



Annex to 2010 Association of Bay  
Area Governments  
Local Hazard Mitigation Plan  
*Taming Natural Disasters*

Metropolitan Transportation  
Commission (MTC)



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## Introduction

Created by the state Legislature in 1970 (California Government Code § 66500 et seq.), the Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating and financing agency for the nine-county San Francisco Bay Area. MTC functions as both the regional transportation planning agency - a state designation - and for federal purposes, as the region's Metropolitan Planning Organization (MPO). As such, it is responsible for the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. The Commission also reviews requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan.

The Commission's work is guided by a 19-member policy board. Fourteen commissioners are appointed directly by local elected officials (each of the five most populous counties has two representatives, with the board of supervisors selecting one representative, and the mayors of the cities within that county appointing another; the four remaining counties appoint one commissioner to represent both the cities and the board of supervisors). In addition, two members represent regional agencies — the Association of Bay Area Governments and the Bay Conservation and Development Commission. Finally, three nonvoting members have been appointed to represent federal and state transportation agencies and the federal housing department.

Carrying out the Commission's directives is a staff of 160 persons headquartered at the Joseph P. Bort MetroCenter in Oakland, California.

Today MTC is three agencies in one: MTC, as well as the Bay Area Toll Authority (BATA) and the Service Authority for Freeway Expansion (SAFE). These agencies have a broad portfolio of duties and a shared mission: to knit the region's 4,000 buses, trains and ferries, 1,400 miles of highway, 20,000 miles of local streets and roads, and eight toll bridges into a smooth-functioning network that gets the region's nearly 7 million residents where they need to go, when they need to get there. In its role as BATA, the agency is also responsible for managing a cooperative agreement with Caltrans for delivering the Regional Measure 1 (RM 1) bridge improvement program and coordinating the issuance of debt financing to deliver RM 1 projects, which includes the seismic retrofit of several Bay Area bridges.

In addition to housing MTC, ABAG and BART staff, as a public facility, the MetroCenter hosts a variety of public meetings including board and commission meetings, public hearings on planning, land use and transportation issues, hazard mitigation training and seminars. The building has a multi-purpose auditorium for hosting large meetings, and 8 conference rooms for smaller meetings. Most of the meetings are noticed so the public can attend with an average attendance of more than 20,000 attendees annually.

The MetroCenter also houses the following critical services that facilitate disaster and emergency response activities:

### **MTC's Emergency Operations Center (EOC)**

Together with the California State Department of Transportation (Caltrans), the California Emergency Management Agency (CalEMA), and major Bay Area transportation agencies, MTC developed the Trans Response Plan (TRP) which sets a conceptual framework for a



comprehensive and timely response by San Francisco Bay Area transportation providers to any major earthquake or disaster in the region. The TRP calls for MTC to coordinate the transportation network and to function as the regional transportation information clearinghouse. MTC performs these roles in its EOC which houses vital communications equipment, including the California Emergency Services Radio System (CESRS) which serves as a backup communications tool if phone land lines are disrupted. CESRS has 21 interconnected sites around the state (and 4 stand alone radios not interconnected). It is used for radio coordination between OES staff, and state facilities in Sacramento, Fresno, Los Alamitos, Oakland, San Diego and San Luis Obispo; and between our Regional Emergency Operations Centers (EOCs) [in Oakland, Los Alamitos, and Sacramento] and around 30 county EOCs. The CESRS transmitter is located in the MetroCenter's roof and the communications devices is located in the 3<sup>rd</sup> floor EOC.

#### **BART's Emergency Operations Center (EOC)**

BART's EOC is equipped with Status Display Boards, computers, a television, extra telephone lines, portable radios and other emergency equipment. The EOC will be used to coordinate, manage and provide mitigation planning for any major or catastrophic emergency.

#### **BART's Train Operations Control Center (OCC) Backup Facility.**

The OCC is currently located adjacent to the Lake Merritt BART Station near the EOC across the street from the MetroCenter. BART's OCC is used for day-to-day train operations and is capable of managing local emergency events that occur on the system.

#### **Server Equipment for Web-hosting and Online Services**

The MetroCenter currently houses several computer servers for ABAG and MTC that provide online access to local government agencies and public with a wealth of information including planning activities, mitigation and hazard maps, geographical information system maps to find statistical and economic data, listings of project that have received federal/state /local funding and other information databases that are unique to these agencies.

## **The Regional Planning Process**

MTC participated in various ABAG workshops, conferences, and meetings, including:

- ◆ Transit Workshop on February 12, 2009 review draft mitigation strategies and reach consensus on priorities for mitigation;
- ◆ Four Lifeline Infrastructure and Hazards Committee meetings to review draft mitigation strategies and chapters;
- ◆ 2 ABAG Regional Planning Committee meetings
- ◆ 2 Transportation Response Plan Steering Committee meetings

For more information on these meetings and for rosters of attendees, please see Appendix A and H in the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan 2010 (MJ-LHMP). In addition, MTC has provided written and oral comments on the multi-jurisdictional plan.

## **The Local Planning Process**



Program managers from various MTC departments, including staff from the Highway and Arterial Operations and Administrative and Technical Services departments, met to discuss MTC's mitigation priorities and identify key mitigation projects during 2009 and 2010. At these meetings, all of the mitigation strategies were reviewed. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

### ***Public Meetings***

MTC held four opportunities to seek input from the public on its own mitigation strategies.

- (1) At a publicly noticed workshop jointly held by MTC, ABAG, and several transit districts on September 22, 2009, the strategies and the background for setting strategy priorities was again discussed. The power point for the meeting is available upon request. Members of the public did not provide any comments on the priorities or the method of creating the Local Hazard Mitigation Plan Update.
- (2) Two Transportation Response Plan (TRP) Steering Committee meetings were held to solicit input from transit operators and other interested agencies.
- (3) Finally, MTC's strategy priorities were posted and advertised on its website at <http://quake.abag.ca.gov/mitigation> beginning on August 5, 2009. No comments were received from the public regarding MTC's priorities for mitigation.

## **Hazard and Risk Assessment**

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). All of these impacts MTC's planning region. However, in MTC's role, as the regional transportation planning agency, drought has no impact on the provision of transportation services. All relevant reports developed by MTC have been incorporated into this plan. No additional reports describe the hazard or risk to the MTC region.

MTC is a majority owner of the MetroCenter regional center. It owns no other facilities. Hazards at the MetroCenter facility are:

**Earthquake:** The MetroCenter is located 5 miles from the Hayward fault and 15 miles from the San Andreas fault. It is in the next to highest category on the ground shaking potential map and outside the zone of earthquake-induced landslides on flat ground. While the MetroCenter is not in the CGS Liquefaction Zone, it is shown as subject to liquefaction to the USGS Liquefaction Susceptibility Map.

**Tsunamis:** The December 2009 version of the CalEMA tsunami evacuation planning maps indicated that the MetroCenter facility is not in this area. Tsunami evacuation planning maps were not available inside the San Francisco Bay in 2005.

**Flooding:** The MetroCenter is outside the 100-year and 500-year flood zones.

**Landsliding:** The MetroCenter is located on ground that is designated as flat land.



**Wildfire:** The wildland fire threat is moderate but the MetroCenter is located within the Wildland Urban Interface WUI-Threatened area.

**Dam-Failure Inundation:** The MetroCenter is not subject to dam-failure inundation.

**Delta Levee Failures:** The MetroCenter facility is not in an area protected by a levee, or in the Delta.

**Drought:** The operations of the MetroCenter are not significantly impacted by drought conditions.

**Hazards Conclusion:** The most significant hazard to the MetroCenter is earthquake shaking.

**Risk Assessment:** The MetroCenter building, when evaluated in 2004, was determined to be a partial collapse hazard building. (GOVT-a-1). In 2008 the MetroCenter was retrofitted to address its seismic vulnerability (GOVT-a-2)

### *Repetitive Loss Properties*

The MetroCenter building, MTC's only property, is not a repetitive loss property.

## Past Occurrences of Disasters (natural and human-induced)

While a number of disasters have affected the City of Oakland and Alameda County, where the MetroCenter is located, only a few of those have affected this building directly. The MetroCenter sustained some minor damages from the Loma Prieta earthquake (broken glass, fallen ceiling tiles and fluorescent light fixtures, unsecured furniture), but many other buildings in downtown Oakland were more severely damaged. This event was the impetus for retrofitting the building. The Mesherle shooting in January 2009 occurred during a holiday when the MetroCenter offices were closed; however, when the subsequent trial verdict was released on July 8, 2010, the MetroCenter was evacuated due to expected civil disturbance. Information on disasters declared in the Bay Area is in Appendix D.

More information on State and Federally declared disasters in Alameda County can be found at <http://quake.abag.ca.gov/mitigation/ThePlan-D-Version-December09.pdf>

## National Flood Insurance Program

As joint powers agency, MTC is not eligible to participate in the National Flood Insurance Program (NFIP).

## Mitigation Goals

The goal of the ABAG MJ-LHMP is to maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. This goal is unchanged from the 2005 plan and continues to be the goal of MTC's in designing its mitigation program.

MTC has the additional goal of working with the TRP Steering Committee to reduce the impact of natural disasters on transportation agency assets and facilities so that the region's transportation network can continue to operate and provide mobility in and out of the region.



## Mitigation Activities and Priorities

### *Evaluation of Progress from 2005 Plan*

In 2005, MTC identified one specific mitigation project it wanted to complete. MTC determined that the combination of construction type, age, and shaking exposure to MetroCenter was significant. MTC joined with ABAG and the Bay Area Rapid Transit District (BART) to apply for a Pre-Disaster Mitigation grant to retrofit this building. MTC applied for, and received, approximately \$3 million dollars in the form of a PDM grant from FEMA for a seismic upgrade to the MetroCenter facility. The entire project cost approximately \$5 million and was completed in 2008. (GOVT a-2; INFR a-4)

### *Future Mitigation Actions and Priorities*

As a participant in the ABAG multi-jurisdictional planning process, MTC staff helped in the update and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. MTC has identified mitigation strategies that the agency will implement on its own or on behalf of RAFC. On the other hand, MTC *itself* is able to implement only some of those strategies. When reviewing the priorities assigned to individual strategies on the pages that follow, it is important to understand that these are the priorities for MTC itself, not the overall priorities for the Local Hazard Mitigation Plan for the region.

The following is a description of specific future mitigation priorities identified by MTC as well as the proposed implementation method, priority, and existing and potential resources. These strategies relate to mitigation strategies which were identified as *High* or *Very High* in the mitigation strategy spreadsheet. In all cases the responsible department is MTC's Administrative and Technical Services (ATS) Department.

**MetroCenter Facility:** In its role as the RAFC Building Manager, MTC is under contract with URS Engineers to prepare a Building Occupancy Recovery Program (BORP) plan for MetroCenter facility. BORP permits owners of buildings to hire qualified structural engineers to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of critical infrastructure buildings. (INFR f-1)

MTC is working on completing a comprehensive program to identify and mitigate problems with facility contents, architectural components, and equipment that would prevent its critical MetroCenter facility from being functional after major natural disasters (GOVT a-4).

**Recovery Planning:** While MTC has established a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within its organization, that process needs more work. MTC is working to develop a more robust continuity of operations plan that outlines the major issues and tasks that are likely to be the key elements of recovery, as well as to integrate this planning into response planning (GOVT b-2, b-3, b-4, and b-5).

**Climate Change Mitigation:** MTC is working with ABAG, the Bay Area Air Quality Management District, and the Bay Conservation and Development Commission (BCDC) to reduce greenhouse gas emissions of the region's transportation system.



**Need for More Research:** MTC has encouraged research on ways to further strengthen transportation systems so that they are less vulnerable to damage in disasters. This activity is particularly important in the on-going role of MTC to encourage strengthening of the transportation systems including seismic retrofit of Bay Area bridges (INFR a-7). MTC also understands the importance of examining the interrelationships among the various infrastructure systems.

### ***On-Going Mitigation Strategies***

MTC has many on-going mitigation programs which help to create a more disaster-resistant region. The following list highlights both those programs that identified as *Existing Programs* in the mitigation strategy spreadsheet and those that were identified as *Existing Programs, underfunded*. It is MTC's priority to find additional funding for these on-going programs over time.

**MetroCenter Facility:** MTC applied for, and received, approximately \$3 million dollars in the form of a PDM grant from FEMA for a seismic upgrade to the MetroCenter facility. The entire project cost approximately \$5 million and was completed in 2008. (GOVT a-2; INFR a-4)

**Transportation Response Planning:** MTC developed the Trans Response Plan/Regional Transportation Emergency Management Plan (TRP/RTEMP) which sets a conceptual framework for a comprehensive and timely response by Bay Area transportation providers to any major earthquake or disaster in the region. The RTEMP process requires MTC to serve as the regional transportation information clearinghouse where information on the region's roadway & freeway network, bus, rail, ferry, airport and seaport facilities can be centralized and coordinated in order to provide immediate and near-term response to the disaster. The result is intended to be a coordinated transportation response within the overall Statewide Emergency Management System (SEMS) implemented by State OES (INFR a-17). The TRP Steering Committee also worked together to develop and review the transportation portion of the multi-jurisdictional Local Hazard Mitigation Plan. Recently, MTC equipped the major transit operators with mobile and stationary satellite phones to strengthen communications in the event of significant power failures such as could occur following an earthquake (GOVT c-7, c-8).

**Recovery Planning:** As the Regional Transportation Information Clearinghouse, MTC has identified pre- and post-disaster roles and responsibilities within its organization and conducts annual training (GOVT b-1).

