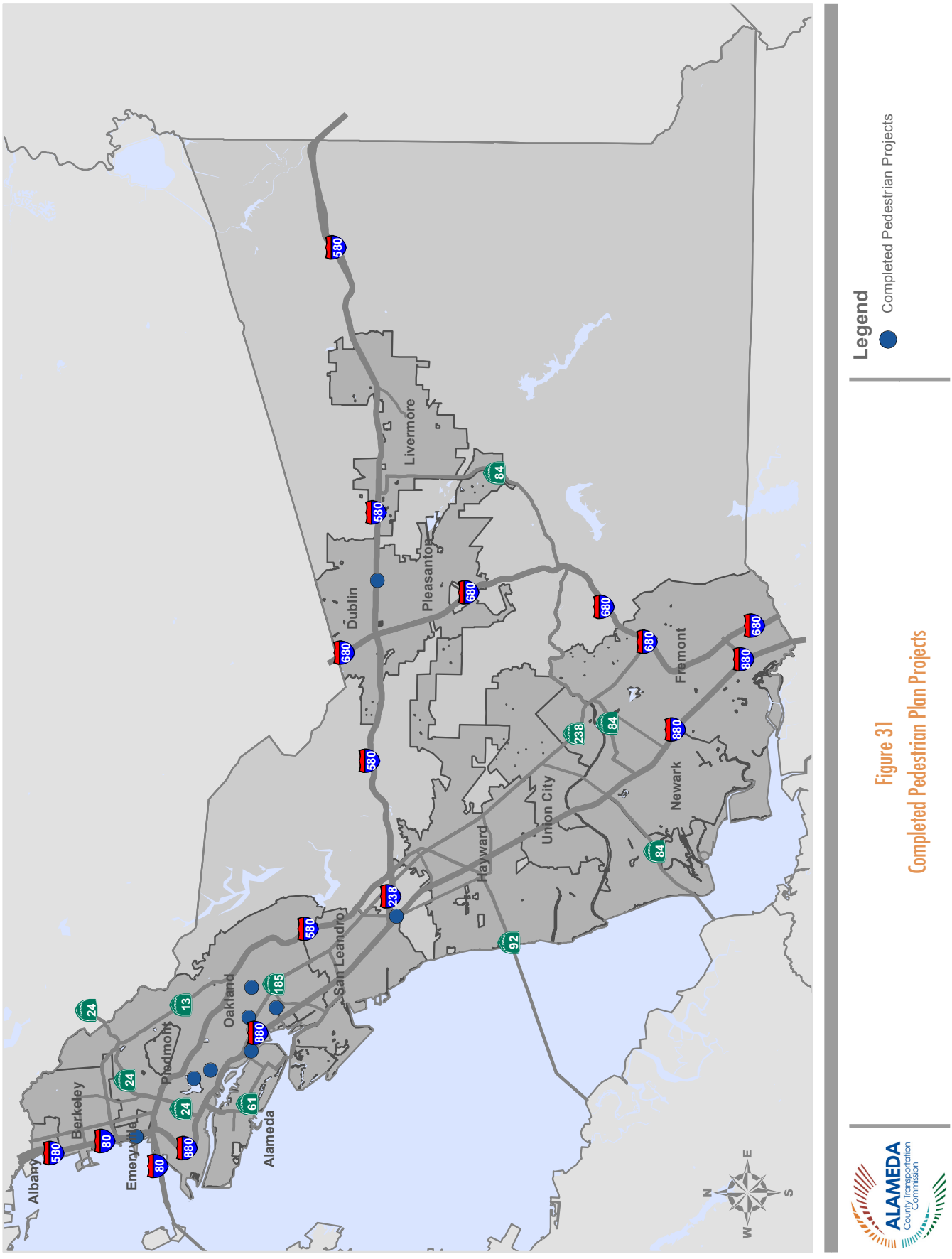

Figure 31
Completed Pedestrian Plan Projects

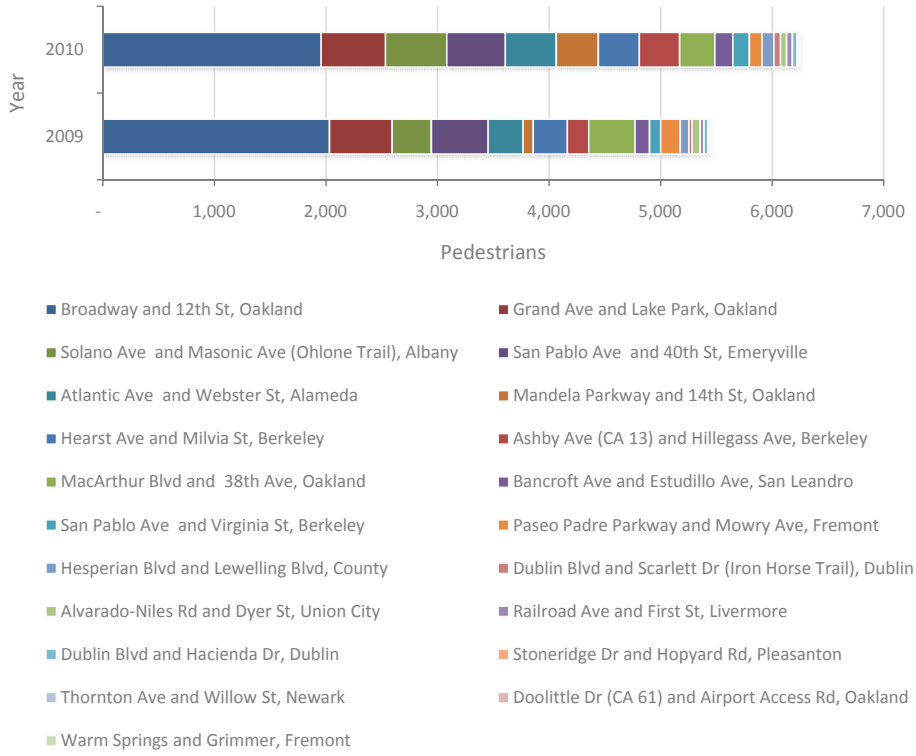

Figure 32
Total Pedestrians Counted by Year, Near Term: 2009 and 2010

Source: Alameda County Transportation Commission

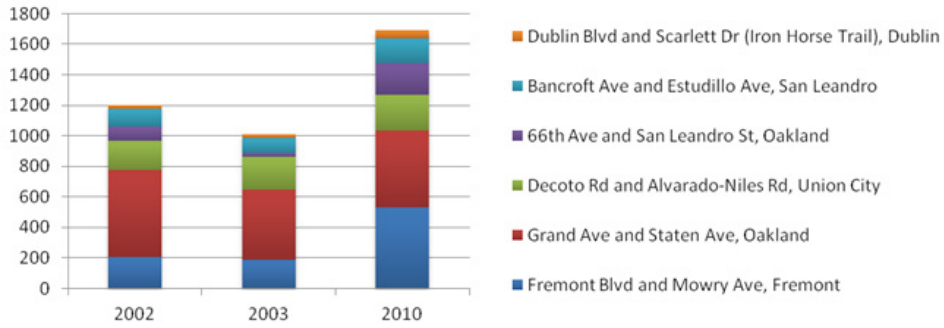

Figure 33
Total Pedestrians Counted by Year, Long Term: 2002, 2003 and 2010

Source: Alameda County Transportation Commission

Pedestrian Collisions

Tracking the number of pedestrian collisions reveals countywide and local safety trends for pedestrians. Data is collected from the SWITRS, which is compiled by the state. The most recent data available is through the year 2009 (see Appendix D3).

Between 2002 and 2009, the number of pedestrian injuries and fatalities from collisions, declined by 31 percent. While slightly variable, the numbers have been declining for eight years, except for a sharp upward spike in 2008, which occurred for unknown reasons (Figure 34). Between 2008 and 2009, the overall downward trend resumed, with a decrease in injuries and fatalities to totals below 2007 levels.

In 2009, there were 591 pedestrian collisions resulting in injuries or fatalities. More than half of all of the collisions occurred in Berkeley and Oakland (59 percent), where walking rates are also high. This is the first time in the previous eight years of compiled data that total pedestrian collisions in the county were lower than bicyclist collisions.

The total number of fatalities was also very low in 2009, with 10 people fatally injured while walking. The fatalities occurred in four jurisdictions: Berkeley, Fremont, Oakland, and the unincorporated areas of Alameda County. Over the last eight years of compiled data, this is the lowest total number of pedestrian fatalities for any one year, and it follows a year (2008) with the highest number of fatalities (34) during the same period. Since 2002, there has been an average of 23 pedestrian fatalities each year.

As noted in the previous section, pedestrian counts have increased countywide by 41 percent between 2002 and 2009. During the same 8-year period, the number of collisions decreased by 31 percent, suggesting that the rate of collisions, which is a more accurate indicator of the safety of walking, has significantly declined countywide.

Figure 34
Pedestrian Injuries and Fatalities

Source: California Highway Patrol, SWITRS, Previously Created Reports, 2002-2009, as posted in March 2012 at http://www.chp.ca.gov/switrs/index.html

Local Pedestrian Plan Status

A goal of the Pedestrian Plan is for every jurisdiction in the county to have a local pedestrian master plan. As of 2011, nine of the 15 jurisdictions in Alameda County had an adopted stand-alone pedestrian plan or combined pedestrian/bicycle plan, and two more jurisdictions were in the process of developing a plan (see Figure 35). Four jurisdictions did not have a local pedestrian master plan, nor was one under development: Dublin, Hayward, Livermore, and Piedmont. Status of these plans for all jurisdictions in the county are shown in Appendix C5.

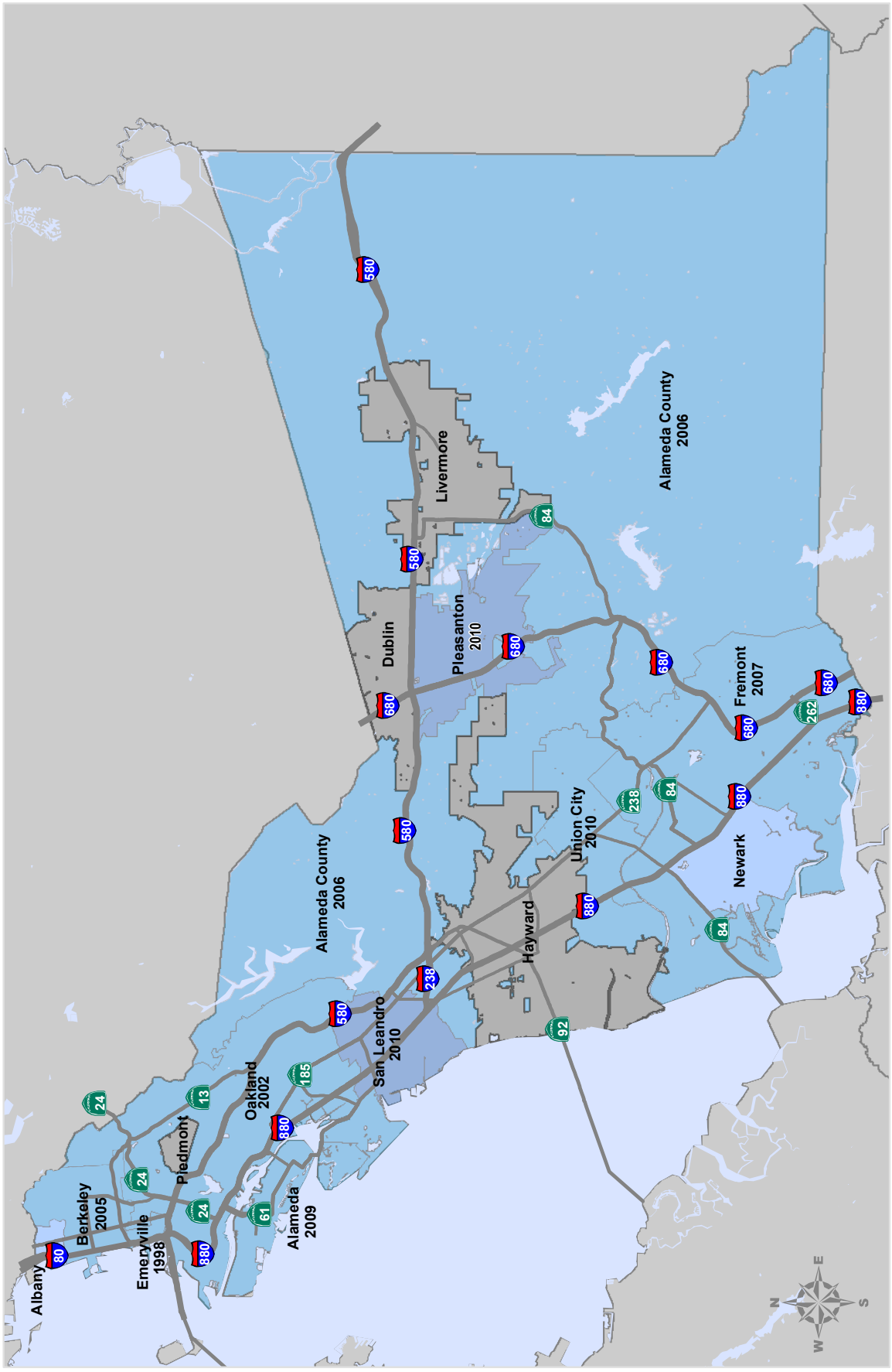

Figure 35
Completion of Local Pedestrian Master Plans

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6 Livable Communities

Alameda CTC, as part of its efforts to address Climate Change and in response to the legislative mandates AB 32 and SB 375 that require better coordination of land use and transportation to reduce GHG emissions and to support a vibrant and livable community, developed the 2012 Countywide Transportation Plan (CWTP) for the first time coordinating land use and transportation working with the local jurisdictions. Many new performance measures were identified to track progress of the performance of the countywide transportation system and land use developments in terms of meeting the climate change and sustainability goals adopted in the CWTP. Since this is the first time data is reported for these measures, these will be used as reference points to track progress in the future. Based on the 2010 American Community Survey, 67 percent of Alameda County workers drove alone to work and 27 percent used alternative modes and 5 percent worked at home. In 2005, the average bike trip in the county took 17 minutes while the walk was about 23 minutes. In terms of air quality, the daily CO_2 emissions in Alameda County in 2005 was 12,727 tons/day (18.6 pounds/capita) and the PM 2.5 was 2.3 tons/day.

Based on the Vision and Goals for the CWTP adopted in 2011, new performance measures were introduced to measure, and by extension, promote livable communities. Specifically, they aim to improve the health and quality of life for everyone in the county by emphasizing alternative modes, coordinating land use and transportation and improving access of low income households to activity centers and transit.

There are six measures that establishes the baseline data and are intended to track progress towards the adopted goals regarding sustainability and Greenhouse Gas reduction:

- Trips by Alternative Modes,
- Average Daily Travel Time for Bicycle and Pedestrian Trips,
- Low Income Households Near Activity Centers,
- Low Income Households Near Transit,
- CO_2 Emissions, and
- Fine Particulate Emissions.

A number of these performance measures are interrelated. For example, using alternative modes often supports reductions in CO_2 and fine particulate emissions.

For many of these performance measures, field data is not available, and therefore this performance report relies on data from the countywide transportation model and/or off model tools used in the update of the countywide transportation plan in the county. Since the base year for the current countywide transportation model is 2005, these data are representative of conditions in year 2005. However, the next countywide model update, anticipated to begin in Fall 2012, will update the base year to 2010. Therefore, future updates to the performance report, after the transportation model update, are anticipated to include data representative of conditions in year 2010 for these measures.

Trips by Alternative Modes

Alternative modes including walking and bicycling, and using transit, provide residents with a variety of options to using their individual automobiles. Using alternative modes supports clean air, compact land use, and better mobility. This measure supports the CWTP goals of promoting multi-modal transportation choices. It also supports the Regional Transportation Plan goals of clean air, climate protection, equitable access, and livable communities. Alternative modes meet a broad range of objectives.

The 2010 American Community Survey from the U.S. Census reported that the majority of Alameda County workers (approximately 67 percent) drove alone to work, followed by 27 percent who traveled by alternative modes of transit, carpool, walking and bicycling (see Figure 36)—a slight increase of 1 percent from 2007. Alameda County workers were slightly more inclined to use alternative modes to arrive at their workplace compared to workers in the Bay Area that shows 26 percent for alternative modes use.

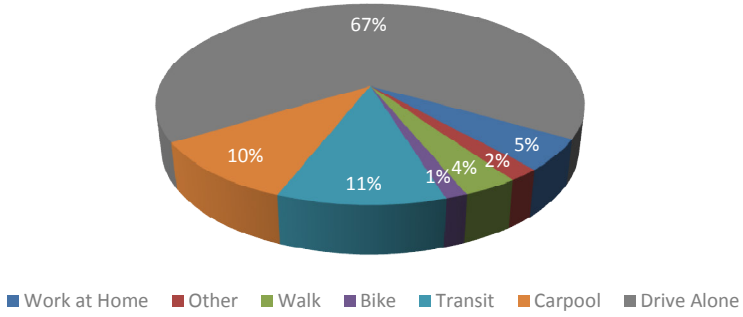

Figure 36
Trips by Alternative Modes

Source: American Community Survey, 2010, US Census

Note: Individual mode shares may not add up to a total of 100% due to rounding

Average Daily Travel Time for Bicycle and Pedestrian Trips

While travel by motorized vehicles is by far the dominant transportation mode in terms of both number of trips and person miles of travel, both pedestrian and bicycling modes have important roles in overall mobility. Walking, in particular, is an integral activity in virtually all travel, either as a complete trip or as a means of access to and egress from other modes for all trips. These modes are more modest in terms of their share of all travel and less dependent on expensive infrastructure. There is a growing awareness of the importance of walking, and bicycle travel supplies a sustainable transportation system that provides mobility for all persons. This measure provides data on average travel time for bicycle and pedestrian trips.

Field data is not available for this performance measure. Based on the results from the countywide transportation model, in 2005, average walk trips took 23 minutes and bike trips took 17 minutes.

Low Income Households near Activity Centers

Alameda County has a wide disparity in incomes and many low-income households do not have access to automobile. Approximately 13 percent of the population in Alameda does not own a car. Having low-income households near activity centers ensures that they have access to a range of services and opportunities.