**Public Information Activities:** MTC provides materials to the public related to family and personal planning for delays due to traffic or road closures. MTC-funded 511 (telephone) and 511.org provide real-time traffic data including freeway status, transit schedules, accident information for nine-bay area county region. (INFR g-2)

**Transportation System Mitigation Funding:** MTC, as the Bay Area Toll Authority (BATA), is responsible for managing a cooperative agreement with Caltrans for delivering the Regional Measure 1 (RM!) bridge improvement program and coordinating the issuance of debt financing to deliver RM 1 projects, which includes the seismic retrofit of several bay area bridges (except for the Golden Gate Bridge, which is administered by the GGBHTD) (INFR b-1).

**Efforts Related to Climate Change:** Approximately half of the greenhouse gas emissions in the Bay Area are related to transportation. Thus, the largest impact that MTC can have on weather-related hazards, such as wildfire and flooding, is indirectly through reducing greenhouse gas emissions. Smart Growth Preamble and Policies adopted by MTC, ABAG, BAAQMD and BCDC call for retrofit of



infrastructure that serves urban areas over constructing new infrastructure to serve outlying areas in an effort to reduce those emissions. (LAND f-1)

## Incorporation into Existing Planning Mechanisms

As shown in the attached list, MTC's specific mitigation strategies and priorities will be implemented as part of the MTC's annual Overall Work Program which is reviewed and approved by the federal government. The Overall Work Program identifies the specific tasks that MTC will accomplish each year. There are no other planning mechanisms available to MTC that are appropriate to incorporate this plan.

The final strategies and Annex will be adopted in the same resolution adopting the overall LHMP on following Approval Pending Adoption by FEMA.

Ongoing integration of the policies and programs identified in this Local Hazard Mitigation Plan will occur at MTC within the Administrative and Technical Services (ATS) Section and the Regional Administrative Facility Corporation (RAFC). There is no Regional General Plan in the Bay Area to which MTC could annex this Local Hazard Mitigation Plan.

MTC will continue to work with the transit districts in the Bay Area to encourage them to adopt the Local Hazard Mitigation Plan and to assist them in integrating it into their overall planning process. This effort is specified in the Mitigation Strategy section under GOVT-e-1 and GOVT-e-2.

## The Plan Update Process

As required by Disaster Mitigation Act of 2000, MTC will update this plan annex at least once every five years, by participating in a multi-agency effort with ABAG and other agencies to develop a multi-jurisdictional plan.

The ATS Section of MTC will ensure that monitoring of this Annex will occur. The plan will be monitored on an on-going basis. However, the major disasters affecting our region, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. The Annex will be a discussion item on the agenda of the meeting of the Regional Administrative Facility Corporation (RAFC) Board at least once a year. At that meeting, the department heads will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. The Department leaders will be responsible for determining if the plan should be updated.

If no interim update has occurred, MTC's ATS staff will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, MTC again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the



County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, MTC will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics.

## **Mitigation Plan Point of Contact**

Name: Nancy Okasaki  
Title: Transportation Planner  
Mailing Address: 101 Eighth Street, Oakland, California 94607  
Telephone: 510-817-5759  
Email: [NOkasaki@mtc.ca.gov](mailto:NOkasaki@mtc.ca.gov)



## Exhibit A - MTC Regional Mitigation Strategy Spreadsheet

[Included on Multi-Jurisdictional Plan CD and at <http://quake.abag.ca.gov/mitigation/strategy.html>]

### Infrastructure Mitigation Strategies

			Priority (CHECK ONLY ONE)											
2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program underfunded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments	
<b>INFR - a - Multi-Hazard (owned by the infrastructure provider filling out this form, including a city, county, or special district)</b>														
a-1	a-1	Assess the vulnerability of critical facilities <b>owned</b> by <b>infrastructure</b> operators subject to damage in natural disasters or security threats, including <b>fuel tanks and</b> facilities owned outside of the Bay Area that can impact service delivery within the region. <b>Note - Infrastructure</b> agencies, departments, and districts are those that operate transportation and utility facilities and networks.	EQ LS WF FL SEC	x								MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC evaluated the MetroCenter facility, jointly owned by MTC, ABAG, and BART	
a-2	a-2	<b>If a dam owner</b> , comply with State of California and federal requirements to assess the vulnerability of dams to damage from earthquakes, seiches, landslides, liquefaction, or security threats.	EQ LS WF FL SEC							x			Not applicable; MTC does not own a dam	
a-3	a-3	Encourage the cooperation of utility system providers and cities, counties, and special districts, <b>and PG&amp;E</b> to develop strong and effective mitigation strategies for infrastructure systems and facilities.	EQ LS WF FL DR SEC							x			Not applicable; this strategy is not transportation-specific	
a-4	a-4	Retrofit or replace critical lifeline <b>infrastructure</b> facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC	x								MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC led the effort for the \$5 million seismic retrofit of the MetroCenter facility using, in part, a \$3 million PDM-C grant from FEMA	
a-5	a-5	Support and encourage efforts of <b>other</b> (lifeline <b>infrastructure</b> ) agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies. (For example, a city might pass a resolution in support of a transit agency's retrofit program.)	EQ LS WF FL DR SEC	x								Highway and Arterial Operations		

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a-6	a-6	Develop a plan for speeding the repair and functional restoration of <b>water and wastewater</b> systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water <b>/Wastewater</b> Agency Response Network (WARN). <b>Communicate that plan to local governments and critical facility operators.</b>	EQ LS WF FL DR SEC							x			Not applicable; this strategy is not transportation-specific
a-7	a-7	Engage in, support, and/or encourage research by others <b>(such as USGS, universities, or Pacific Earthquake Engineering Research Center-PEER)</b> on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in disasters.	EQ LS WF FL DR SEC	x								MTC, Bay Area Toll Authority (BATA), and SAFE staff	On-going activity to encourage strengthening of the transportation systems in the Bay Area, including seismic retrofit of the Bay Area toll bridges
a-8	a-8	Pre-position emergency power generation capacity (or have rental/lease agreements for these generators) in critical buildings of cities, counties, and special districts to maintain continuity of government and services.	EQ LS WF FL SEC	x								MTC on behalf of RAFC	Emergency power is available for the MTC EOC, as well as all conference rooms
a-9	a-9	<b>(REWORDED) Ensure that critical intersection traffic lights function following loss of power by installing battery back-ups, emergency generators, or lights powered by alternative energy sources such as solar. Proper functioning of these lights is essential for rapid evacuation, such as with hazmat releases resulting from natural disasters.</b>	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission
a-10	a-10	Develop unused or new pedestrian rights-of-way as walkways to serve as additional evacuation routes (such as fire roads in park lands).	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission
a-11	a-11	Minimize the likelihood that power interruptions <b>will adversely impact lifeline utility systems or critical facilities by ensuring that they have adequate back-up power.</b>	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission

### Infrastructure Mitigation Strategies

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a-12	a-12	Encourage replacing above ground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new phone and electrical utility lines are installed underground.	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission
a-13	a-13	<b>If you own a dam</b> , coordinate with the State Division of Safety of Dams to ensure an adequate timeline for the maintenance and inspection of dams, as required of dam owners by State law, <b>and communicate this information to local governments and the public.</b>	EQ LS WF FL SEC							x			Not applicable; MTC does not own a dam
a-14	a-14	Encourage communication between State <b>Emergency Management Agency (CalEMA)</b> , FEMA, and utilities related to emergencies occurring outside of the Bay Area that can affect service delivery in the region.	EQ LS WF FL DR SEC	x								Highway and Arterial Operations	
a-15	a-15	Ensure that transit operators, private ambulance companies, cities, and/or counties have mechanisms in place for medical transport during and after disasters that take into consideration the potential for reduced capabilities of roads following these same disasters.	EQ LS WF FL SEC							x			Not applicable directly; however, MTC has discussed this issue with transit operators
a-16	new	<b>Recognize that heat emergencies produce the need for non-medical transport of people to cooling centers by ensuring that (1) transit operators have plans for non-medical transport of people during and after such emergencies including the use of paratransit and (2) cities, counties, and transit agencies have developed ways to communicate the plan to the public.</b>	Heat							x			Not applicable directly; however, MTC has discussed this issue with transit operators

### Infrastructure Mitigation Strategies

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a-17	a-16	Effectively utilize the <b>Regional</b> Transportation Management Center (TMC) <b>in Oakland</b> , the staffing of which is provided by Caltrans, the CHP and MTC. The TMC is designed to maximize safety and efficiency throughout the highway system. It includes the Emergency Resource Center (ERC) which was created specifically for primary planning and procedural disaster management. <b>RESPONSIBLE AGENCY: MTC only.</b>	EQ LS WF FL SEC	x								Highway and Arterial Operations - Emergency Services	MTC developed the Regional Transportation Emergency Management Plan (RTEMP) which sets a conceptual framework for a comprehensive and timely response by Bay Area transportation providers to any major earthquake or other disaster in the region. The TRP process requires MTC to serve as the regional transportation information clearinghouse where information on the region's roadway & freeway network, bus, rail, ferry, airport and seaport facilities can be centralized and coordinated in order to provide immediate and near-term response to the disaster. The result is a coordinated transportation response within the overall Statewide Emergency Management System (SEMS)
a-18	new	<b>Develop (with the participation of paratransit providers, emergency responders, and public health professionals) plans and procedures for paratransit system response and recovery from disasters.</b>	EQ LS WF FL Heat SEC							x			Not applicable; this strategy is not part of MTC's mission
a-19	new	<b>Coordinate with other critical infrastructure facilities to establish plans for delivery of water and wastewater treatment chemicals.</b>	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission

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a-20	new	<b>Establish plans for delivery of fuel to critical infrastructure providers.</b>	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission
a-21	new	<b>As an infrastructure operator, designate a back-up Emergency Operations Center with redundant communications systems.</b>	EQ LS WF FL SEC		x							Highway and Arterial Operations - Emergency Services	
a-22	new	<b>Monitor scientific studies of the Sacramento-San Joaquin Delta and policy decisions related to the long-term disaster resistance of that Delta system to ensure that decisions are made based on comprehensive analysis and in a scientifically-defensible manner. Levee failure due to earthquakes, flooding, and climate change (including sea level rise and more frequent and more severe flooding) are all of concern. The long-term health of the Delta area is critical to the Bay Area's water supply, is essential for the San Francisco Bay and estuary's environmental health, provides recreation opportunities for Bay Area residents, and provides the long-term sustainability of Delta communities. While only part of the Delta is within the nine Bay Area counties covered by this multi-jurisdictional LHMP, the Delta is tied to the infrastructure, water supply, and economy of the Bay Area.</b>	EQ FL		x							MTC's work with the Regional Joint Policy Committee (JPC)	
<b>INFR - b - Earthquakes</b>													
b-1	b-1	Expedite the funding and retrofit of seismically-deficient city- and county-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies.	EQ	x								Bay Area Toll Authority (BATA)	In MTC's role as BATA, MTC works with Caltrans on financing and project management of the Bay Area bridge seismic retrofit programs
b-2	b-2	Establish a higher priority for funding seismic retrofit of existing transportation and infrastructure systems (such as BART) than for expansion of those systems.	EQ							x			Not applicable; this strategy is not part of MTC's mission

### Infrastructure Mitigation Strategies

2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
b-3	b-3	Include "areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture" in the list of criteria used for determining a replacement schedule for pipelines (along with importance, age, type of construction material, size, condition, and maintenance or repair history).	EQ							x			Not applicable; this strategy is not part of MTC's mission
b-4	b-4	Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.	EQ							x			Not applicable; this strategy is not part of MTC's mission
b-5	b-5	Replace or retrofit water-retention structures that are determined to be structurally deficient, <b>including levees, dams, reservoirs and tanks.</b>	EQ							x			Not applicable; this strategy is not part of MTC's mission
b-6	b-6	Install portable facilities (such as hoses, pumps, emergency generators, or other equipment) to allow pipelines to bypass failure zones such as fault rupture areas, areas of liquefaction, and other ground failure areas (using a priority scheme if funds are not available for installation at all needed locations).	EQ							x			Not applicable; this strategy is not part of MTC's mission
b-7	b-7	Install earthquake-resistant connections when pipes enter and exit bridges <b>and work with bridge owners to encourage retrofit of these structures.</b>	EQ							x			Not applicable; this strategy is not part of MTC's mission
b-8	b-8	Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities.	EQ	x								MTC Building Staff, on behalf of the Regional Administrative Facility Corporation	On-going activity; specifically used when MetroCenter facility seismically upgraded.
b-9	b-9	Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.	EQ	x								MTC Building Staff, on behalf of the Regional Administrative Facility Corporation	On-going activity; specifically used during MetroCenter facility seismic upgrade
b-10	b-10	<b>Develop</b> a water-based transportation "system" across the Bay for use in the event of major earthquakes. Implementation of such a system could prove extremely useful in the event of structural failure of either the road-bridge systems or BART and might serve as an adjunct to existing transportation system elements in the movement of large numbers of people and/or goods.	EQ							x			Not applicable for MTC; role of WETA