This measure is defined as the ratio of share of households by income group within a given travel time to activity centers. It is measured as share of households (by income group) within 30-minute bus/rail transit ride and 20-minute auto ride to at least one major employment center and within walking distance of schools. Estimated using off-model tools, as shown in Figure 37, the lowest-income households show increased access to activity centers, with access declining as income increased (also see Appendix E1).

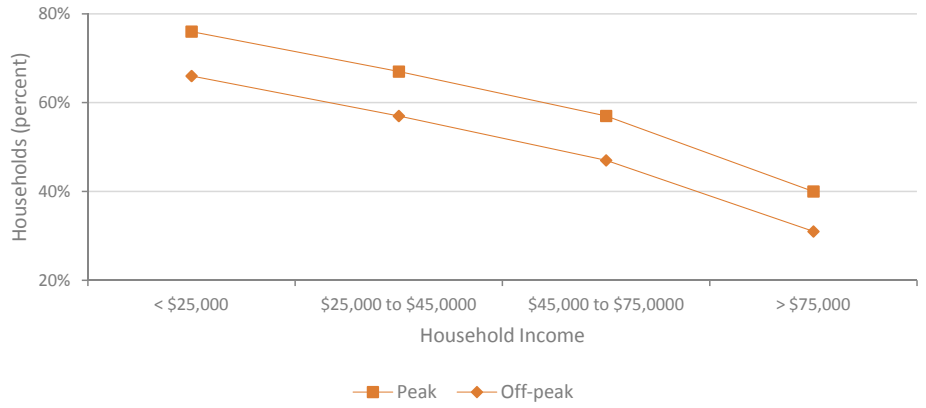

Figure 37
Low Income Households Near Activity Centers

Source: 2012 Alameda Countywide Transportation Plan Evaluation Results, July 2011

Low Income Households near Transit

Transportation costs as a percentage of total household income are usually higher for low-income households. This is the reason why it is critical to ensure that low-income households have access to good transit services to reduce their transportation costs.

Approximately 13 percent of households in Alameda County do not own cars, which is the second-highest rate in the Bay Area. AC Transit ridership surveys indicate that 72 percent of bus riders are low-income riders. Transit is a primary means of transportation for low-income households and affects their ability to access everything from work to schools.

This measure is calculated using off-model tools in terms of ratio of share of households by income group near frequent bus/rail transit service. It is defined as being within one-half mile of rail and one-quarter mile of bus service operating at LOS B or better during peak hours.

Data for this measure is not currently available, and will be reported in the next update to the performance report.

CO_2 Emissions

In California, more than half of the fossil fuel emissions of carbon dioxide (CO_2) are related in some way to transportation. This is a concern because CO_2 is a major cause of climate change. Climate change poses a direct threat to air quality and public health in Alameda County. Anticipated impacts include sea level

rise (threatening coastal areas and key infrastructure), reduced Sierra snowpack (vital to the water supply), increased wildfires, and higher levels of air pollution. Assembly Bill 32 and Senate Bill 375 put forth mandates to reduce the CO_2 emissions from transportation.

In the Bay Area, all regional agencies, CMAs, and local jurisdictions have undertaken various efforts in coordination with each other and also individually to address the climate change problem. MTC in coordination with Association of Bay Area Governments (ABAG), responding to the SB 375 requirements, is preparing a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan update that will be adopted in May 2013. The Bay Conservation and Development Commission (BCDC) is working on Climate Change Planning Program and Sea Level Rise Index Maps. As part of the CWTP update, and working with ABAG on the SCS.

Alameda CTC worked with the planning departments of local jurisdictions, and developed an alternative land use plan that would better coordinate with the transportation system, and thereby reduce GHG emission. In addition to the better land use and transportation connection, there are numerous options recommended that can reduce the CO_2 emissions.

For the CWTP, CO_2 emissions are measured in terms of per-capita CO_2 emissions from cars and light duty trucks on Alameda County Roadways. In 2005, the daily CO_2 emissions in Alameda County were estimated to be 18.6 pounds per capita (see Table 16). For a better comparison with the fine particulate emissions measure, which is expressed in tons/day (since relative $PM_{2.5}$ emissions will be very small), the daily CO_2 emissions in the performance report will be reported in terms of tons/day. Future performance reports will track the trend on this measure.

Table 16: Daily CO_2 Emissions, Year 2005

Measure	Year	Quantity
Daily CO_2 emissions	2005	12,726.6 tons/day*

Source: Alameda Countywide Transportation Model

** Estimated using 18.6 pounds/capita emissions reported in the 2012 CWTP and year for the 2005 population of 1,505,300*

Fine Particulate Emissions

Fine Particulate Matter ($PM_{2.5}$) emissions are caused by exhausts from cars and trucks and are linked to a wide range of impacts that undermine the environment. $PM_{2.5}$ is linked to asthma and a variety of diseases that the young and old are particularly sensitive to. The effects are particularly problematic along major roadways. Therefore, the reduction in $PM_{2.5}$ is tied to both improving air quality and economic vitality.

Similar to CO2 emissions measure above, this performance measure measures the progress towards the CWTP goal "supportive of clean and healthy environment", using off-model tools. It is estimated that in 2005, the daily $PM_{2.5}$ emissions in Alameda county was 2.29 tons/day (see Table 17).

Table 17: Daily Fine Particulate Emissions, Year 2005

Measure	Year	Quantity
PM 2.5	2005	2.29 tons/day

Source: Alameda Countywide Transportation Model

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Appendices

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A – Roadways

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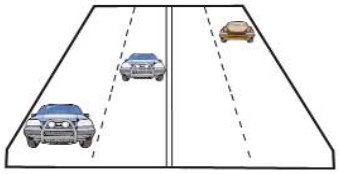
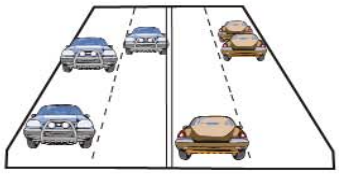
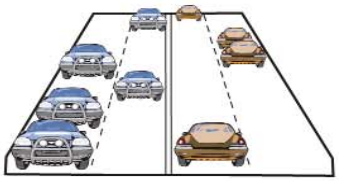
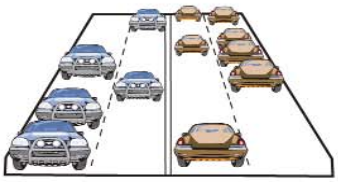
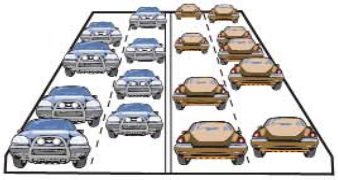
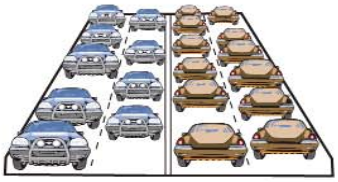
Appendix A1: Level of Service Definition

Level of Service		Flow Conditions	Delay	Service Rating
A		Highest quality of service. Free traffic flow with low volumes. Little or no restriction on maneuverability or speed.	None	Good
B		Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.	None	Good
C		Stable traffic flow, but less freedom to select speed or to change lanes.	Minimal	Adequate
D		Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.	Minimal	Adequate
E		Unstable traffic flow and rapidly fluctuating speeds and flow rates. Low maneuverability and low driver comfort.	Significant	Poor
F		Forced traffic flow. Speed and flow may drop to zero.	Considerable	Poor

Appendix A2: Average Freeway Speeds in the Morning Commute (in MPH)

SEGMENT	2002	2004	2006	2008	2010
I-880 Southbound					
Marina to 238 WB	50.1	36.5	27.3	33.9	42.2
I-238 to A Street				24.1	19.0
A Street to SR-92	21.9	40.6	32.0	29.4	25.1
SR-92 to Tennyson	425.5	48.6	38.3	30.3	35.4
Tennyson to Alvarado-Niles	46.2	49.1	43.8	38.8	32.7
SR-262 to Dixon Landing	N/A	21.4	20.3	57.1	56.7
I-880 Northbound					
Alvarado-Niles to Tennyson	31.3	33.7	24.4	26.2	22.7
Tennyson to SR-92	41.4	53.3	41.5	45.3	44.6
SR-92 to A Street	44.8	42.5	45.7	52.9	53.1
A Street to Marina	55.8	44.9	50.7	59.0	61.9
I-238 Westbound					
I-580 to I-880	22.5	20.2	15.4	15.9	32.0
I-680 Southbound[1]					
Alcosta to I-580	63.0	69.0	64.3	67.4	68.2
I-580 to Stoneridge	63.5	67.1	54.7	59.1	60.2
Stoneridge to Bernal				62.4	53.8
Bernal to Sunol Boulevard	46.2	66.0	55.6	41.3	35.7
Sunol Boulevard to SR-84				51.0	35.8
Alvarado-Niles to Andrade	28.2	61.0	57.7	46.9	48.4
Andrade to Sheridon				55.7	50.7
Sheridon to Vargas				41.6	60.3
Vargas to SR-238/Mission				38.1	52.8
I-580 Westbound *					
Portola to SR84	32.4	27.5	30.8	29.4	42.4
SR-84 to El Charro				40.9	46.9
El Charro to Tassajara				52.8	55.4
Tassajara to I-680	44.0	50.6	46.1	54.3	62.9

[1] Segments split since 2008 LOS monitoring into small segments.