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INFR - c - Wildfire													
c-1	c-1	Ensure a reliable source of water for fire suppression (meeting acceptable standards for minimum volume and duration of flow) for existing and new development.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-2	c-2	Develop a coordinated approach between fire jurisdictions and water supply agencies to identify needed improvements to the water distribution system, initially focusing on areas of highest wildfire hazard ( <b>including wildfire threat areas and in wildland-urban-interface areas</b> ).	WF							x			Not applicable; this strategy is not part of MTC's mission
c-3	c-3	Develop a defensible space vegetation program that includes the clearing or thinning of (a) non-fire resistive vegetation within 30 feet of access and evacuation roads and routes to critical facilities, or (b) all non-native species (such as eucalyptus and pine, but not necessarily oaks) within 30 feet of access and evacuation roads and routes to critical facilities.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-4	c-4	<b>For new development</b> , ensure all dead-end segments of public roads in high hazard areas have at least a "T" intersection turn-around sufficient for typical wildland fire equipment.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-5	c-5	<b>For new development</b> , enforce minimum road width of 20 feet with an additional 10-foot clearance on each shoulder on all driveways and road segments greater than 50 feet in length in wildfire hazard areas.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-6	c-6	Require that development in high fire hazard areas provide adequate access roads (with width and vertical clearance that meet the minimum standards of the <i>Fire Code</i> or relevant local ordinance), onsite fire protection systems, evacuation signage, and fire breaks.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-7	c-7	Ensure adequate fire equipment road or fire road access to developed and open space areas.	WF							x			Not applicable; this strategy is not part of MTC's mission
c-8	c-8	Maintain fire roads and/or public right-of-way roads and keep them passable at all times.	WF							x			Not applicable; this strategy is not part of MTC's mission
INFR - d - Flooding													
d-1	d-1	Conduct a watershed analysis of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.	FL							x			Not applicable; this strategy is not part of MTC's mission

### Infrastructure Mitigation Strategies

2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
d-2	d-2	Develop procedures for performing a watershed analysis to <b>examine</b> the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-3	d-3	Conduct a watershed analysis at least once every <b>ten years unless there is a major development in the watershed or a major change in the Land Use Element of the General Plan of the cities or counties within the watershed.</b>	FL							x			Not applicable; this strategy is not part of MTC's mission
d-4	d-4	Assist, support, and/or encourage the U.S. Army Corp of Engineers, various Flood Control and Water Conservation Districts, and other responsible agencies to locate and maintain funding for the development of flood control projects that have high cost-benefit ratios (such as through the writing of letters of support and/or passing resolutions in support of these efforts).	FL							x			Not applicable; this strategy is not part of MTC's mission
d-5	d-5	Pursue funding for the design and construction of storm drainage projects to protect vulnerable properties, including property acquisitions, upstream storage such as detention basins, and channel widening with the associated right-of-way acquisitions, relocations, and environmental mitigations.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-6	d-6	Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their design capacity in handling water flows as part of regular maintenance activities. <b>(This strategy has the secondary benefit of addressing fuel, chemical, and cleaning product issues.)</b>	FL							x			Not applicable; this strategy is not part of MTC's mission
d-7	d-7	Continue maintenance efforts to keep storm drains and creeks free of obstructions, while retaining vegetation in the channel (as appropriate) to allow for the free flow of water.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-8	d-8	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to <b>conform</b> with the Regional Water Quality Control Board's Best Management Practices.	FL							x			Not applicable; this strategy is not part of MTC's mission

### Infrastructure Mitigation Strategies

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d-9	d-9	Develop an approach and locations for various watercourse bank protection strategies, including for example, (1) an assessment of banks to inventory areas that appear prone to failure, (2) bank stabilization, including installation of rip rap, <b>or whatever regulatory agencies allow</b> (3) stream bed depth management using dredging, and (4) removal of out-of-date coffer dams in rivers and tributary streams.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-10	d-10	Use <b>reservoir</b> sediment <b>or reed</b> removal as one way to increase storage for both flood control and water supply.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-11	d-11	<b>Identify</b> critical <b>locally-owned</b> bridges affected by flooding and either <b>elevate them</b> to increase stream flow and maintain critical <b>ingress</b> and egress routes <b>or modify the channel to achieve equivalent objectives.</b>	FL							x			Not applicable; this strategy is not part of MTC's mission
d-12	d-12	Provide <b>or support the</b> mechanism to expedite the repair or replacement of levees that are vulnerable to collapse from earthquake-induced shaking or liquefaction, rodents, and other concerns, particularly those protecting critical infrastructure.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-13	d-13	Ensure that utility systems in new developments are constructed in ways that reduce or eliminate flood damage.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-14	d-14	Determine whether or not wastewater treatment plants are protected from floods, and if not, investigate the use of flood-control berms to not only protect from stream or river flooding, but also <b>increase</b> plant security.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-15	d-15	Work cooperatively with water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-16	d-16	Work for better cooperation among the patchwork of agencies managing flood control issues.	FL							x			Not applicable; this strategy is not part of MTC's mission
d-17	d-17	<b>Improve monitoring of</b> creek and watercourse flows to predict potential for flooding downstream <b>by working cooperatively with land owners and the cities and counties in the watershed.</b>	FL							x			Not applicable; this strategy is not part of MTC's mission

### Infrastructure Mitigation Strategies

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d-18	new	<p style="color: red;">Using criteria developed by EPA for asset management, inventory existing assets, the condition of those assets, and improvements needed to protect and maintain those assets. Capture this information in a Geographic Information System (GIS) and use it to select locations for creek monitoring gauges.</p>	FL							x			<p>Not applicable; this strategy is not part of MTC's mission</p>

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INFR - e - Landslides													
e-1	e-1	Include "areas subject to ground failure" in the list of criteria used for determining a replacement schedule (along with importance, age, type of construction material, size, condition, and maintenance or repair history) for pipelines.	LS							x			Not applicable; this strategy is not part of MTC's mission
e-2	e-2	Establish requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding.	LS							x			Not applicable; this strategy is not part of MTC's mission
INFR - f - Building Reoccupancy													
f-1	f-1	Ensure that critical buildings owned or leased by special districts or private utility companies participate in a program similar to San Francisco's Building Occupancy Resumption Program (BORP). The BORP program permits owners of buildings to hire qualified <b>engineers</b> to create facility-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster. This program allows rapid reoccupancy of the buildings. <b>Note</b> - A qualified ( <b>deleted structural</b> ) engineer is a California licensed <b>engineer</b> with relevant experience.	EQ LS WF FL SEC	x								MTC Building Staff, on behalf of the Regional Administrative Facility Corporation	In MTC's role as the RAFC Building Manager, it has contracted with URS to prepare the BORP for the MetroCenter.
INFR - g - Public Education													
g-1	g-1	Provide materials to the public related to planning for power outages.	EQ LS WF FL SEC							x			Not applicable; this strategy is not part of MTC's mission

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g-2	g-2	Provide materials to the public related to family and personal planning for delays due to traffic or road closures, <b>or due to transit system disruption caused by disasters.</b>	EQ LS WF FL SEC	x								MTC - Traveler Coordination and Information Section	MTC-funded 511 (telephone) and 511.org provide realtime traffic data including freeway status, transit schedules, accident information for 9-county Bay Area region.
g-3	g-3	Provide materials to the public related to coping with reductions in water supply or contamination of that supply <b>BEYOND regulatory notification requirements.</b>	EQ LS WF FL DR SEC						x				Not applicable; this strategy is not part of MTC's mission
g-4	g-4	Provide materials to the public related to coping with disrupted storm drains, sewage lines, and wastewater treatment <b>(such as materials developed by ABAG's Sewer Smart Program).</b>	EQ LS WF FL DR SEC						x				Not applicable; this strategy is not part of MTC's mission
g-5	g-5	Facilitate and/or coordinate the distribution of <b>emergency preparedness or mitigation</b> materials that are prepared by others, such as by <b>making the use of the internet or other electronic means</b> , or placing materials on community access channels or in city or utility newsletters, as appropriate.	EQ LS WF FL DR SEC						x				Not applicable directly; however, MTC has discussed this issue with transit operators and encouraged them to undertake this strategy
g-6	<b>new</b>	Sponsor the formation <b>and training</b> of Community Emergency Response Teams (CERT) <b>for the employees of your agency.</b> [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL DR SEC						x				Not applicable; this strategy is not part of MTC's mission
g-7	<b>new</b>	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website <b>related to infrastructure issues.</b>	EQ LS WF FL DR SEC						x				Not applicable directly; however, MTC has discussed this issue with transit operators and encouraged them to undertake this strategy

## Health Mitigation Strategies

2009-2010 Strategic Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective	Not Yet Considered				
HEAL - a - Hospitals and Other Critical Health Care Facilities (including those facilities licensed by OSHPD, as well as water agencies, public & private hospitals as noted). To be filled out by cities, counties, and county health departments.															
a-1	a-1	<b>Work to ensure that cities, counties, county health departments, and hospital operators coordinate with each other (and that hospitals cooperate with the California Office of Statewide Health Planning and Development - OSHPD) to comply with current state law</b> that mandates that critical facilities are structurally sound and have nonstructural systems designed to remain functional following disasters <b>by 2013. In particular, this coordination should include understanding any problems with obtaining needed funding. RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ WF FL SEC									X			not part of MTC's mission
a-2	a-2	Encourage hospitals in your community to work with OSHPD to formalize arrangements with structural engineers to report to the hospital, assess damage, and determine if the buildings can be reoccupied. The program should be similar to San Francisco's Building Occupancy Resumption Program (BORP) that permits owners of buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as inspectors for these buildings in the event of an earthquake or other disaster. OSHPD, rather than city/county building departments, has the authority and responsibility for the structural integrity of hospital structures. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ WF FL SEC									X			not part of MTC's mission
a-3	a-3	Ensure health care facilities are adequately prepared to care for victims with respiratory problems related to smoke and/or particulate matter inhalation. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ WF SEC									X			not part of MTC's mission
a-4	a-4	Ensure these health care facilities have the capacity to shut off outside air and be self-contained. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ WF SEC									X			not part of MTC's mission

## Health Mitigation Strategies

2009-2010 Strategic Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Mitigation Status											Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered					
a-5	a-5	Ensure that hospitals and other major health care facilities have auxiliary water and power sources. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, water suppliers, and hospitals</b>	EQ LS WF FL SEC										X			not part of MTC's mission
a-6	a-6	Work to ensure that county health departments work with health care facilities to institute isolation capacity should a need for them arise following a communicable disease epidemic. <b>Isolation capacity varies from a section of the hospital for most communicable diseases to the entire hospital for a major pandemic flu.</b> <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ WF FL SEC										X			not part of MTC's mission
a-7	a-7	Develop printed materials, utilize existing materials (such as developed by FEMA, the American Red Cross, <b>and others, including non-profit organizations</b> ), conduct workshops, and/or provide outreach encouraging employees of these critical health care facilities to have family disaster plans and conduct mitigation activities in their own homes. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ LS WF FL SEC										X			not part of MTC's mission
<b>HEAL - b - Ancillary Health-Related Facilities (including medical offices, pharmacies, free-standing or specialty clinics, etc.)</b>																
b-1	b-1	Identify these ancillary facilities in your community. <b>These facilities are not regulated by OSHPD in the same way as hospitals.</b> <b>RESPONSIBLE AGENCIES: Cities, counties, and county health departments</b>	EQ LS WF FL SEC										X			not part of MTC's mission
b-2	b-2	Encourage these facility operators to develop disaster mitigation plans. <b>RESPONSIBLE AGENCIES: Cities, counties, and county health departments</b>	EQ LS WF FL SEC										X			not part of MTC's mission
b-3	b-3	Encourage these facility operators to create, maintain, and/or continue partnerships with local governments to develop response and <b>business continuity</b> plans for recovery. <b>RESPONSIBLE AGENCIES: Cities, counties, and county health departments</b>	EQ LS WF FL SEC										X			not part of MTC's mission
<b>HEAL - c - Coordination Initiatives</b>																

### Health Mitigation Strategies

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c-1	c-1	Designate locations for the distribution of antibiotics to large numbers of people should the need arise, as required to be included in each county's Strategic National Stockpile Plan. <b>RESPONSIBLE AGENCIES: County Health Departments</b>	FLU SEC							X			not part of MTC's mission
c-2	c-2	Ensure that you know the Metropolitan Medical Response System (MMRS) cities in your area. Fremont, Oakland, <b>San Francisco, and San Jose (plus Sacramento and Stockton)</b> are the MMRS cities <b>in or near the Bay Area</b> . MMRS cities are provided with additional federal funds for organizing, equipping, and training groups of local fire, rescue, medical, and other emergency management personnel <b>to respond to a mass casualty event. (The coordination among public health, medical, emergency management, coroner, EMS, fire, and law enforcement is a model for all cities and counties.)</b> <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ LS WF FL SEC							X			not part of MTC's mission
c-3	c-3	Know <b>that</b> National Disaster Medical System (NDMS) uniformed or non-uniformed personnel are within one-to-four hours of your community. These federal resources include veterinary, mortuary, and medical personnel. <b>Teams in or near the Bay Area are headquartered in the cities of Santa Clara and Sacramento.</b> <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals</b>	EQ LS WF FL SEC							X			not part of MTC's mission
c-4	c-4	<b>Plan for hazmat related-issues due to a natural or technological disaster. Hazmat teams should</b> utilize the State of California Department of Health Services laboratory in Richmond for confirmation of biological agents and Lawrence Livermore National Laboratory or Sandia (both in Livermore) for confirmation of radiological agents. <b>RESPONSIBLE AGENCIES: Cities, counties, county health departments, and hospitals.</b>	EQ WF FL SEC							X			not part of MTC's mission
c-5	d-1	Create discussion forums for food and health personnel (including, for example, medical professionals, veterinarians, and plant pathologists) to develop safety, security, and response strategies for food supply contamination <b>(at the source, in processing facilities, in distribution centers, and in grocery stores).</b> <b>RESPONSIBLE AGENCIES: County environmental health departments</b>	FL SEC							X			not part of MTC's mission