Appendix A3: Average Freeway Speeds in the Afternoon Commute (in MPH)

SEGMENT	2006	2008	2010
I-80 Eastbound			
SF County Line to Toll Plaza	24.2	54.2	53.4
Toll Plaza to I-580/80 Split	25.7	28.6	54.2
I-580/I-80 Split to Powell	17.2	11.1	16.6
Powell to Ashby		10.4	11.7
Ashby to University		25.5	31.7
University to I-580	29.2	34.2	44.8
I-580 to Central		26.7	39.1
I-80 Westbound			
Central to I-580	31.3	56.4	46.7
I-580 to University		56.0	23.7
University to Ashby	29.3	31.2	24.7
Ashby to Powell		18.6	16.6
Powell to I-580/I-80 Split		31.5	31.7
I-880 Southbound			
Hegenberger to SR112/Davis	43.6	24.5	37.6
SR 112/Davis to Marina		64.4	57.1
Marina to I-238		60.9	59.5
I-238 to A Street	42.6	56.2	32.3
A Street to SR-92	46.0	42.4	37.2
SR-92 to Tennyson	34.6	40.2	35.0
Tennyson to Alvarado-Niles	39.4	46.4	45.9
SR-262/Mission to Dixon Landing	28.8	61.1	64.1
I-880 Northbound			
Dixon Landing to SR-262/Mission	40.3	33.7	52.1
Alvarado-Niles to Tennyson	24.5	23.2	17.7
Tennyson to SR-92	36.6	39.6	37.7
SR-92 to A Street	46.6	52.1	38.4
A Street. to I-238	56.5	46.6	62.7
I-238 to Marina	58.7	59.9	66.8
Marina to SR 112/Davis		49.7	62.1
SR 112/Davis to Hegenberger		58.6	56.5
I-680 Northbound			
Scott Creek to SR-238	36.2	31.7	35.8
SR-238 to SR-84	47.5	41.8	33.9
SR-84 to Bernal Avenue	63.8	64.1	66.2
Bernal Avenue to I-580	61.2	63.3	66.8
I-580 to Alcosta	65.5	58.8	62.4

SEGMENT	2006	2008	2010
I-580 Eastbound			
Grove to I-680	58.0	48.8	45.5
I-680 to Santa Rita	25.0	11.7	10.2
Santa Rita to Portola	40.7	48.0	40.6
Portola to 1st Street	48.2	55.9	66.3
1st Street to San Joaquin Co. Line	33.1	39.6	46.9

Appendix A4: Peak to Off-peak Travel Time

SUPERDISTRICT		RATIO OF AVERAGE TRAVEL TIME PER TRIP (MINUTES) FOR PEAK PERIOD TO OFF-PEAK PERIOD												
		AM 1-HR			PM 1-HR			PM 2-HR			PM 4-HR			TRANSIT
TRIP ORIGIN	TRIP DESTINATION	AUTO (DRIVE ALONE)	AUTO (SHARED RIDE)	TRUCKS	AUTO DRIVE ALONE)	AUTO (SHARED RIDE)	TRUCKS	AUTO (DRIVE ALONE)	AUTO (SHARED RIDE)	TRUCKS	AUTO (DRIVE ALONE)	AUTO (SHARED RIDE)	TRUCKS	
North Alameda County	North Alameda County	1.05	1.01	1.03	1.08	1.01	1.04	1.10	1.02	1.01	1.07	1.00	1.00	1.16
Central Alameda County	Central Alameda County	1.02	0.98	1.00	1.15	1.03	1.03	1.19	1.04	0.98	1.45	1.17	1.07	0.98
Downtown San Francisco	North Alameda County	1.03	1.03	1.04	2.47	2.42	2.54	2.03	1.99	2.04	2.85	2.80	2.92	1.03
North Alameda County	Downtown San Francisco	2.27	2.09	2.29	1.40	1.31	1.40	1.42	1.32	1.40	1.47	1.36	1.46	0.98
Central San Jose	East Alameda County	1.02	0.97	1.03	1.61	1.62	1.62	1.42	1.43	1.42	1.67	1.68	1.68	1.09
East Alameda County	Central San Jose	1.89	1.78	1.88	1.00	0.97	1.02	1.01	0.98	1.02	1.02	0.99	1.03	0.97
Central San Jose	South Alameda County	1.08	1.06	1.07	1.44	1.31	1.36	1.32	1.22	1.23	1.46	1.32	1.37	1.24
South Alameda County	Central San Jose	1.41	1.33	1.36	1.06	1.02	1.07	1.06	1.04	1.06	1.08	1.06	1.07	1.11
North Alameda County	South Alameda County	1.29	1.26	1.29	1.29	1.12	1.24	1.30	1.14	1.21	1.36	1.16	1.25	1.47
South Alameda County	North Alameda County	1.13	1.09	1.12	1.45	1.22	1.37	1.40	1.21	1.26	1.58	1.29	1.45	1.45

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Appendix A5: Alameda County Roadway Conditions—3 year Moving Average

JURISDICTION	TOTAL LANE MILES	2006	2007	2009	2010	2009-2010 CHANGE
VERY GOOD (PCI = 80-89)						
Dublin	240	80	80	81	82	1
GOOD (PCI = 70-79)						
Livermore	655	79	79	78	78	0
Union City	331	76	75	76	78	2
Pleasanton	498	74	75	76	77	1
Emeryville	47	76	79	76	77	1
Alameda County	997	69	71	72	72	0
Piedmont	78	67	67	69	70	1
FAIR (PCI = 60-69)						
Hayward	629	68	68	69	69	0
Newark	252	75	71	69	69	0
Alameda	275	63	63	62	66	4
Fremont	1063	70	68	66	64	-2
Albany	59	62	63	63	60	-3
Berkeley	453	62	60	60	60	0
AT-RISK (PCI = 50-59)						
San Leandro	392	62	60	58	57	-1
Oakland	1963	56	57	59	56	-3

Source: MTC 2011 Pothole Report

Note:

PCI is a measurement of the condition of roadways and is reported as a 3 year moving average score. The scale is 0 to 100, with 100 being equivalent to new pavement. For 2010, the weighted average PCI for Alameda County is 65.6 (the PCI is weighted by the percentage of total lane miles.)

Appendix A6: 28 Year Local Streets and Road Capital Maintenance Needs and Revenues—Maintain Existing PCI Scenario (in millions)

JURISDICTION	REVENUES FOR CAPITAL NEEDS	REMAINING PAVEMENT NEEDS	REMAINING NON-PAVEMENT NEEDS	TOTAL REMAINING CAPITAL NEEDS
Alameda County	$342.9	$77.8	$25.6	$103.4
Alameda	$79.8	$77.6	$112.4	$190.0
Albany	$37.9	$1.9	$2.7	$4.5
Berkeley	$252.9	$10.9	$13.5	$24.4
Dublin	$52.1	$72.5	$121.7	$194.2
Emeryville	$52.3	$0.0	$0.0	$0.0
Fremont	$293.2	$217.1	$214.5	$431.6
Hayward	$311.9	$89.2	$137.9	$227.1
Livermore	$112.2	$192.1	$172.0	$364.1
Newark	$34.3	$79.8	$93.4	$173.2
Oakland	$255.0	$354.0	$447.6	$801.6
Piedmont	$42.2	$4.1	$4.6	$8.6
Pleasanton	$84.4	$147.1	$139.1	$286.2
San Leandro	$160.5	$32.2	$30.9	$63.1
Union City	$41.8	$120.8	$185.6	$306.4
COUNTY TOTAL	**$2,153.3**	**$1,477.0**	**$1,701.5**	**$3,178.5**

Source: MTC Plan Bay Area

Note:

Revenues include committed funding sources such as gas taxes, transportation sales tax measures, registration fees and other local revenues, and are net of revenues needed for operations.

Appendix A7: 28 Year Local Streets and Road Capital Maintenance Needs and Revenues—State of Good Repair Scenario (in millions)

JURISDICTION	REVENUES FOR CAPITAL NEEDS	REMAINING PAVEMENT NEEDS	REMAINING NON-PAVEMENT NEEDS	TOTAL REMAINING CAPITAL NEEDS
Alameda County	$342.9	$143.5	$47.2	$190.6
Alameda	$79.8	$111.0	$160.9	$271.9
Albany	$37.9	$17.5	$24.8	$42.3
Berkeley	$252.9	$127.6	$158.3	$285.9
Dublin	$52.1	$60.9	$102.1	$163.0
Emeryville	$46.6	$0.0	$0.0	$0.0
Fremont	$293.2	$461.8	$456.3	$918.1
Hayward	$311.9	$150.8	$233.1	$384.0
Livermore	$112.2	$203.8	$182.5	$386.2
Newark	$34.3	$88.8	$104.0	$192.8
Oakland	$255.0	$827.4	$1,046.2	$1,873.6
Piedmont	$42.2	$7.7	$8.7	$16.4
Pleasanton	$84.4	$163.0	$154.1	$317.1
San Leandro	$160.5	$157.0	$150.9	$307.9
Union City	$41.8	$118.4	$181.8	$300.2
COUNTY TOTAL	**$2,147.6**	**$2,639.1**	**$3,011.0**	**$5,650.1**

Source: MTC Plan Bay Area

Note:

Revenues include committed funding sources such as gas taxes, transportation sales tax measures, registration fees and other local revenues, and are net of revenues needed for operations.