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c-6	new	Ensure mental health continuity of operations and disaster planning is coordinated among county departments, (including Public Health and Emergency Services), private sector mental health organizations, professional associations, and national and community-based non-profit agencies involved in supporting community mental health programs. <b>First</b> , such planning should ensure that the capability exists to provide both immediate on-site mental health support at facilities such as evacuation centers, emergency shelters, and local assistance centers, as well as to coordinate on-going mental health support during the long-term recovery process. <b>Second</b> , this planning should ensure that mental health providers, in collaboration with the county agencies responsible for providing public information, are prepared to provide consistent post-disaster stress and other mental health guidance to the public impacted by the disaster.	EQ LS WF FL SEC							X			not part of MTC's mission
<del>deleted</del>	d-2	(duplicate information to c-2)											
<del>deleted</del>	d-3	(duplicate information to c-3)											
<del>deleted</del>	d-4	(duplicate information to c-4)											

### Housing Mitigation Strategies

2009-2010 Strategy Number 2005 Original Strategy Number		Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments						
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered										
HSNG - a - Multi-Hazard																					
a-1	a-1	Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements <b>for residential properties</b> with regard to seven official natural hazard zones: <b>1) Special Flood Hazard Areas (designated by FEMA), 2) Areas of Potential Flooding from dam failure inundation, 3) Very High Fire Hazard Severity Zones, 4) Wildland Fire Zones, 5) Earthquake Fault Zones (designated under the Alquist-Priolo Earthquake Fault Zoning Act), and the 6) Liquefaction and Landslide Hazard Zones (designated under the Seismic Hazard Mapping Act).</b>	EQ LS WF FL SEC							X						not part of MTC's mission					
a-2	a-2	Create incentives for <b>private</b> owners of historic or architecturally significant residential buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's <i>Guidelines for Rehabilitation</i> .	EQ LS WF FL SEC							X						not part of MTC's mission					
a-3	NEW Was GOV T b-4	Develop a plan for short-term sheltering of residents <b>of your community in conjunction with the American Red Cross.</b>	EQ LS WF FL SEC							X						not part of MTC's mission					
a-4	NEW Was GOV T b-4	<b>Develop a plan for interim housing for those displaced by working with the Regional Catastrophic Planning Grant Program (CPGP) that funded this effort in 2009. (Estimated completion is 2011.)</b>	EQ LS WF FL SEC							X						not part of MTC's mission					

### Housing Mitigation Strategies

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<b>HSNG - b - Single-Family Homes Vulnerable to Earthquakes</b>													
b-1	b-1	Utilize or recommend adoption of a retrofit standard that includes standard plan sets and construction details for voluntary bolting of homes to their foundations and bracing of outside walls of crawl spaces ("cripple" walls), such as <b>Plan Set A</b> developed by a committee representing the East Bay-Peninsula-Monterey Chapters of the International Code Council (ICC), California Building Officials (CALBO), the Structural Engineers Association of Northern California (SEAONC), the Northern California Chapter of the Earthquake Engineering Research Institute (EERI-NC), and ABAG's Earthquake Program.	EQ							X			not part of MTC's mission
b-2	b-2	Require engineered plan sets for <b>seismic</b> retrofitting of heavy two-story homes with living areas over garages, as well as for split level homes ( <b>that is, homes not covered by Plan Set A</b> ), until standard plan sets and construction details become available.	EQ							X			not part of MTC's mission
b-3	b-3	Require engineered plan sets for <b>seismic</b> retrofitting of homes on steep hillsides ( <b>because these homes are not covered by Plan Set A</b> ).	EQ							X			not part of MTC's mission
b-4	b-4	Encourage local government building inspectors to take classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG) on retrofitting of single-family homes, <b>including application of Plan Set A</b> .	EQ							X			not part of MTC's mission
b-5	b-5	Encourage private retrofit contractors and home inspectors doing work in your area to take retrofit classes on a periodic basis (such as the FEMA-developed training classes offered by ABAG <b>or additional classes that might be offered by the CALBO Training Institute</b> ) on retrofitting of single-family homes.	EQ							X			not part of MTC's mission
b-6	b-6	Conduct demonstration projects on common existing housing types demonstrating structural and nonstructural mitigation techniques as community models for earthquake mitigation.	EQ							X			not part of MTC's mission
b-7	b-7	Provide retrofit classes or workshops for homeowners in your community, <b>or help promote utilization of subregional workshops in the South Bay, East Bay, Peninsula, and North Bay as such workshops become available through outreach using existing community education programs</b> .	EQ							X			not part of MTC's mission

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b-8	b-8	Establish tool-lending libraries with common tools needed for retrofitting for use by homeowners with appropriate training.	EQ							X			not part of MTC's mission
b-9	b-9	<b>(reworded) Provide financial incentives to owners of single-family homes to retrofit if those retrofits comply with Plan Set A or IEBC 2006 in addition to that provided by existing state law State law that makes such retrofits exempt from increases in property taxes.</b>	EQ							X			not part of MTC's mission
<b>HSNG - c - Soft-Story Multifamily Residential Structures Vulnerable to Earthquakes</b>													
c-1	c-1	Require engineered plan sets for voluntary or mandatory soft-story <b>seismic</b> retrofits <b>by private owners</b> until a standard plan set and construction details become available.	EQ							X			not part of MTC's mission
c-2	c-2	Adopt the 2009 <b>(changed date)</b> International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits <b>for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAOC for the 2012 IEBC.</b>	EQ							X			not part of MTC's mission
c-3	c-3	Work to educate building owners, local government staff, engineers, and contractors on <b>privately-owned</b> soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see <a href="http://quake.abag.ca.gov/eqhouse.html">http://quake.abag.ca.gov/eqhouse.html</a> .)	EQ							X			not part of MTC's mission
c-4	c-4	Conduct an inventory of <b>privately-owned</b> existing or suspected soft-story residential structures <b>as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.</b>	EQ							X			not part of MTC's mission
c-5	c-5	Use the soft-story inventory to require <b>private</b> owners to inform all existing tenants (and <b>prospective</b> tenants prior to signing a lease agreement) that they <b>may</b> live in this type of building.	EQ							X			not part of MTC's mission
c-6	c-6	Use the soft-story inventory to require <b>private</b> owners to inform all existing <b>and prospective</b> tenants that they <b>may</b> need to be prepared to live elsewhere following an earthquake if the building has not been retrofitted.	EQ							X			not part of MTC's mission

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c-7	c-7	Investigate and adopt appropriate financial, procedural, and land use incentives (such as parking waivers) for private owners of soft-story buildings to facilitate retrofit such as those described by ABAG (see <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> ).	EQ							X			not part of MTC's mission
c-8	c-8	(reworded) Explore development of State regulations or legislation to require or encourage private owners of soft-story structures to strengthen them.	EQ							X			not part of MTC's mission
c-9	c-9	Provide technical assistance in seismically strengthening privately-owned soft-story structures.	EQ							X			not part of MTC's mission
HSNG - d - Unreinforced Masonry Housing Stock													
d-1	d-1	Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform private property owners that they own this type of hazardous structure.	EQ							X			not part of MTC's mission
d-2	d-2	Accelerate retrofitting of privately-owned unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory versus voluntary, retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	EQ							X			not part of MTC's mission
d-3	d-3	Require private owners to inform all existing tenants (and prospective tenants prior to signing a lease agreement) that they live in an unreinforced masonry building and the standard to which it may have been retrofitted.	EQ							X			not part of MTC's mission
d-4	d-4	As required by State law, require private owners to inform all existing tenants that they may need to be prepared to live elsewhere following an earthquake even if the building has been retrofitted, because it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ							X			not part of MTC's mission

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<b>HSNG - e - Other Privately-Owned Structurally Vulnerable Residential Buildings and Earthquakes</b>													
e-1	e-1	Identify and work toward tying down mobile homes used as year-round permanent residences using an appropriate cost-sharing basis (for example, 75% grant, 25% owner).	EQ								X		not part of MTC's mission
e-2	e-2	Inventory non-ductile concrete, tilt-up concrete (such as converted lofts), and other privately-owned potentially structurally vulnerable residential buildings.	EQ								X		not part of MTC's mission
e-3	e-3	Adopt the 2009 International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of privately-owned seismically vulnerable buildings.	EQ								X		not part of MTC's mission
e-4	e-4	Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned seismically vulnerable residential buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use (such as parking requirement waivers) and procedural incentives, or (f) technical assistance.	EQ								X		not part of MTC's mission
<b>HSNG - f - New Construction and Earthquakes</b>													
f-1	f-1	Continue to require that all new housing be constructed in compliance with (deleted "structural") requirements of the most recently adopted version of the California Building Code.	EQ								X		not part of MTC's mission
f-2	f-2	Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements.	EQ								X		not part of MTC's mission
<b>HSNG - g - Wildfire and Structural Fires</b>													
g-1	g-1	Increase efforts to reduce hazards in existing private development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	WF								X		not part of MTC's mission
g-2	g-2	Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.	WF								X		not part of MTC's mission

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g-3	g-3	Require that new homes in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat be constructed of fire-resistant building materials (including roofing and exterior walls) and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability. <b>Note</b> - See Structural Fire Prevention Field Guide for Mitigation of Wildfires at <a href="http://osfm.fire.ca.gov/structural.html">http://osfm.fire.ca.gov/structural.html</a> .	WF							X			not part of MTC's mission
g-4	g-4	Create or identify "model" <b>properties showing defensible space and structural survivability</b> in neighborhoods that are wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF							X			not part of MTC's mission
g-5	g-5	Consider fire safety, evacuation, and emergency vehicle access when reviewing proposals to add secondary units or additional residential units in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF							X			not part of MTC's mission
g-6	g-6	Adopt and amend as needed updated versions of the <i>California Building and Fire Codes</i> so that optimal fire-protection standards are used in construction and renovation projects <b>of private buildings</b> .	WF							X			not part of MTC's mission
g-7	g-7	Create a mechanism to enforce provisions of the <i>California Building and Fire Codes</i> and other local codes that require the installation of smoke detectors and fire-extinguishing systems <b>on existing residential buildings</b> by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	WF							X			not part of MTC's mission
g-8	g-8	Work to ensure a reliable source of water for fire suppression in rural-residential areas through the cooperative efforts of water districts, fire districts, and residents.	WF							X			not part of MTC's mission

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g-9	g-9	Expand vegetation management programs in wildland-urban- interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.	WF							X			not part of MTC's mission
g-10	g-11	Establish <b>special funding mechanisms</b> (such as Fire Hazard Abatement Districts <b>or regional bond funding</b> ) to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.	WF							X			not part of MTC's mission
g-11	g-12	Work with residents in rural-residential areas to ensure adequate <b>plans are developed for appropriate</b> access and evacuation in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat. <b>For example, in some areas, additional roads can be created, and in other areas, the communities will need to focus on early warning and evacuation because additional roads are not feasible.</b>	WF							X			not part of MTC's mission
g-12	g-13	Require fire sprinklers in new homes located more than 1.5 miles or a 5-minute response time from a fire station or in an identified high hazard wildland-urban-interface wildfire area.	WF							X			not part of MTC's mission
g-13	g-14	Require fire sprinklers in all new or substantially remodeled multifamily housing, regardless of distance from a fire station.	WF							X			not part of MTC's mission
g-14	g-15	Require sprinklers in all mixed use development to protect residential uses from fires started in non-residential areas.	WF							X			not part of MTC's mission
g-15	g-16	Compile a list of <b>privately-owned</b> high-rise and high-occupancy buildings which are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	WF							X			not part of MTC's mission
g-16	g-17	Conduct periodic fire-safety inspections of all multi-family buildings, as required by State law.	WF							X			not part of MTC's mission

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g-17	g-18	Ensure that <b>city/county-initiated</b> fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard. <b>For example, vegetation in these sensitive areas could be thinned, rather than removed, or replanted with less flammable materials. When thinning, the non-native species should be removed first. Other options would be to use structural mitigation, rather than vegetation management in the most sensitive areas.</b>	WF LS							X			not part of MTC's mission
g-18	g-19	Create a mechanism to require the bracing of water heaters and flexible couplings on gas appliances, and/or (as specified under "b. Single-family homes vulnerable to earthquakes" above) the bolting of homes to their foundations and strengthening of cripple walls to reduce fire ignitions due to earthquakes.	EQ WF							X			not part of MTC's mission
g-19	g-20	Work with the State Fire Marshall, the California Seismic Safety <b>Commission, Pacific Earthquake Engineering Research Center</b> (PEER), and other experts to identify and manage gas-related fire risks of soft-story residential or mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. <b>Note</b> - See <a href="http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf">http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf</a> . <b>Also note</b> - any valves that are installed may need to have both excess flow and seismic triggers ("hybrid" valves).	EQ WF							X			not part of MTC's mission
g-20	new	<b>Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" Fire Wise landscaping and fire-resistant building materials on private property.</b>	WF							X			not part of MTC's mission
<b>HSNG - h - Flooding</b>													
h-1	h-1	To reduce flood risk, thereby reducing the cost of flood insurance to <b>private</b> property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	FL							X			not part of MTC's mission
h-2	h-2	Balance the housing needs of residents against the risk from potential flood-related hazards.	FL							X			not part of MTC's mission

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h-3	h-3	Ensure that new <b>private</b> development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, <b>or</b> does not increase runoff by draining water to pervious areas or detention facilities.	FL							X			not part of MTC's mission
h-4	h-4	Provide sandbags and plastic sheeting to residents in anticipation of rainstorms, and deliver those materials to <b>vulnerable populations</b> upon request.	FL							X			not part of MTC's mission
h-5	h-5	Provide public information on locations for obtaining sandbags and/or deliver those sandbags to those various locations throughout a city and/or county prior to and/or during the rainy season.	FL							X			not part of MTC's mission
h-6	h-6	Apply floodplain management regulations for <b>private</b> development in the floodplain and floodway.	FL							X			not part of MTC's mission
h-7	h-7	Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way <b>be</b> laid out for the provision of approved sewer and drainage facilities, providing on site detention facilities whenever practicable.	FL							X			not part of MTC's mission
h-8	h-8	Encourage home and apartment owners to participate in home elevation programs <b>within flood hazard areas</b> .	FL							X			not part of MTC's mission
h-9	h-9	As funding opportunities become available, encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways.	FL							X			not part of MTC's mission
h-10	h-10	Encourage owners of properties in a floodplain to consider purchasing flood insurance. For example, point out that most homeowners' insurance policies do not cover a property for flood damage.	FL							X			not part of MTC's mission

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<b>HSNG - i - Landslides and Erosion</b>													
i-1	i-1	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards <b>for private property</b> , such as those appearing in the <i>California Building Code</i> , <i>California Geological Survey Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> , <i>American Society of Civil Engineers (ASCE) report Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i> , and the <i>California Board for Geologists and Geophysicists Guidelines for Engineering Geologic Reports</i> . Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	LS							X			not part of MTC's mission
i-2	i-2	Increase efforts to reduce landslides and erosion in existing and future <b>private</b> development through continuing education of design professionals on mitigation strategies.	LS							X			not part of MTC's mission

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<b>HSNG - j - Building Reoccupancy</b>													
j-1	j-1 same as e-con i-5	Develop and enforce a <b>repair and reconstruction</b> ordinance to ensure that <b>damaged</b> buildings are repaired in an appropriate and timely manner and retrofitted concurrently. <b>This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. See <a href="http://quake.abag.ca.gov/recovery/info-repair-ord.html">http://quake.abag.ca.gov/recovery/info-repair-ord.html</a>.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
j-2	NE W same as e-con i-6	Establish preservation-sensitive measures for the repair and reoccupancy of historically significant <b>privately-owned</b> structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.	EQ LS WF FL SEC							X			not part of MTC's mission
<b>HSNG - k - Public Education</b>													
k-1	k-1	Provide information to residents of your community on the availability of interactive hazard maps showing your community on ABAG's web site.	EQ LS WF FL SEC							X			not part of MTC's mission
k-2	k-2	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging residents to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	EQ LS WF FL SEC							X			not part of MTC's mission
k-3	k-3	Inform residents of comprehensive mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in high wildfire threat and wildfire-urban-interface areas, structural retrofitting techniques for older homes, and use of intelligent grading practices through workshops, publications, and media announcements and events.	EQ LS WF FL SEC							X			not part of MTC's mission
k-4	k-4	Develop a public education campaign on the cost, risk, and benefits of earthquake, flood, and other hazard insurance <b>as compared to mitigation</b> .	EQ LS FL SEC							X			not part of MTC's mission

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k-5	k-5	Use disaster anniversaries, such as April (the 1906 earthquake), September (9/11), and October (Loma Prieta earthquake and Oakland Hills fire), to remind the public of safety and security mitigation activities.	EQ LS WF FL SEC							X			not part of MTC's mission
k-6	k-6	Sponsor the formation and training of Community Emergency Response Teams (CERT) <b>for residents in your community.</b> [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC							X			not part of MTC's mission
k-7	k-7	Include flood fighting technique session based on California Department of Water Resources training to the list of available public training classes offered by CERT.	FL							X			not part of MTC's mission
k-8	k-8	Institute the neighborhood watch block captain and team programs outlined in the Citizen Corps program guide.	EQ LS WF FL SEC							X			not part of MTC's mission
k-9	k-9	Assist residents in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF							X			not part of MTC's mission
k-10	k-10	Train homeowners to locate and shut off gas valves if they smell or hear gas leaking.	EQ LS WF FL SEC							X			not part of MTC's mission
k-11	k-12	Develop a program to provide at-cost NOAA weather radios to residents of flood hazard areas <b>that request them, with priority to neighborhood watch captains and others trained in their use.</b>	FL							X			not part of MTC's mission
k-12	k-13	Make use of the materials on the ABAG web site at <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> and other web sites to increase residential mitigation activities related to earthquakes. (ABAG plans to continue to improve the quality of those materials over time.)	EQ							X			not part of MTC's mission
k-13	k-14	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging <b>private</b> businesses and residents to keep storm drains in their neighborhood free of debris.	FL							X			not part of MTC's mission

### Housing Mitigation Strategies

2009-2010 Strat. Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
k-14	k-15	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> . <b>This effort is important because grant funds are currently available to offset costs of specific council-supported projects.</b>	WF							X			not part of MTC's mission
k-15	k-16	Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL							X			not part of MTC's mission
k-16	k-17	Distribute appropriate materials related to disaster mitigation and preparedness <b>to residents</b> . <b>Appropriate materials are (1) culturally appropriate and (2) suitable for special needs populations. For example, such materials are available on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website and from non-governmental organizations that work with these communities on an on-going basis.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
deleted	g-10	DELETED - REPLACED BY DISCUSSION OF REVERSE 911 in GOVT c-14.											
deleted	k-11												

### Economy Mitigation Strategies

2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)							Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, or Not Appropriate, or Not Cost Effective		
<b>ECON - a - Multi-Hazard</b>												
a-1	a-1	Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements <b>for commercial and industrial properties</b> with regard to seven official natural hazard zones: <b>1) Special Flood Hazard Areas (designated by FEMA), 2) Areas of Potential Flooding from dam failure inundation, 3) Very High Fire Hazard Severity Zones, 4) Wildland Fire Zones, 5) Earthquake Fault Zones (designated under the Alquist-Priolo Earthquake Fault Zoning Act), and the 6) Liquefaction and Landslide Hazard Zones (designated under the Seismic Hazard Mapping Act).</b>	EQ LS WF FL SEC							X		not part of MTC's mission
a-2	a-2	Create incentives for <b>private</b> owners of historic or architecturally significant <b>commercial and industrial</b> buildings to undertake mitigation to levels that will minimize the likelihood that these buildings will need to be demolished after a disaster, particularly if those alterations conform to the federal Secretary of the Interior's <i>Guidelines for Rehabilitation</i> .	EQ LS WF FL SEC							X		not part of MTC's mission
<b>ECON - b - Soft-Story Commercial Buildings Vulnerable to Earthquakes</b>												
b-1	b-1	Require engineered plan sets for voluntary or mandatory soft-story <b>seismic</b> retrofits <b>by private owners</b> until a standard plan set and construction details become available.	EQ							X		not part of MTC's mission
b-2	b-2	Adopt the 2009 ( <b>changed date</b> ) International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory soft-story building retrofits <b>for use in city/county building department regulations. In addition, allow use of changes to that standard recommended by SEAOC for the 2012 IEBC.</b>	EQ							X		not part of MTC's mission
b-3	b-3	Work to educate building owners, local government staff, engineers, and contractors on <b>privately-owned</b> soft-story retrofit procedures and incentives using materials such as those developed by ABAG and the City of San Jose (see <a href="http://quake.abag.ca.gov/eqhouse.html">http://quake.abag.ca.gov/eqhouse.html</a> .)	EQ							X		not part of MTC's mission
b-4	b-4	Conduct an inventory of <b>privately-owned</b> existing or suspected soft-story commercial or industrial structures <b>as a first step in establishing voluntary or mandatory programs for retrofitting these buildings.</b>	EQ							X		not part of MTC's mission

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b-5	b-5	Use the soft-story inventory to require <b>private</b> owners to inform all existing tenants (and <b>prospective</b> tenants prior to signing a lease agreement) that they <b>may</b> work in this type of building.	EQ							X			not part of MTC's mission
b-6	b-6	Use the soft-story inventory to require <b>private</b> owners to inform all existing <b>and prospective</b> tenants that they <b>may</b> need to be prepared to work elsewhere following an earthquake if the building has not been retrofitted.	EQ							X			not part of MTC's mission
b-7	b-7	Investigate and adopt appropriate financial, procedural, and land use incentives ( <b>such as parking waivers</b> ) for <b>private</b> owners of soft-story buildings to facilitate retrofit such as those <b>described</b> by ABAG (see <a href="http://quake.abag.ca.gov/fixit">http://quake.abag.ca.gov/fixit</a> ).	EQ							X			not part of MTC's mission
b-8	b-8	(reworded) Explore development of State regulations or legislation to require or encourage <b>private</b> owners of soft-story structures to strengthen them.	EQ							X			not part of MTC's mission
b-9	b-9	Provide technical assistance in seismically strengthening <b>privately-owned</b> soft-story structures.	EQ							X			not part of MTC's mission

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<b>ECON - c - Unreinforced Masonry Buildings in Older Downtown Areas</b>													
c-1	c-1	Continue to actively implement existing State law that requires cities and counties to maintain lists of the addresses of unreinforced masonry buildings and inform <b>private</b> property owners that they own this type of hazardous structure.	EQ							X			not part of MTC's mission
c-2	c-2	Accelerate retrofitting of <b>privately-owned</b> unreinforced masonry structures that have not been retrofitted, for example, by (a) actively working with owners to obtain structural analyses of their buildings, (b) helping owners obtain retrofit funding, (c) adopting a mandatory ( <b>rather than</b> voluntary) retrofit program, and/or (d) applying penalties to owners who show inadequate efforts to upgrade these buildings.	EQ							X			not part of MTC's mission
c-3	c-3	Require <b>private</b> owners to inform all existing <b>tenants (and prospective tenants</b> prior to signing a lease agreement) that they work in <b>an unreinforced masonry</b> building and the standard to which it may have been retrofitted.	EQ							X			not part of MTC's mission
c-4	c-4	As required by State law, require <b>private</b> owners to inform all existing tenants that they may need to be prepared to work elsewhere following an earthquake even if the building has been retrofitted, <b>because</b> it has probably been retrofitted to a life-safety standard, not to a standard that will allow occupancy following major earthquakes.	EQ							X			not part of MTC's mission
<b>ECON - d - Privately-Owned Structurally Vulnerable Buildings</b>													
d-1	d-1	Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally <b>vulnerable</b> buildings.	EQ							X			not part of MTC's mission
d-2	d-2	Adopt the <b>2009</b> International Existing Building Code or the latest applicable standard for the design of voluntary or mandatory retrofit of <b>privately-owned</b> seismically vulnerable buildings.	EQ							X			not part of MTC's mission
d-3	d-3	Adopt one or more of the following strategies as incentives to encourage retrofitting of privately-owned <b>seismically vulnerable</b> commercial and industrial buildings: (a) waivers or reductions of permit fees, (b) below-market loans, (c) local tax breaks, (d) grants to cover the cost of retrofitting or of a structural analysis, (e) land use ( <b>such as parking requirement waivers</b> ) and procedural incentives, or (f) technical assistance.	EQ							X			not part of MTC's mission
<b>ECON - e - Wildfire and Structural Fires</b>													

### Economy Mitigation Strategies

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e-1	e-1	Increase efforts to reduce hazards in existing <b>private</b> development in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat through improving engineering design and vegetation management for mitigation, appropriate code enforcement, and public education on defensible space mitigation strategies.	WF							X			not part of MTC's mission
e-2	new	<b>Tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.</b>	WF							X			not part of MTC's mission
e-3	e-2	Require that new <b>privately-owned</b> business and office buildings in high fire hazard areas be constructed of fire-resistant building materials and incorporate fire-resistant design features (such as minimal use of eaves, internal corners, and open first floors) to increase structural survivability and reduce ignitability.	WF							X			not part of MTC's mission
e-4	e-3	Adopt and amend as needed updated versions of the <i>California Building and Fire Codes</i> so that optimal fire-protection standards are used in construction and renovation projects <b>of private buildings.</b>	WF							X			not part of MTC's mission
e-5	e-4	Create a mechanism to enforce provisions of the <i>California Building and Fire Codes</i> and other local codes that require the installation of smoke detectors and fire-extinguishing systems <b>on existing privately-owned buildings</b> by making installation a condition of (a) finalizing a permit for any work valued at over a fixed amount and/or (b) on any building over 75 feet in height, and/or (b) as a condition for the transfer of property.	WF							X			not part of MTC's mission
e-6	e-5	(reworded to more closely match the HSNG strategy) Expand vegetation management programs in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat to more effectively manage the fuel load through roadside collection and chipping, mechanical fuel reduction equipment, selected harvesting, use of goats or other organic methods of fuel reduction, and selected use of controlled burning.	WF							X			not part of MTC's mission
e-7	e-6	Establish <b>special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding)</b> to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks.	WF							X			not part of MTC's mission