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Appendix A8: Automobile Collision Rate

FREEWAY	COLLISION RATE[1] (PER MILLION VEHICLE MILES)									CHANGE FROM 2009-2010	SIMILAR STATE FACILITY[2]
	2002	2003	2004	2005	2006	2007	2008	2009[2]	2010[3]		
I-80	2.23	2.14	2.06	1.68	1.70	1.62	1.42	2.19	1.26	-42%	1.03
I-238	2.05	2.02	2.08	1.98	1.63	2.28	2.51	2.69	1.10	-59%	1.06
I-580	0.89	0.85	0.88	0.84	0.79	0.78	0.67	1.20	0.68	-43%	0.85
I-680	0.66	0.54	0.49	0.49	0.52	0.54	0.45	1.08	0.59	-45%	0.96
I-880	1.40	1.31	1.24	1.24	1.12	1.12	1.06	1.88	1.00	-47%	1.02
I-980	0.92	0.61	0.63	1.20	1.21	0.71	0.75	1.18	0.71	-40%	0.81
SR-13	0.93	1.01	1.08	0.98	0.93	0.78	0.71	0.90	0.78	-13%	0.88
SR-24	1.43	1.17	1.54	1.71	1.38	1.14	1.12	1.61	0.79	-51%	0.95
SR-84	1.22	1.39	1.06	0.86	0.91	0.91	0.72	1.22	0.54	-56%	0.90
SR-92	1.62	1.51	1.62	1.31	0.84	0.85	0.83	2.16	0.87	-60%	1.20

Source: Caltrans, District 4

1 Rate based on number of fatal and injury collisions per million vehicle miles.

2 2009 data is for January through October only.

3 2010 data is for January through September only.

Appendix A9: Automobile Collisions

FREEWAY	ROUTE LENGTH (MILES)	NUMBER OF COLLISIONS									CHANGE FROM 2009-10
		2002	2003	2004	2005	2006	2007	2008	2009[1]	2010[2]	
I-80	9.29	1,224	1,175	1,244	1,359	1,258	1,226	1,054	845	679	-20%
I-238	2.53	143	141	160	191	168	231	250	174	80	-54%
I-580	54.28	2,488	2,378	2,536	2,687	2,543	2,502	2,023	1898	1507	-21%
I-680	21.48	669	544	549	551	592	597	478	538	475	-12%
I-880	37.07	3,565	3,335	3,244	3,216	2,934	2,862	2,672	2423	1876	-23%
I-980	2.03	71	47	49	79	73	43	50	42	38	-10%
SR-13	5.70	108	117	129	121	108	91	81	40	65	63%
SR-24	4.39	322	264	357	401	307	256	234	206	141	-32%
SR-84	6.01	93	106	85	143	132	121	93	89	51	-43%
SR-92	6.42	210	196	217	225	194	191	178	194	134	-31%

Source: Caltrans, District 4

[1] 2009 data is for January through October only.

[2] 2010 data is for January through September only.

B – Transit

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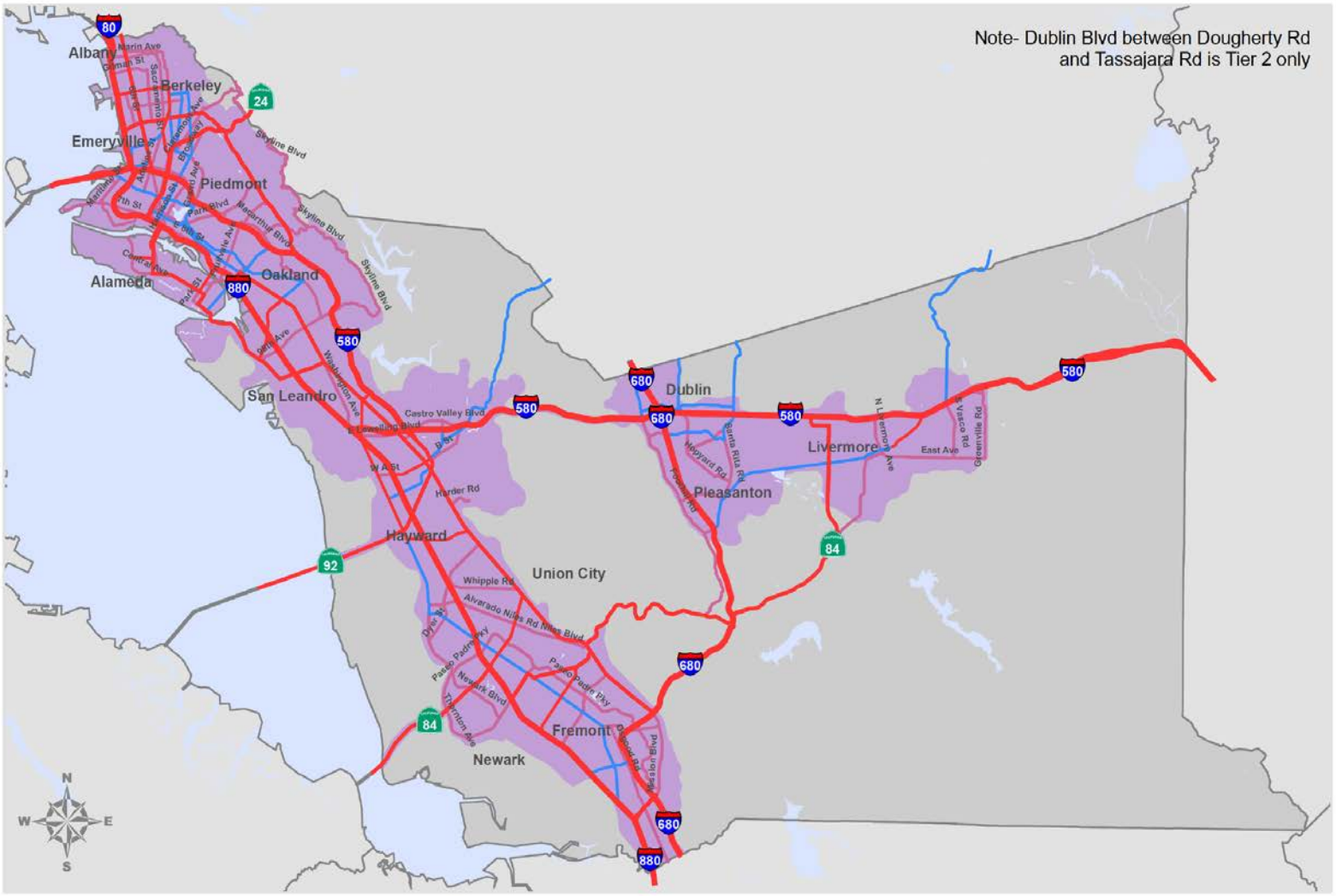
Appendix B1: MTS Transit System



ALAMEDA County Transportation Commission

Appendix B2: Total Annual Passenger Boardings (in 000's)

OPERATOR	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	% CHANGE
AC Transit	60,596	54,612	64,456	64,408	58,927	58,934	57,370	53,212	53,929	50,453	-6%
BART	33,117	31,892	32,586	32,946	34,939	36,297	37,829	37,809	35,971	37,400	4%
LAVTA	2,037	1,922	1,936	1,938	2,037	2,136	2,234	2,195	1,740	1,713	-2%
Union City	477	442	430	381	398	421	439	464	464	493	6%
Alameda—Oakland Ferry	444	426	420	382	426	443	459	400	421	455	8%
Alameda Harbor Ferry	130	106	112	84	132	134	145	143	147	154	5%
ACE	804	665	616	641	642	228	226	265	235	254	8%
COUNTY TOTAL	**97,605**	**90,065**	**100,556**	**100,780**	**97,501**	**98,593**	**98,702**	**94,488**	**92,907**	**90,922**	**-2%**

Source: Data provided by the transit operators by special request.

[1] AC Transit data adjusted to deduct Contra Costa County. Based on hours of operating service in Alameda County and population served by AC Transit. Total numbers were system-wide numbers reduced by 12 percent to represent Alameda County. AC Transit calculations for 2008-09 changed from previous years due to introduction of new transit fare method (TransLink).

[2] BART data adjusted to represent Alameda County passenger boardings by annualizing the Average Weekday Passenger Boardings in Alameda County. An annualization factor of 290 was used for 2004-05, 298 for FY 2006 and 300 for FY 2007 and 2008.

[3] ACE method of calculations for FY 2006-07 changed from previous years.

Appendix B3: Weekday Passenger Boardings[1]

OPERATOR	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
AC Transit[2]	199,258	181,509	185,035	184,575	199,524	199,635	192,055	192,056	173,752	168,034
BART	111,882	107,742	110,087	111,303	116,502	120,989	126,098	126,031	119,308	124,501
ACE[3]	463	2,619	2,425	2,425	829	852	1,053	1,048	922	1,011
TOTAL	**311,603**	**291,870**	**297,547**	**298,303**	**318,539**	**321,476**	**319,206**	**319,135**	**293,982**	**293,546**

Source: AC Transit, BART and ACE staff and National Transit Database

[1] Boardings are listed as unlinked trips (i.e., transfers are included).