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e-8	e-7	Establish <b>special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding)</b> to fund fire-safety inspections of private properties, roving firefighter patrols on high fire-hazard days, and public education efforts.	WF							X			not part of MTC's mission
e-9	e-8	Compile a list of <b>privately-owned</b> high-rise and high-occupancy buildings that are deemed, due to their age or construction materials, to be particularly susceptible to fire hazards, and determine an expeditious timeline for the fire-safety inspection of all such structures.	WF							X			not part of MTC's mission
e-10	e-9	Conduct periodic fire-safety inspections of all <b>privately-owned</b> commercial and <b>industrial</b> buildings.	WF							X			not part of MTC's mission
e-11	e-10	Work with the State Fire Marshall, the California Seismic Safety <b>Commission, Pacific Earthquake Engineering Research Center</b> (PEER), and other experts to identify and manage gas-related fire risks of <b>privately-owned</b> soft-story mixed use buildings that are prone to collapse and occupant entrapment consistent with the natural gas safety recommendations of Seismic Safety Commission Report SSC-02-03. <b>Note</b> - See <a href="http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf">http://www.seismic.ca.gov/pub/CSSC_2002-03_Natural%20Gas%20Safety.pdf</a> . <b>Also note</b> - any values that are installed may need to have both	EQ WF							X			not part of MTC's mission
e-12	e-11	Ensure that <b>city/county-initiated</b> fire-preventive vegetation-management techniques and practices for creek sides and high-slope areas do not contribute to the landslide and erosion hazard.	WF							X			not part of MTC's mission
e-13	e-12	Work with insurance companies to create a public/private partnership to give a discount on fire insurance premiums to "Forester Certified" <i>Fire Wise</i> landscaping and fire-resistant building materials <b>on private property</b> .	WF							X			not part of MTC's mission
<b>ECON - f - Flooding</b>													
f-1	f-1	To reduce flood risk, thereby reducing the cost of flood insurance to <b>private</b> property owners, work to qualify for the highest-feasible rating under the Community Rating System of the National Flood Insurance Program.	FL							X			not part of MTC's mission
f-2	f-2	Balance the needs for <b>private</b> commercial and industrial development against the risk from potential flood-related hazards.	FL							X			not part of MTC's mission

### Economy Mitigation Strategies

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f-3	f-3	Ensure that new <b>private</b> development pays its fair share of improvements to the storm drainage system necessary to accommodate increased flows from the development, <b>or</b> does not increase runoff by draining water to pervious areas or detention facilities.	FL							X			not part of MTC's mission
f-4	f-4	Provide sandbags and plastic sheeting to <b>private</b> businesses in anticipation of rainstorms, and deliver those materials to <b>vulnerable populations</b> upon request.	FL							X			not part of MTC's mission
f-5	f-5	Provide information to <b>private business</b> on locations for obtaining sandbags and deliver those sandbags to those various locations throughout a city and/or county.	FL							X			not part of MTC's mission
f-6	f-6	Apply floodplain management regulations for <b>private</b> development in the floodplain and floodway.	FL							X			not part of MTC's mission
f-7	f-7	Encourage <b>private</b> business owners to participate in building elevation programs <b>within flood hazard areas</b> .	FL							X			not part of MTC's mission
f-8	f-8	As funding becomes available, encourage <b>private</b> business owners to participate in acquisition and relocation programs for areas within floodways.	FL							X			not part of MTC's mission
f-9	f-9	Require an annual inspection of approved flood-proofed <b>privately-owned</b> buildings to ensure that (a) all flood-proofing components will operate properly under flood conditions and (b) all responsible personnel are aware of their duties and responsibilities as described in their building's <i>Flood Emergency Operation Plan and Inspection &amp; Maintenance Plan</i> .	FL							X			not part of MTC's mission

Economy Mitigation Strategies

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<b>ECON - g - Landslides and Erosion</b>												
g-1	g-1	Increase efforts to reduce landslides and erosion in existing and future development by improving appropriate code enforcement and use of applicable standards <b>for private property</b> , such as those appearing in the <i>California Building Code</i> , <i>California Geological Survey Special Report 117 – Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> , American Society of Civil Engineers (ASCE) report <i>Recommended Procedures for Implementation of DMG Special Publication 117: Guidelines for Analyzing and Mitigating Landslide Hazards in California</i> , and the California Board for Geologists and Geophysicists <i>Guidelines for Engineering Geologic Reports</i> . Such standards should cover excavation, fill placement, cut-fill transitions, slope stability, drainage and erosion control, slope setbacks, expansive soils, collapsible soils, environmental issues, geological and geotechnical investigations, grading plans and specifications, protection of adjacent properties, and review and permit issuance.	LS						X			not part of MTC's mission
g-2	g-2	Increase efforts to reduce landslides and erosion in existing and future <b>private</b> development through continuing education of design professionals on mitigation strategies.	LS						X			not part of MTC's mission
<b>ECON - h - New Construction and Earthquakes</b>												
h-1	h-1	Continue to require that all new <b>privately-owned</b> commercial and industrial buildings be constructed in compliance with <b>(deleted "structural")</b> requirements of the most recently adopted version of the <i>California Building Code</i> .	EQ						X			not part of MTC's mission
h-2	h-2	Conduct appropriate employee training and support continued education to ensure enforcement of construction standards <b>for private development</b> .	EQ						X			not part of MTC's mission
h-3	h-3	<b>Work with private building owners to help them</b> recognize that many strategies that increase earthquake resistance also decrease damage in an explosion. In addition, recognize that ventilation systems can be designed to contain airborne biological agents.	EQ SEC						X			not part of MTC's mission

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<b>ECON - i - Building Reoccupancy</b>												
i-1	i-1	Institute a program <b>to encourage owners of private buildings to participate in a program</b> similar to San Francisco's Building Occupancy Resumption Program (BORP). This program permits owners of private buildings to hire qualified structural engineers to create building-specific post-disaster inspection plans and allows these engineers to become automatically deputized as City/County inspectors for these buildings in the event of an earthquake or other disaster.	EQ WF FL SEC						X			not part of MTC's mission
i-2	i-2	Actively notify <b>private</b> owners of historic or architecturally significant buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.	EQ WF FL SEC						X			not part of MTC's mission
i-3	i-3	Actively notify owners of <b>educational facility</b> buildings of the availability of the local BORP-type program and encourage them to participate to ensure that appropriately qualified structural engineers are inspecting their buildings, thus reducing the likelihood that the buildings will be inappropriately evaluated following a disaster.	EQ WF FL SEC						X			not part of MTC's mission
i-4	i-4	Allow <b>private building</b> owners to participate in a BORP-type program as described above, but not actively encourage them to do so.	EQ WF FL SEC						X			not part of MTC's mission
i-5	i-5	Develop and enforce a <b>repair and reconstruction</b> ordinance to ensure that <b>damaged</b> buildings are repaired in an appropriate and timely manner and retrofitted concurrently. <b>This repair and</b>	EQ WF FL SEC						X			not part of MTC's mission
i-6	i-6	Establish preservation-sensitive measures for the repair and reoccupancy of historically significant <b>privately-owned</b> structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures.	EQ WF FL SEC						X			not part of MTC's mission
<b>ECON - j - Public Education</b>												
j-1	j-1	Provide information to <b>private</b> business owners and <b>their</b> employees on the availability of interactive hazard maps on ABAG's web site.	EQ WF FL SEC						X			not part of MTC's mission

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				EQ WF FL SEC						X			
j-2	j-2	Develop printed materials, utilize existing materials (such as developed by FEMA and the American Red Cross), conduct workshops, and/or provide outreach encouraging <b>private</b> businesses' employees to have family disaster plans that include drop-cover-hold earthquake drills, fire and storm evacuation procedures, and shelter-in-place emergency guidelines.	EQ LS WF FL SEC							X			not part of MTC's mission
j-3	j-3	Develop <b>and</b> print materials, conduct workshops, and provide outreach to Bay Area <b>private</b> businesses focusing on business continuity planning.	EQ LS WF FL SEC							X			not part of MTC's mission
j-4	j-4	Inform Bay Area <b>private</b> business owners of mitigation activities, including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat, structural retrofitting techniques for older buildings, and use of intelligent grading practices through workshops, publications, and media announcements and events.	WF FL							X			not part of MTC's mission
j-5	j-5	Sponsor the formation and training of Community Emergency Response Teams (CERT) training <b>for other than your own employees</b> through partnerships with local <b>private</b> businesses. [Note – these programs go by a variety of names in various cities and areas.]	EQ LS WF FL SEC							X			not part of MTC's mission
j-6	j-6	Assist <b>private</b> businesses in the development of defensible space through the use of, for example, "tool libraries" for weed abatement tools, roadside collection and/or chipping services (for brush, weeds, and tree branches) in wildland-urban-interface fire-threatened communities or in areas exposed to high-to-extreme fire threat.	WF							X			not part of MTC's mission
j-7	j-7	Make use of the materials developed by others (such as found on ABAG's web site at <a href="http://quake.abag.ca.gov/business">http://quake.abag.ca.gov/business</a> ) to increase mitigation activities related to earthquakes <b>by groups other than your own agency</b> . ABAG plans to continue to improve the quality of those materials over time.	EQ							X			not part of MTC's mission
j-8	j-8	Develop a "Maintain-a-Drain" campaign, similar to that of the City of Oakland, encouraging <b>private</b> businesses and residents to keep storm drains in their neighborhood free of debris.	FL							X			not part of MTC's mission

### Economy Mitigation Strategies

2009-2010 Strat. Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered	Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
j-9	j-9	Encourage the formation of a community- and neighborhood-based approach to wildfire education and action through local Fire Safe Councils and the <i>Fire Wise Program</i> . <b>This effort is important because grant funds are currently available to offset costs of specific council-supported projects.</b>	WF							X			not part of MTC's mission
j-10	j-10	Encourage <b>private</b> businesses and laboratories handling hazardous materials or pathogens increase security to a level high enough to create a deterrent to crime and terrorism, including active implementation of "cradle-to-grave" tracking systems.	SEC EQ							X			not part of MTC's mission
j-11	j-11	Encourage joint meetings of security and operations personnel at major <b>private</b> employers to develop innovative ways for these personnel to work together to increase safety and security.	SEC EQ							X			not part of MTC's mission
j-12	j-12	Inform <b>private</b> shoreline-property owners of the possible long-term economic threat posed by rising sea levels.	FL							X			not part of MTC's mission
j-13	j-13	Distribute appropriate materials related to disaster mitigation and preparedness <b>to private business owners. Appropriate materials are (1) culturally appropriate and (2) suitable for special needs populations. For example, such materials are available on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website and from non-governmental organizations that work with these communities on an on-going basis.</b>	EQ LS WF FL SEC							X			not part of MTC's mission

### Government Mitigation Strategies

2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Priority (CHECK ONLY ONE)										Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered				
<b>GOVT - a - Focus on Critical Facilities (...Owned by the Local Government Filling Out This Form)</b>															
a-1	a-1	Assess the vulnerability of critical facilities (such as city halls, fire stations, <b>operations and communications headquarters</b> , community service centers, seaports, and airports) to damage in <b>natural disasters</b> and make recommendations for appropriate mitigation.	EQ LS WF FL	X										MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC evaluated the only building in which it is an actual partial owner - the MetroCenter facility, owned by RAFC
a-2	a-2	Retrofit or replace critical facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC	X										MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC led the effort for the \$5 million seismic retrofit of the MetroCenter facility using, in part, a \$3 million PDM-C grant from FEMA
a-3	a-3	Clarify to workers in critical facilities and emergency personnel, as well as to elected officials and the public, the extent to which the facilities are expected to perform only at a life safety level (allowing for the safe evacuation of personnel) or are expected to remain functional following an earthquake.	EQ	X										MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	On-going activity; specifically used during MetroCenter facility seismic upgrade
a-4	a-4	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters. <b>Such contents and equipment includes computers and servers, phones, files, and other tools used by staff to conduct daily business.</b>	EQ LS WF FL SEC		X									MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	On-going activity; more to be done
a-5	a-5	Encourage joint meetings of security and operations personnel at critical facilities to develop innovative ways for these personnel to work together to increase safety and security.	EQ LS WF FL SEC	X										MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	On-going activity
a-6	a-6	<b>When</b> installing micro and/or surveillance cameras around critical public assets tied to web-based software, and developing a surveillance protocol to monitor these cameras, <b>investigate the possibility of using the cameras for the secondary purpose of post-disaster damage assessment.</b>	EQ LS WF FL SEC									X			MTC has not yet evaluated this strategy.

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2009-2010 Strategy Number	2005 Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Mitigation Status							Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other Comments	
				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective			Not Yet Considered
a-7	a-7	Identify and undertake cost-effective retrofit measures <b>related to security</b> on critical facilities (such as moving and redesigning air intake vents and installing blast-resistant features) when these buildings undergo major renovations <b>related to other natural hazards</b> .	EQ LS WF FL SEC	X								MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MetroCenter seismic retrofit completed 8/08; energy efficient lightly and HVAC retrocommissioning completed 1/09
a-8	a-8	Coordinate with the State Division of Safety of Dams to ensure that cities and counties are aware of the timeline for the maintenance and inspection of dams whose failure would impact their jurisdiction.	EQ LS WF FL SEC							X			not part of MTC's mission
a-9	a-9	As a secondary focus, assess the vulnerability of non-critical facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.	EQ LS WF FL SEC							X			Not applicable; MTC only has one facility.
a-10	a-10	Ensure that <b>new</b> government-owned facilities <b>comply with and</b> are subject to the same or more stringent regulations as imposed on privately-owned development.	EQ LS WF FL SEC							X			Not applicable; MTC only has one facility.
a-11	a-11	<b>Comply</b> with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities.	EQ LS WF FL SEC	X								MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	On-going activity
a-12	a-12	Prior to acquisition of property to be used as a critical facility, conduct a study to ensure the absence of significant <b>structural hazards and hazards associated with the building site</b> .	EQ LS WF FL SEC							X			Not applicable; MTC only has one facility.
a-13	<b>new</b>	<b>Ensure that any regulations imposed on private-owned businesses related to repair and reconstruction (see "Economy Section") are enforced and imposed on local government's own buildings and structures.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
GOVT - b - Maintain and Enhance Local Government's Emergency Recovery Planning													

### Government Mitigation Strategies

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b-1	b-1	Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	In its role as the Regional Information Transportation Clearinghouse, pre-event and post-event roles have been developed. On-going training is provided annually.
b-2	b-2	Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning ( <b>such as with continuity of operations plans</b> ).	EQ LS WF FL SEC		X							Highway and Arterial Operations	Plans being developed.
b-3	b-3	Establish a goal for the resumption of local government services that may vary from function to function.	EQ LS WF FL SEC		X							Highway and Arterial Operations	Plans being developed.
b-4	b-25	Develop a <b>continuity of operations</b> plan that includes back-up storage of vital records, such as <b>plans and back-up procedures to pay employees and vendors if normal finance department operations are disrupted, as well as other essential electronic files</b> .	EQ LS WF FL SEC		X							Highway and Arterial Operations	Plans being developed.
b-5	new	<b>Plan for the emergency relocation of government-owned facilities critical to recovery, as well as any facilities with known structural deficiencies or in hazardous areas.</b>	EQ LS WF FL SEC		X							Highway and Arterial Operations	Plans being developed.
<b>GOVT - c - Maintain and Enhance Local Government's Emergency Response Capacity</b>													
c-1	new (old b-4 moved to HSNAG a-3)	Develop a plan for short-term and intermediate-term sheltering of <b>your employees</b> .	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	On-going activity; plans developed.
c-2	new	<b>Encourage your employees to have a family disaster plan.</b>	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	On-going activity; plans developed.