[2] Based on total weekday passenger boardings reduced by 12 percent to reflect Alameda County boardings only. The 12 percent reduction is based on hours of operating service in Alameda County and population served by AC Transit.

[3] Alameda County figures are based on 33% of systemwide riders for ACE.

Appendix B4: Ridership per Revenue Vehicle Mile

OPERATOR	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
AC Transit	3.0	3.0	2.7	3.1	3.2	3.1	3.1	3.1	2.9	3.0
BART	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
LAVTA	1.0	1.0	1.0	1.2	1.3	1.2	1.3	1.1	1.2	1.0
Union City Transit	1.1	1.1	1.2	0.7	0.8	0.9	1.0	1.0	1.1	0.9
ACE Commuter Rail	1.1	1.1	0.8	0.9	0.9	1.1	1.0	0.9	0.8	1.0
Alameda Harbor Bay Ferry	6.3	6.2	4.6	7.4	4.8	4.9	5.0	4.9	4.9	6.4
Alameda/Oakland Ferry	9.7	9.4	7.4	7.8	8.7	9.1	8.7	8.2	8.6	6.2

Appendix B5: Ridership per Revenue Vehicle Hour

OPERATOR	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
AC Transit	34.5	30.5	31.2	36.1	33.9	36.8	31.9	31.9	33	35.5
BART	62.6	57.2	53.8	56.0	56.9	59.1	59.4	59.1	59.6	61.3
LAVTA	15.5	14.6	15.7	16.9	17.7	20.5	19.2	15.8	17.1	15.4
Union City Transit	12.7	11.8	11.6	10.0	10.36	10.9	11.05	11.4	9.5	10.1
ACE Commuter Rail	39.9	32.8	31.2	32.3	32.5	33.4	38.5	35.4	31.8	38.4
Alameda Harbor Bay Ferry	84.9	76.9	68.0	76.6	88.2	80.4	84	95.2	96.8	126
Alameda/Oakland Ferry	76.6	94.9	86.9	79.4	78.9	91.7	95.4	82.3	87.8	90

Appendix B6: Miles Between Mechanical Road Calls

OPERATOR	2000-01	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
AC Transit	7,123	4,400	6,600	6,300	7,685	5,746	5,648	5,648	4,655	3,779
LAVTA	5,304	8,691	13,540	28,797	27,459	25,601	20,866	4,904	4,837	6,354
UC Transit	NA	15,821	5,553	7,120	6,394	9,186	6,926	3,413	8,471	14,449

Source: Transit operators, as requested.

Note: LAVTA changed their method of reporting in 2009 so it cannot be compared to prior calls.

Appendix B7: Mean Time Between Rail Service Delays (in hours)

OPERATOR	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BART	1,597	1,901	—	2,016	2,016	3,004	3,007	2,683	2,796	2,995
ACE	—	—	—	—	—	625	658	546	438	388

Source: Transit operators, as requested.

Note: ACE changed their method of reporting in 2007 so it cannot be compared to prior years.

Appendix B8: Transit Frequency

	FISCAL YEAR	01-02	03-04	05-06	06-07	07-08	08-09	09-10	10-11	01-02	03-04	05-06	06-07	07-08	08-09	09-10	10-11	01-02	03-04	05-06	06-07	07-08	08-09	09-10	10-11
	TIME OF DAY	PEAK-PERIOD[1]								MIDDAY[2]								EVENING[3]							
FREQUENCY IN MINUTES	HEADWAYS	BUS								BUS								BUS							
	6-15	39	37	31	22	22	22	18	18	10	9	12	13	13	13	10	10	10	0	4	5	5	5	4	4
	16-25	19	15	21	14	14	14	19	19	6	7	4	4	4	4	5	5	15	0	10	4	4	4	11	11
	30-40	63	71	45	41	41	41	40	40	56	57	42	35	35	35	33	33	49	45	39	24	24	24	33	33
	45-60	7	12	11	5	5	5	21	21	15	19	22	11	11	11	28	28	17	28	14	12	12	12	28	28
	90	1	1	0	0	0	0	1	1	3	2	2	0	0	0	1	1	2	0	3	0	0	0	1	1
	HEADWAYS	BART[4]								BART [4]								BART [4]							
	2.5-6 [5]	6	10	10	10	10	10	10	10	6	9	9	9	9	9	9	9	0	0	0	0	0	0	0	0
	7-15 [6]	11	9	9	9	9	9	9	9	13	10	10	10	10	10	10	10	6	9	9	9	19	19	0	0
	16-20	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	13	10	10	10	0	0	19	19
NUMBER OF TRAINS	DIRECTIONS	AMTRAK/CAPITOL CORRIDOR								AMTRAK/CAPITOL CORRIDOR								AMTRAK/CAPITOL CORRIDOR							
	Eastbound	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	4	4	4	4
	Westbound	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	2	4	4	4	4	4	4	4
	DIRECTIONS	ACE (PEAK PERIOD SERVICE ONLY)								ACE (PEAK PERIOD SERVICE ONLY)								ACE (PEAK PERIOD SERVICE ONLY)							
	Eastbound	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Westbound	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

1 Peak hour service is defined as 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

2 Midday service is defined as 9:00 a.m. to 4:00 p.m.

[3] Service hours vary by operator (i.e., AC Transit and LAVTA—round the clock; Union City Transit—4:15 a.m. to 10:35 p.m.; and BART—4:00 a.m. to midnight.).

[4] BART has 19 stations in Alameda County: Fremont, Union City, South Hayward, Hayward, Bayfair, San Leandro, Coliseum/Oakland Airport, Fruitvale, Lake Merritt, Oakland City Center/12th Street, 19th Street, MacArthur, Rockridge, Ashby, Berkeley, North Berkeley, West Oakland, Castro Valley and Dublin/Pleasanton.

[5] Two sets of BART stations are served by three lines. MacArthur, 19th Street, and 12th Street stations are served by the Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, and Richmond-Fremont lines. Bay Fair, San Leandro, Coliseum/Oakland Airport, Fruitvale, and Lake Merritt stations are served by the Richmond-Fremont, Fremont-Daly City, and Dublin Pleasanton-San Francisco Airport (SFO)/Millbrae lines. One station (West Oakland) is served by four lines (Pittsburg/Bay Point-Daly City, Richmond-Daly City/Colma, Fremont-Daly City, and Dublin/Pleasanton—San Francisco Airport (SFO)/Millbrae lines).

[6] Each of the four BART lines that use the Transbay Tube (Pittsburg/Bay Point—Daly City, Richmond—Daly City/Colma, Dublin/Pleasanton—San Francisco Airport (SFO)/Millbrae, and Fremont—Daly City) operates with 15 minute headways, except for the Pittsburg/Bay Point—Daly City line, which operates with 7 minute headways during the peak hour.

C – Bicycling

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Appendix C1: Progress on High Priority Projects in the 2006 Countywide Bicycle Plan (FY 2010-11)

JURISDICTION	PROJECT NO. IN BICYCLE PLAN	PROJECT TITLE	TYPE	ROADWAY	LIMITS: FROM, TO	MILES	PROGRESS ON IMPLEMENTING HIGH PRIORITY BICYCLE PROJECTS
ABAG/Bay Trail	42-BF	San Leandro Slough Bridge	New Bike/Ped Bridge	Bike / Ped Bridge	Slough, North To Slough South	0.1	Project previously completed in FY 09-10.
Alameda	4-A-D	Alameda / Doolittle / Lewelling	To Be Determined	Atlantic / Appezzato	Ferry Point To Tilden Way	3.6	Unknown—no update provided.
Alameda County	4-Z1-Z2	Alameda / Doolittle / Lewelling	Class 2 Bike Lane	Lewelling	Hesperian To East 14th	1.4	Began construction. Utilities relocated undergrounded.
Albany	59-A	Buchanan-Marin	Class 1 Bike Path	Buchanan Street	Buchanan Overcrossing To San Pablo Avenue	0.6	Design completed. City finalized NEPA clearance with Caltrans and began working on right of way certifications. Construction anticipated to be completed in 2012.
Berkeley	11-AC	N. Alameda County, I-580 / Foothills	Class 3 Res. Street	Virginia	Acton / Ohlone Trail To Milvia	0.7	None.
Berkeley	11-AB	N. Alameda County, I-580 / Foothills	Class 1 Bike Path	Ohlone Greenway	Albany / Berkeley City Limits To Virginia	0.7	Completed redesign of segment of Ohlone greenway from Neilson Street (approx. 250 feet south of Gilman/Curtis) to Albany border, to be rebuilt as part of BART seismic retrofit project in 2012.
Dublin	55-AA	Alamo Canal, I-580/ I-680 Connector	Class 1 Bike Trail	Alamo Canal Trail	San Ramon Creek Trail To Alamo Canal Trail	0.2	East bay regional park district acquired $0.948m of tiger ii funds for construction. Project NEPA document was approved. Construction anticipated to be completed in 2013.
E. Bay Parks/ Union City/ Hayward	2-BJ	S. Alameda County, I-880 Corridor	Class 1 Bike Trail	Bay Trail	Eden Landing To Alameda Creek Bridge	3.0	Project is on hold due to the proposed flood control levee project at the same location.
Emeryville	56-AA	Emeryville Bike / Ped Bridge	Class 1 Overpass	New Overcrossing	Shellmound To Horton	0.3	Bid specifications completed. Project on hold pending court ruling on redevelopment funding.
Fremont	58-A	Fremont-Santa Clara	Class 2 Bike Lane	Fremont Blvd.	South Grimmer To SCC Limits	3.8	Class II bicycle lanes installed on Fremont Boulevard between West Warren Avenue and the southern terminus of Fremont Boulevard, a total of 1.5 miles (of the 3.8 mile high priority project).
Hayward	13-JC2	Central County, I-580/Foothills	Class 1 Bike Trail	Industrial/ Mission	SPRR / BART Tracks To Woodland	0.3	No progress due to lack of funds. Right of way acquisition is needed.
Livermore	37-TB2-TB9	Isabel Avenue Trail And Bike Lanes	Class 1/ Class 2	Isabel Avenue	Jack London Blvd To Portola	3.0	The Isabel Avenue/I-580 interchange project was under construction in FY 10-11, but bike lane construction did not occur until FY 11-12. No progress on the Isabel Avenue trail.
Oakland	7-BB-BC	I-880 Corridor	Class 2 Bike Lane	12th Street.	Oak/Lakeside To Fruitvale	2.7	7-BB (Oak/Lakeside To 2nd Avenue) is still under construction. 7-BC is at 65% design.
Pleasanton	34-TB	Iron Horse Trail	Class 1 Bike Trail	Iron Horse Trail	I-580 To Pleasanton City Limit	4.5	Feasibility study for Iron Horse Trail segment from east Dublin/Pleasanton Bart to Santa Rita Road was completed, and project was awarded federal tiger ii funds for construction. The design and environmental certification under NEPA and CEQA was initiated.
San Leandro	1-BI	N. Alameda County, Bay Trail	Class 1 Bike Trail	Bay Trail	Marina Blvd To Fairway Drive	0.4	None.
Union City	9-JE-JH	S. Alameda County, I-880 Corridor	Class 1/ Class 2	Union City Blvd.	Horner To Alameda Creek Bridge	2.6	A sufficient amount of federal funds were obtained to widen union city boulevard from smith street to Alvarado Boulevard (9-je) to install over 0.5 miles of bike lanes in both directions. Construction anticipated to be completed in 2012.

Appendix C2: Progress on Vision Network Projects in 2006 Countywide Bicycle Plan (FY 2010-11)

JURISDICTION	PROJECT NO. IN BICYCLE PLAN	PROJECT TITLE	TYPE (CLASS I, II OR III)	LIMIT: FROM, TO	NUMBER OF MILES		DESCRIPTION OF PROGRESS
					CONSTRUCTED	WITH IMPROVEMENTS	
Alameda	SPR1B	Oakland/Alameda connection		Constitution Way Trail to Oakland Bay Trail		unknown	Secured funding for the Estuary Crossing Shuttle, and prepared to launch in August 2011.
Berkeley	6-AI	9th Street Bicycle Boulevard	Class III	Bancroft to Dwight		0.25	Repaved section of 9th Street, including replacing substandard bike lanes with Berkeley standard Bicycle Boulevard legends.
Berkeley	6-SPR1A	California Street Bicycle Boulevard	Class III	Dwight to Oregon		0.43	Repaved section of California Street, including replacing substandard bike lanes with Berkeley standard Bicycle Boulevard legends.
Berkeley	6-AK	9th Street Bicycle Boulevard Extension	Class I/ Class III	Ashby Avenue to 67th Street (Emeryville)	0.16		Completed southern half of project 6-AK, from Ashby Avenue to 67th Street along 9th Street, Murray Street and the former RR ROW.
Emeryville	6-AL3	Emeryville Greenway	Class I	65th Street to Ocean Avenue	0.10		Class I multi-use pathway completed.
Emeryville	1-AH & 1-AG	Powell and Frontage Roads	Class I/II			unknown	Bicycle and pedestrian safety enhancements completed.
Fremont	2-DJ	Bay Trail	Class I	End of Fremont Boulevard to Dixon Landing Road		0.70	Feasibility study of Class I Trail (Bay Trail) from south terminus of Fremont Boulevard to Dixon Landing Road (0.70 miles) is 70% complete.
Livermore	31-AO	Tesla Road	Class I	S. Livermore Avenue to Buena Vista	0.75		Completion of Class I multi-use pathway.
Livermore	31-AO1	Tesla Road	Class I	Buena Vista Avenue to Mines Road	0.13		Completion of Class I multi-use pathway.
Oakland	1-AU	Fruitvale Avenue (Embarcadero Bay Trail)	Class II	E 7th Street to Alameda Avenue	0.20		Added new way-finding signs.
Oakland	3-F	Fruitvale Avenue	Class II/III	Montana Street/I-580 to E 23rd Street		1.00	Per feasibility study, changed class from II to IIIA (Oakland designation for arterial bike route) except under I-580; added new way-finding signs.
Oakland	3-G	Fruitvale Avenue	Class III (was Class II)	E 23rd Street to E 12th Street		0.70	Per feasibility study, changed class from II to IIIA (Oakland designation for arterial bike route); added new way-finding signs.
Oakland	3-K	E 12th Street	Class II/III (was Class II)	34th Avenue to Fruitvale Avenue		0.10	Added new way-finding signs (Class II westbound, Class III eastbound).
Oakland	3-L	Fruitvale Avenue	Class II	E 12th Street to E 10th Street	0.10		Added new way-finding signs.
Oakland	3-M	Fruitvale Avenue	Class II	E 10th Street to Elmwood Avenue	0.20		Added new way-finding signs.
Oakland	3-N	Fruitvale Avenue	Class II	Elmwood Avenue to Fruitvale Bridge		unknown	Added new way-finding signs.
Oakland	8-BM (partial)	E 12th Street	Class II/III (was Class III)	34th Avenue to 40th Avenue		0.40	Added new way-finding signs (mixed class per available roadway width).
Pleasanton	23-AA	Stoneridge Drive	Class II	Foothill Road to Pleasant Hill Road	0.10		Class II bicycle lanes installed.
Pleasanton	23-AB (partial)	Stoneridge Drive	Class II	Pleasant Hill Road to Stonebridge Mall Road	0.35		Class II bicycle lanes installed.
Pleasanton	23-AG	Stoneridge Drive	Class II	West Las Positas Boulevard to Santa Rita Road	0.40		Class II bicycle lanes installed.
Pleasanton	27-AD	Bernal Avenue	Class II	Valley Avenue to Pleasanton Avenue	0.70		Class II bicycle lanes installed.
Pleasanton	38-AE (partial)	Santa Rita Road	Class II	Mohr Avenue to Morganfield Road	0.20		Class II bicycle lanes installed.
San Leandro	4-S (partial)	Doolittle Drive	Class II	Bermuda	0.04		Class II bicycle lanes installed (east side only).

Appendix C3: Total Bicyclists by Location—Weekday 4-6 P.M., 9 Locations

JURISDICTION	LOCATION	2002	2004	2006	2008	2010	% DIFFERENCE: 2002 TO 2010	% DIFFERENCE: 2008 TO 2010
Alameda	Atlantic Avenue and Webster Street	24	37	29	38	82	245%	116%
Berkeley	Hearst Avenue and Milvia Street	313	303	289	340	476	52%	40%
County	Hesperian Boulevard and Lewelling	20	19	25	56	32	56%	-43%
Emeryville	San Pablo Avenue and 40th Street	106	126	118	147	150	41%	2%
Fremont	Paseo Padre Parkway and Mowry Avenue	42	36	14	26	30	-29%	15%
Livermore	East Street and Vasco Road	74	94	115	74	65	-12%	-12%
Oakland	Telegraph Avenue and 27th Street	107	62	102	169	211	98%	25%
Piedmont	Grand Avenue and Oakland Avenue	18	12	29	27	29	63%	7%
Pleasanton	Stoneridge Drive and Hopyard Road	18	11	2	24	6	-67%	-75%
Average		**80**	**78**	**80**	**100**	**120**	**50%**	**20%**

Note:

"Estimated" numbers: While one set of data (2008 and 2010) was counted from 4-6pm, all of the Alameda CTC Level of Service monitoring data (biennial from 2002 to 2008) was collected from 3-6 P.M. An hourly breakdown of the LOS monitoring data is available for the years 2006 and 2008 only. In order to create comparable data for the 2002 and 2004 years, the following approach was used to convert the 3-6 P.M. time period into a 4-6 P.M. time period: Using the 2006 and 2008 hourly data, the proportion of bicyclists counted during the two hour 4-6 P.M. period of the three hour 3-6 P.M. time period was calculated and used to estimate the two hour 4-6 P.M. portion of the 2002 and 2004 data.