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				Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered					
c-3	new	<b>Offer CERT/NERT-type training to your employees.</b>	EQ LS WF FL SEC		X										Highway and Arterial Operations - Emergency Services	Currently this training is only offered for building floor wardens
c-4	b-5 (a)	Periodically assess the need for new or relocated fire or police stations and other emergency facilities.	EQ LS WF FL SEC									X				Not applicable; MTC is not an emergency response agency
c-5	b-5 (b)	Periodically assess the need for changes in staffing levels, <b>as well as for</b> additional or updated supplies, equipment, technologies, and in-service training classes.	EQ LS WF FL SEC	X											Agency Management	On-going activity
c-6	b-6	Ensure that <b>fire, police, and other emergency</b> personnel have adequate radios, breathing apparatuses, protective gear, and other equipment to respond to a major disaster.	EQ LS WF FL SEC									X				not part of MTC's mission
c-7	b-7	<b>Participate in</b> developing and maintaining a system of interoperable communications for first responders from cities, counties, special districts, state, and federal agencies.	EQ LS WF FL SEC	X											Highway and Arterial Operations - Emergency Services	MTC has completed this task in conjunction with the transit districts.
c-8	b-8	Harden emergency response communications, including, for example, building redundant capacity into public safety alerting and/or answering points, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio.	EQ LS WF FL SEC	X											Highway and Arterial Operations - Emergency Services	MTC has completed this task in conjunction with the transit districts.
c-9	b-9	Purchase command vehicles for use as mobile command/EOC vehicles if current vehicles are unsuitable or inadequate.	EQ LS WF FL SEC									X				Not a priority since the Caltrans building in Oakland is the back-up EOC for MTC
c-10	b-10	Maintain the local government's emergency operations center in a fully functional state of readiness.	EQ LS WF FL SEC	X											Highway and Arterial Operations - Emergency Services	

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c-11	b-11	Expand or participate in expanding traditional disaster exercises involving city and county emergency personnel to include airport and port personnel, transit and infrastructure providers, hospitals, schools, park districts, and major employers.	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	
c-12	b-12	Maintain and update as necessary the local government's Standardized Emergency Management System (SEMS) Plan <b>and the National Incident Management System (NIMS) Plan, and submit an appropriate NIMSCAST report.</b>	EQ LS WF FL SEC						X				Not part of MTC's role in disasters
c-13	b-13	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	MTC coordinates this activity with individual transit system operators.
c-14	b-14 & b-22	Install alert and warning systems for <b>rapid evacuation or shelter-in-place. Such systems include outdoor sirens and/or reverse-911 calling systems.</b>	EQ LS WF FL SEC						X				not part of MTC's mission
c-15	b-15	Conduct periodic tests of the alerting and warning system. <b>(deleted some wording)</b>	EQ LS WF FL SEC						X				not part of MTC's mission
c-16	b-16	Regulate and enforce the location and design of street-address numbers on buildings and minimize the naming of short streets (that are actually driveways) to single homes.	EQ LS WF FL SEC						X				not part of MTC's mission
c-17	b-17	Monitor weather during times of high fire risk using, for example, weather stations tied into police and fire dispatch centers.	WF						X				not part of MTC's mission
c-18	b-18	Establish regional protocols on how to respond to the NOAA Monterey weather forecasts, such as the identifying types of closures, limits on work that could cause ignitions, and prepositioning of suppression forces. A multi-agency coordination of response also helps provide unified messages to the public about how they should respond to these periods of increased fire danger. <b>Response should also be modified based on knowledge of local micro-climates. Local agencies with less risk then may be available for mutual aid.</b>	WF						X				not part of MTC's mission
c-19	b-19	Increase local patrolling during periods of high fire weather.	WF						X				not part of MTC's mission

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c-20	b-20	Create and maintain an automated system of rain and flood gauges that is web enabled and publicly-accessible. <b>Work toward creating a coordinated regional system.</b>	FL LS							X			not part of MTC's mission
c-21	b-21	Place remote sensors in strategic locations for early warning of hazmat releases or use of weapons of mass destruction, <b>understanding that the appropriate early warning strategy depends on the type of problem.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
c-22	b-23	Review and update, as necessary, procedures pursuant to the <i>State Dam Safety Act</i> for the emergency evacuation of areas located below major water-storage facilities.	EQ LS FL SEC							X			not part of MTC's mission
c-23	a-8	<b>Improve coordination among cities, counties, and dam owners so that cities and counties can better plan for evacuation of areas the could be inundated if a dam failed, impacting their jurisdiction.</b>	EQ LS FL SEC							X			not part of MTC's mission
c-24	b-24	Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps as these maps become available.	EQ (TS)							X			not part of MTC's mission
c-25	new	<b>Support and encourage planning and identification of facilities for the coordination of distribution of water, food, blankets, and other supplies, coordinating this effort with the American Red Cross.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
<b>GOVT - d - Participate in National, State, Multi-Jurisdictional and Professional Society Efforts to Identify and Mitigate Hazards</b>													
d-1	c-1	Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	MTC coordinates this activity with individual transit system operators.
d-2	c-2	Recognize that emergency services is more than the coordination of police and fire response; it also includes planning activities with providers of water, food, energy, transportation, financial, information, and public health services.	EQ LS WF FL SEC	X								Highway and Arterial Operations - Emergency Services	MTC coordinates this activity with individual transit system operators.
d-3	c-3	Recognize that a multi-agency approach is needed to mitigate flooding by having flood control districts, cities, counties, and utilities meet at least annually to jointly discuss their capital improvement programs for most effectively reducing the threat of flooding. <b>Work toward making this process more formal to insure that flooding is considered at existing joint-agency meetings.</b>	FL							X			not part of MTC's mission

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d-4	c-4	As new flood-control projects are completed, request that FEMA revise its flood-insurance rate maps and digital Geographic Information System (GIS) data to reflect flood risks as accurately as possible.	FL							X			not part of MTC's mission
d-5	c-5	Participate in FEMA's National Flood Insurance Program.	FL							X			not part of MTC's mission
d-6	c-6	Participate in multi-agency efforts to mitigate fire threat, such as the Hills Emergency Forum (in the East Bay), various FireSafe Council programs, and city-utility task forces. <b>Such participation increases a jurisdiction's competitiveness in obtaining grants.</b>	WF							X			not part of MTC's mission
d-7	c-7	Work with major employers and agencies that handle hazardous materials to coordinate mitigation efforts for the possible release of these materials due to a natural disaster such as an earthquake, flood, fire, or landslide.	EQ LS WF FL SEC							X			not part of MTC's mission
d-8	c-8	Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses, such as the efforts of the Northern California Chapter of the Earthquake Engineering Research Institute, the East Bay-Peninsula Chapter of the International Code Council, the Structural Engineers Association of Northern California, and the American Society of Grading Officials.	EQ LS								X		MTC has not supported staff in this manner for other projects, programs, or initiatives.
d-9	c-9	Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials <b>and staff</b> to educate <b>them</b> on the critical need for programs in mitigating earthquake, wildfire, flood, and landslide hazards.	EQ LS WF FL SEC								X		MTC has not supported staff in this manner for other projects, programs, or initiatives.
d-10	c-10	Cooperate with researchers working on government-funded projects to refine information on hazards, for example, by expediting the permit and approval process for installation of seismic arrays, gravity survey instruments, borehole drilling, fault trenching, landslide mapping, flood modeling, and/or damage data collection.	EQ LS WF FL SEC								X		MTC and RAFC have not been approached for cooperation
GOVT - e - Take a Lead in Loss and Risk Assessment Activities													

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e-1	e-1	Work with the cities, counties, and special districts in the Bay Area to encourage them to adopt a Local Hazard Mitigation Plan and to assist them in integrating it into their overall planning process. <b>RESPONSIBILITY: ABAG only; all others are "not applicable."</b>	EQ LS WF FL DR TS SEC Flu Ag Heat							X			responsibility of ABAG
e-2	e-2	Improve the risk assessment and loss estimation work in the <i>Taming Natural Disasters</i> report and multi-jurisdictional plan related to natural disasters. <b>RESPONSIBILITY: ABAG only; all others are "not applicable."</b>	EQ LS WF FL DR TS Flu Ag Heat							X			responsibility of ABAG

### Education Mitigation Strategies

		Specific Mitigation Strategy	Priority (CHECK ONLY ONE)								Responsible Agency or Department (Required if Existing Program, Existing Program under funded, Very High, High, or Under Study)	Ordinance or Resolution # (if existing program), Estimated Cost and Possible Funding Agency (if high priority), Estimated Date of Completion (if study), WHY if not same as regional priority, OR Other
2009-2010 Strategic Number	Original Strategy Number	Specific Mitigation Strategy	Applicable Hazards	Existing Program	Existing Program, underfunded	Very High - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Appropriate, or Not Cost Effective	Not Yet Considered	
<b>EDUC - a - Focus on Critical Facilities (...Owned by School Districts)</b>												
a-1	a-1	Assess the vulnerability of critical <b>public</b> education facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC							X		not part of MTC's mission
a-2	a-2	Retrofit or replace critical <b>public</b> education facilities that are shown to be vulnerable to damage in natural disasters.	EQ LS WF FL SEC							X		not part of MTC's mission
a-3	a-3	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical <b>public education</b> buildings from being functional after major disasters.	EQ LS WF FL SEC							X		not part of MTC's mission
a-4	a-4	As a secondary focus, assess the vulnerability of non-critical educational facilities ( <b>that is, those that do not house students</b> ) to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.	EQ LS WF FL SEC							X		not part of MTC's mission
a-5	new	Assess the vulnerability of critical private education, pre-school, and day care facilities to damage in natural disasters and make recommendations for appropriate mitigation.	EQ LS WF FL SEC							X		not part of MTC's mission
a-6	a-5	(Major Rewording) <b>Work with CalEMA and the Division of the State Architect to ensure that there will be an adequate group of Safety Assessment Program (SAP) inspectors trained and deployed by CalEMA to schools for post-disaster inspection. In addition, if a school district is uncomfortable with delays in inspection due to too few SAP inspectors available in catastrophic disasters, formalized arrangements can also be created with those inspectors certified by the Division of the State Architect as construction inspectors to report to the district, assess damage, and determine if the buildings can be reoccupied.</b>	EQ LS WF FL SEC							X		not part of MTC's mission
<b>EDUC - b - Use of Educational Facilities as Emergency Shelters</b>												
b-1	b-1	Work cooperatively with the American Red Cross, <b>cities, counties, and non-profits</b> to set up memoranda of understanding for use of education facilities as emergency shelters following disasters.	EQ LS WF FL SEC							X		not part of MTC's mission

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b-2	b-2	Work cooperatively to ensure that school district personnel and relevant staff understand and are trained that being designated by the American Red Cross or others as a potential emergency shelter does NOT mean that the school has had a hazard or structural evaluation to ensure that it can be used as a shelter following any specific disaster.	EQ LS WF FL SEC							X			
b-3	b-3	Work cooperatively to ensure that school district personnel understand and are trained that they are designated as disaster service workers and must remain at the school until released.	EQ LS WF FL SEC							X			not part of MTC's mission
<b>EDUC - c - Actions Related to Disaster Preparedness and Recovery Planning</b>													
c-1	new	Encourage employees of schools to have family disaster plans and conduct mitigation activities in their own homes.	EQ LS WF FL SEC							X			not part of MTC's mission
c-2	c-2	Develop plans, in conjunction with fire jurisdictions, for evacuation or sheltering in place of school children during periods of high fire danger, thereby recognizing that overloading of streets near schools by parents attempting to pick up their children during these periods can restrict access by fire personnel and equipment.	EQ LS WF FL SEC							X			not part of MTC's mission
c-3	c-3	Offer the 20-hour basic CERT training to teachers and after-school personnel.	EQ LS WF FL SEC							X			not part of MTC's mission
c-4	c-4	Offer the 20-hour basic <b>Student Emergency Response Training (SERT, rather than CERT)</b> training to middle school and/or high school students as a part of the basic science or civics curriculum, as an after school club, or as a way to earn public service hours.	EQ LS WF FL SEC							X			not part of MTC's mission
c-5	c-5	Offer the 20-hour basic CERT training course through the Adult School system and/or through the Community College system ( <b>either using instructors with teaching credentials or by making facilities available for classes not run by school personnel themselves</b> ).	EQ LS WF FL SEC							X			not part of MTC's mission
c-6	c-6	Develop and maintain the capacity for schools to take care of the students for the first 48 hours after a disaster, and notify parents that this capacity exists.	EQ LS WF FL SEC							X			not part of MTC's mission