Appendix C4: Bicyclist Injuries and Fatalities (2002-2009)

CITY NAME	2002	2003	2004	2005	2006	2007	2008	2009
Alameda	29	19	32	26	28	16	33	45
Albany	5	9	4	11	4	6	7	6
Berkeley	139	138	129	115	147	135	178	191
Dublin	2	4	5	6	9	4	7	5
Emeryville	7	1	4	1	2	5	8	9
Fremont	65	58	48	41	41	46	69	39
Hayward	50	26	39	44	35	34	46	29
Livermore	34	23	29	29	33	32	36	34
Newark	11	10	9	11	13	5	13	9
Oakland	133	135	122	139	126	166	163	181
Piedmont	2	2	0	2	2	3	3	1
Pleasanton	20	16	24	18	28	24	30	28
San Leandro	26	17	23	8	18	6	20	27
Union City	8	13	9	6	17	12	9	9
Unincorporated	43	35	34	49	30	43	47	40
Alameda County	**574**	**506**	**511**	**506**	**533**	**537**	**669**	**653**

Source: California Highway Patrol, SWITRS, Previously Created Reports, 2002 to 2009, as posted in March 2012 (http://www.chp.ca.gov/switrs/index.html)

Note: The data for each local jurisdiction may differ from previous published Performance Reports. This is due to the fact that SWITRS data is constantly being updated to reflect actual collision data reported by local agencies to the state.

Appendix C5: Local Bicycle and Pedestrian Master Plans Status (as of June 2011)

JURISDICTION	BICYCLE PLAN ADOPTED	PEDESTRIAN PLAN ADOPTED
North Planning Area		
Alameda (city)	2010	2009
Albany	2003	Underway; Expected in 2012
Berkeley	2005	2010
Oakland	2007	2002
Piedmont	–	–
Emeryville	1998[1]	
Central Planning Area		
San Leandro	2010[1]	
Hayward	2007	–
County (unincorporated areas)	2007	2006
South Planning Area		
Fremont	2005	2007
Newark	Underway; Expected in 2012[1]	
Union City	2006[1]	
East Planning Area		
Pleasanton	2010[1]	
Dublin	2007	–
Livermore	2001	–

[1] Combined Bicycle and Pedestrian Plan

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D – Walking

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Appendix D1: Completion of Pedestrian Projects in the 2006 Countywide Pedestrian Plan (FY 2010-11)

JURISDICTION	PROJECT NAME	PROJECT DESCRIPTION	LOCATION / ROADWAY / TRAIL	LIMITS: FROM, TO	AREA OF COUNTYWIDE SIGNIFICANCE TRANSIT AREA	AREA OF COUNTYWIDE SIGNIFICANCE ACTIVITY CENTER	AREA OF COUNTYWIDE SIGNIFICANCE INTER-JURISDICTIONAL TRAIL
Alameda County	Lewelling project	Sidewalk improvements, as part of larger roadway project	Hesperian	Hesperian to East 14th	AC Transit (East 14th)		
Emeryville	Powell & Frontage	Pedestrian safety enhancements	Powell and Frontage	Powell and Frontage	AC Transit		Bay Trail
Oakland	Sidewalk Improvement at RR Crossing at 66th and 69th	Improve sidewalk and pave track approaches at 66th and 69th Avenue at San Leandro	San Leandro Street	at 66th Avenue and at 69th Avenue	BART (Coliseum BART)		
Oakland	Citywide Street Resurfacing FY 2007-08 (Cycle 3)	Street pavement rehabilitation, including installation of ADA compliant curb ramps and repair of damaged PCC sidewalk.	(1) Harrison Street; (2) High Street; (3) MacArthur Boulevard	(1) 20th Street, W Grand Avenue; (2) Foothill Blvd, International Blvd; (3) Foothill Blvd, 98th Avenue	(2 & 3) AC Transit (multiple lines)	(1) Downtown; Children's Fairyland	
Oakland	Fire Station No. 18	Reconstruction of a new replacement fire station including sidewalk repairs.	50th Avenue	Bancroft Avenue, Foothill Boulevard	AC Transit (1, 1R, 40)		
Oakland	Derby Avenue to Lancaster Street, Oakland Waterfront Trail	Construct a new structural trail along the Oakland Estuary, behind 333 Lancaster, from Derby Avenue to Lancaster Street.	Oakland Waterfront Trail	Derby Avenue, Lancaster Street			SF Bay Trail
Oakland	Foothill Blvd/64th Avenue Traffic Signal	Install traffic signal	Foothill Blvd	at 64th Avenue	AC Transit (40)		
Oakland	Lakeshore Avenue. Ped/Bike Improvements	On Lakeshore Avenue, reduce from 4 lanes to 2 lanes, add Class II bike lanes and in the park construct multi-use pathway and reconstruct shoreline trail. On El Embarcadero, consolidate east/west traffic lanes into the north couplet and construct a multi-use pathway/promenade adjacent to the Pergola.	(1) Lakeshore Avenue; (2) El Embarcadero	(1) E 18th Street, MacArthur Boulevard; (2) Grand Avenue, Lakeshore Avenue	AC Transit (57, NL)		SF Bay Trail
Pleasanton	Iron Horse Trail	Feasibility Study and Master Plan for the Iron Horse Trail segment from the east Dublin/Pleasanton BART station to Santa Rita Road. Approved by the Pleasanton City Council in March 2011.	Iron Horse Trail	East Dublin/Pleasanton BART to Santa Rita Road			Iron Horse Trail

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Appendix D2: Total Pedestrians by Location—Weekday 4-6 PM (2009, 2010)

JURISDICTION	LOCATION	4-6PM 2009	4-6PM 2010	% DIFFERENCE: 2008 TO 2010
Oakland	Broadway and 12th Street, Oakland	2032	1,957	-4%
Oakland	Grand Avenue and Lake Park, Oakland	561	576	3%
Albany	Solano Avenue and Masonic Avenue (Ohlone Trail), Albany	351	551	57%
Emeryville	San Pablo Avenue and 40th Street, Emeryville	509	523	3%
Alameda	Atlantic Avenue and Webster Street, Alameda	313	457	46%
Oakland	Mandela Parkway and 14th Street, Oakland	91	377	314%
Berkeley	Hearst Avenue and Milvia Street, Berkeley	306	369	21%
Berkeley	Ashby Avenue (CA 13) and Hillegass Avenue, Berkeley	192	361	88%
Oakland	MacArthur Boulevard and 38th Avenue, Oakland	415	316	-24%
San Leandro	Bancroft Avenue and Estudillo Avenue, San Leandro	130	160	23%
Berkeley	San Pablo Avenue and Virginia Street, Berkeley	101	149	48%
Fremont	Paseo Padre Parkway and Mowry Avenue, Fremont	174	112	-36%
County	Hesperian Boulevard and Lewelling Boulevard, County	76	107	41%
Dublin	Dublin Blvd and Scarlett Drive (Iron Horse Trail), Dublin	30	59	97%
Union City	Alvarado-Niles Road and Dyer Street, Union City	73	54	-26%
Livermore	Railroad Avenue and First Street, Livermore	35	54	54%
Dublin	Dublin Boulevard and Hacienda Drive, Dublin	36	42	17%
Pleasanton	Stoneridge Drive and Hopyard Road, Pleasanton	12	14	17%
Newark	Thornton Avenue and Willow Street, Newark	0	7	—
Oakland	Doolittle Dr (CA 61) and Airport Access Road, Oakland	10	6	-40%
Fremont	Warm Springs and Grimmer, Fremont	5	5	0%
Average		**260**	**298**	**15%**

Appendix D3: Total Pedestrian Injuries and Fatalities by Jurisdiction (2002-2009)

JURISDICTION	2002	2003	2004	2005	2006	2007	2008	2009
Alameda	33	36	34	33	34	35	37	34
Albany	11	9	10	9	6	11	16	5
Berkeley	137	127	110	104	96	95	93	86
Dublin	5	8	8	4	6	7	6	9
Emeryville	9	3	10	10	6	7	12	3
Fremont	74	45	42	54	48	46	55	41
Hayward	81	61	66	50	51	58	81	44
Livermore	21	15	12	13	15	9	23	13
Newark	14	6	3	11	12	6	9	8
Oakland	356	339	302	310	303	268	304	262
Piedmont	3	0	1	2	1	0	2	2
Pleasanton	18	11	12	8	14	13	9	12
San Leandro	37	19	30	41	27	36	23	29
Union City	15	16	10	11	16	12	16	7
Unincorporated	42	46	36	40	39	33	35	36
Alameda County	**856**	**741**	**686**	**700**	**674**	**636**	**721**	**591**

Source: California Highway Patrol, SWITRS, Previously Created Reports, 2002 to 2009, as posted in March 2012 (http://www.chp.ca.gov/switrs/index.html)

Note:

The data for each local jurisdiction may differ from previous published Performance Reports. This is due to the fact that SWITRS data is constantly being updated to reflect actual collision data reported by local agencies to the state.

E – Livable Communities

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Appendix E1: Low Income Households Near Activity Centers[1], Year 2005

	HOUSEHOLD INCOME[2]							
	PEAK PERIOD				OFF-PEAK PERIOD			
	< $25,000	$25,000 TO $45,000	$45,000 TO $75,000	> $75,000	< $25,000	$25,000 TO $45,000	$45,000 TO $75,000	> $75,000
North	84%	81%	74%	56%	74%	70%	64%	48%
Central	75%	75%	72%	61%	64%	60%	56%	41%
South	33%	36%	35%	26%	28%	30%	29%	20%
East	38%	30%	26%	17%	30%	24%	20%	11%
Alameda County	**76%**	**67%**	**57%**	**40%**	**66%**	**57%**	**47%**	**31%**

1 Share of households (by income group) within 30 minute bus/rail transit ride and 20 minute auto ride to at least one major employment center and within walking distance of schools.

2 Income is in 1998 dollars.