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c-7	new	<b>Develop a continuity of operations and disaster recovery plan using models such as that developed by the University of California Berkeley. (The American Red Cross has a role in promoting this activity, as well, in schools that they plan to use as shelters.)</b>	EQ LS WF FL SEC						X			
<b>EDUC - d- Actions Related to Schools as Conduits for Information to Families About Emergencies</b>												
d-1	c-1	Utilize the unique ability of schools to reach families through educational materials on hazards, mitigation, and preparedness, particularly after disasters and at the beginning of the school year. These efforts will not only make the entire community more disaster-resistant, but speed the return of schools from use as shelters to use as teaching facilities, <b>particularly if coordinated with cities, counties, the American Red Cross and others.</b>	EQ LS WF FL SEC						X			not part of MTC's mission
d-2	c-7	Develop and distribute culturally appropriate materials related to disaster mitigation and preparedness, such as those on the <a href="http://www.preparenow.org">http://www.preparenow.org</a> website.	EQ LS WF FL SEC						X			not part of MTC's mission

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				Existing Program	Existing Program, underfunded very high - Unofficial Program - Becomes Official on Plan Adoption, no funding needed	High - Actively Looking for Funding	Moderate	Under Study	Not Applicable, Not Appropriate, or Not Cost Effective	Not Yet Considered		
<b>ENV1 - a - Environmental Sustainability and Pollution Reduction</b>												
a-1	a-1	Continue to enforce State-mandated requirements, such as the <i>California Environmental Quality Act</i> , to ensure that mitigation activities for hazards, such as seismic retrofits and vegetation clearance programs for fire threat, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation.	EQ LS X WF FL DR SEC								Planning	Standard practice, such as when MetroCenter facility retrofitted
a-2	a-2	Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs, particularly to meet critical wildfire, flood, and earthquake safety levels.	EQ WF FL SEC						X			Not Applicable - not part of MTC's mission
a-3	a-3	Continue to enforce and/or comply with State-mandated requirements, such as the <i>California Environmental Quality Act</i> and environmental regulations to ensure that urban development is conducted in a way to minimize air pollution. For example, air pollution levels can lead to global warming, and then to drought, increased vegetation susceptibility to disease (such as pine bark beetle infestations), and associated increased fire hazard.	LS WF FL DR SEC						X			Not Applicable - not part of MTC's mission
a-4	a-4	Develop and implement a comprehensive program for watershed <b>management</b> optimizing <b>ecosystem</b> health with water yield to balance water supply, flooding, fire, and erosion concerns.	LS WF FL DR SEC						X			Not Applicable - not part of MTC's mission
a-5	a-5	Balance the need for the smooth flow of storm waters versus the need to maintain wildlife habitat by developing and implementing a comprehensive Streambed Vegetation Management Plan that ensures the efficacy of flood control efforts, <b>mitigates wildfires</b> and maintains the viability of living rivers.	LS WF FL DR						X			Not Applicable - not part of MTC's mission
a-6	a-8	Comply with applicable performance standards of any <i>National Pollutant Discharge Elimination System</i> municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects.	FL						X			Not Applicable - not part of MTC's mission

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a-7	a-9	Enforce and/or comply with the grading, erosion, and sedimentation requirements by prohibiting the discharge of concentrated stormwater flows by other than approved methods that seek to minimize associated pollution.	LS FL						X			Not Applicable - not part of MTC's mission
a-8	a-10	Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from flood waters.	FL						X			Not Applicable - not part of MTC's mission
a-9	a-11	Enforce and/or comply with the hazardous materials requirements of the State of California Certified Unified Program Agency (CUPA).	EQ LS WF FL SEC						X			Not Applicable - not part of MTC's mission
a-10	a-12	Provide information on hazardous waste disposal and/or drop off locations.	EQ LS WF FL SEC						X			Not Applicable - not part of MTC's mission
a-11	new	<b>When remodeling existing government and infrastructure buildings and facilities, remove asbestos to speed up clean up of buildings so that they can be reoccupied more quickly.</b>	EQ LS WF FL SEC	X								Administration-Technology-Services implemented this practice when remodeling MTC's offices
a-12	a-13	Develop and implement a program to control invasive and exotic species that contribute to fire and flooding hazards (such as eucalyptus, cattails, and cordgrass). <b>This program could include vegetation removal, thinning, or replacement in hazard areas where there is a direct threat to structures.</b>	WF FL						X			Not Applicable - not part of MTC's mission
a-13	a-14	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.	FL						X			Not Applicable - not part of MTC's mission
<b>ENVI - b - Climate Change</b>												
b-1	a-6 + a-7	<b>Stay informed of scientific information compiled by regional and state sources on the subject of rising sea levels and global warming, especially on additional actions that local governments can take to mitigate this hazard including special design and engineering of government-owned facilities in low-lying areas, such as wastewater treatment plants, ports, and airports.</b>	LS WF FL DR	X							Planning	

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b-2	new	<b>Inventory global warming emissions in your own local government's operations and in the community, set reduction targets and create an action plan.</b>	LS WF FL DR						X			Not Applicable - not part of MTC's mission
b-3	new	<b>Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.</b>	LS WF FL DR	X							Planning	Part of Smart Growth Initiative
b-4	new	<b>Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit.</b>	LS WF FL DR	X							Planning	Promoted through working with ABAG on Bay Trail and Smart Growth Initiative
b-5	new	<b>Increase the use of clean, alternative energy by, for example, investing in "green tags", advocating for the development of renewable energy resources, recovering landfill methane for energy production, and supporting the use of waste to energy technology.</b>	LS WF FL DR						X			Not Applicable - not part of MTC's mission
b-6	new	<b>Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money.</b>	LS WF FL DR	X							MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC evaluated the only building in which it is an actual partial owner - the MetroCenter facility, owned by RAFC
b-7	new	<b>Purchase only Energy Star equipment and appliances for local government use.</b>	LS WF FL DR	X							MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC evaluated the only building in which it is an actual partial owner - the MetroCenter facility, owned by RAFC
b-8	new	<b>Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system.</b>	LS WF FL DR	X							MTC on behalf of the Regional Administrative Facility Corporation (RAFC)	MTC evaluated the only building in which it is an actual partial owner - the MetroCenter facility, owned by RAFC
b-9	new	<b>Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel.</b>	LS WF FL DR		X						MTC's Administrative Technology Services	On-going effort

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b-10	new	Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production.	LS WF FL DR						X			Not Applicable - not part of MTC's mission
b-11	new	Increase recycling rates in local government operations and in the community.	LS WF FL DR	X							MTC's Administrative Technology Services	On-going effort
b-12	new	Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO2.	LS WF FL DR						X			Not Applicable - not part of MTC's mission
b-13	new	Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.	LS WF FL DR						X			Not Applicable - not part of MTC's mission
ENVI - c - Agricultural and Aquaculture Resilience												
c-1	b-1	Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency. <b>RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.</b>	Ag DR SEC						X			Not Applicable - not part of MTC's mission
c-2	b-2	Promote and maintain the public-private partnerships dedicated to preventing the introduction of agricultural pests into regionally-significant crops, such as the glassy-winged sharpshooter into vineyards. <b>RESPONSIBLE AGENCIES: County Offices of the Agricultural Commissioner.</b>	Ag DR SEC						X			Not Applicable - not part of MTC's mission
c-3	b-4	Encourage livestock operators to develop an early-warning system to detect animals with communicable diseases (due to natural causes or bioterrorism). <b>RESPONSIBLE AGENCIES: County Health Department and Office of the County Agricultural Commissioner.</b>	Ag Flu SEC						X			Not Applicable - not part of MTC's mission
deleted	b-3	(deleted since not a disaster-related strategy)										

Land Use Mitigation Strategies

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LAND - a - Earthquake Hazard Studies for New Private Developments												
a-1	a-1	Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones, and restrict the placement of structures for human occupancy. (This Act is intended to deal with the <b>specific</b> hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)	EQ							X		not part of MTC's mission
a-2	a-2	Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure and foundation design, and/or avoidance.	EQ							X		not part of MTC's mission
a-3	a-3	Recognizing that some faults may be a hazard for surface rupture, even though they do not meet the strict criteria imposed by the Alquist-Priolo Earthquake Fault Zoning Act, identify and require geologic reports in areas adjacent to locally-significant faults.	EQ							X		not part of MTC's mission
a-4	new	<b>Ensure that development proposed near faults with a history of complex surface rupture (multiple traces, warping, thrusting, etc.) has larger setbacks than the minimum fifty feet.</b>	EQ							X		not part of MTC's mission
a-5	new	<b>Consider imposing requirements similar to the Alquist-Priolo Earthquake Fault Zoning Act for structures without human occupancy if these buildings are still essential for the economic recovery of the community or region.</b>	EQ							X		not part of MTC's mission
a-6	a-4	Recognizing that the California Geological Survey has not completed earthquake-induced landslide and liquefaction mapping for much of the Bay Area, identify and require geologic reports in areas mapped by others as having significant liquefaction or landslide hazards.	EQ							X		not part of MTC's mission
a-7	a-5	Support and/or facilitate efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area.	EQ							X		not part of MTC's mission

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a-8	a-6	Require that local government reviews of geologic and engineering studies are conducted by appropriately trained and credentialed personnel.	EQ							X			
<b>LAND - b - Wildland and Structural Fires</b>													
b-1	b-1	Review <b>new</b> development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by emergency response personnel and equipment.	WF							X			not part of MTC's mission
b-2	b-2	Develop a clear legislative and regulatory framework at both the state and local levels to manage the wildland-urban-interface consistent with <i>Fire Wise</i> and sustainable community principles.	WF							X			not part of MTC's mission
<b>LAND - c - Flooding</b>													
c-1	c-1	Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes.	FL							X			not part of MTC's mission
c-2	c-2	Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.	FL							X			not part of MTC's mission
c-3	c-3	Provide an institutional mechanism to ensure that development proposals adjacent to floodways and in floodplains are referred to flood control districts and wastewater agencies for review and comment (consistent with the NPDES program).	FL							X			not part of MTC's mission
c-4	c-4	Establish and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be in compliance with federal requirements and, thus, be a participant in the Community Rating System of the <i>National Flood Insurance Program</i> .	FL							X			not part of MTC's mission
c-5	new	<b>Encourage new development near floodways to incorporate a buffer zone or setback from that floodway to allow for changes in stormwater flows in the watershed over time.</b>	FL							X			not part of MTC's mission
c-6	new	<b>For purposes of creating an improved hazard mitigation plan for the region as a whole, ABAG, and Bay Area cities and counties, jointly request geographically defined repetitive flooding loss data from FEMA for their own jurisdictions.</b>	FL							X			not part of MTC's mission
<b>LAND - d - Landslides and Erosion</b>													

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d-1	d-1	Establish and enforce provisions (under subdivision ordinances or other means) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval.	LS						X				not part of MTC's mission
d-2	d-2	Require that local government reviews of these investigations are conducted by appropriately trained and credentialed personnel.	LS						X				not part of MTC's mission
d-3	d-3	Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval.	LS						X				not part of MTC's mission
d-4	d-4	Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.	LS						X				not part of MTC's mission
d-5	d-5	Establish requirements in zoning ordinances to address hillside development constraints, especially in areas of existing landslides.	LS						X				not part of MTC's mission
LAND - e - Hillside - Multi-Hazard													
e-1	e-1	For new development, require a buffer zone between residential properties and landslide or wildfire hazard areas.	LS WF						X				not part of MTC's mission
e-2	e-2	Discourage, add additional mitigation strategies, or prevent new construction or major remodels on slopes greater than a set percentage, such as 15%, due to landslide or wildfire hazard concerns.	LS WF						X				not part of MTC's mission
LAND - f - Smart Growth to Revitalize Urban Areas and Promote Sustainability													
f-1	f-1	Prioritize retrofit of infrastructure that serves urban areas (or urban services areas) over constructing new infrastructure to serve outlying areas.	EQ LS WF FL DR SEC	X								Planning Section	Smart Growth Preamble and Policies adopted by MTC, ABAG, BAAQMD, and BCDC
f-2	f-2	Work to retrofit homes in older urban neighborhoods to provide safe housing close to job centers.	EQ LS WF FL DR SEC						X				not part of MTC's mission
f-3	f-3	Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance.	EQ LS WF FL SEC						X				not part of MTC's mission

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f-4	f-4	<b>Work with non-profits and through other mechanisms to protect as open space areas susceptible to extreme hazards (such as through land acquisition, zoning, and designation as priority conservation areas).</b>	EQ LS WF FL SEC							X			
f-5	f-5	<b>Strive to provide and preserve existing buffers between development and existing users of large amounts of hazardous materials, such as major industry, due to the potential for catastrophic releases or fires due to an earthquakes, accidents, or terrorism. (Flooding might also result in release or spread of these materials, however it is unlikely.) In areas where buffers do not exist or cannot be created, provide alternative mitigation.</b>	EQ LS WF FL SEC							X			not part of MTC's mission
<b>LAND - g - Hazard Abatement Districts</b>													
g-1	new	<b>Use hazard abatement districts as a funding mechanism to ensure that mitigation strategies are implemented and enforced over time.</b>	EQ LS WF FL							X			not part of MTC's mission