



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

BART -
Bay Area Rapid Transit District

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Introduction

BART is a State of California special district created by the State Legislature in 1957. A board of nine publicly-elected directors governs the District. BART is one of the San Francisco Bay Area's most vital transportation links, carrying an average of 360,000 passenger trips every weekday. A map of the BART system is provided in Exhibit A.

During peak commute, BART carries as many passengers as the Bay Bridge. The system consists of 104 miles of revenue track and 44 stations. BART employs more than 3300 workers and has an annual operating budget of \$589M.

The Regional Planning Process

BART participated in the regional process led by ABAG workshops, conferences, and meetings in conjunction with the monthly meetings of the Metropolitan Transportation Commission. As part of this lengthy and comprehensive process, BART participated in

- Two Transportation Response Plan (TRP) Steering Committee meetings held to solicit input from transit operators and other interested agencies on June 11, 2009 and September 10, 2009, and
- The Transit Workshop on February 12, 2009 review draft mitigation strategies and reach consensus on priorities for mitigation.
- The ABAG Lifeline Infrastructure and Hazards Review Committee meetings as a member of that Committee, reviewing the Infrastructure Chapter of the multi-jurisdictional LHMP.

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, BART has provided oral comments on the multi-jurisdictional plan and provided information on facilities that are defined as “critical” to ABAG.

The Local Planning Process

Representatives from several District departments met to identify and prioritize appropriate mitigation strategies. Personnel involved in these meetings included senior management and staff from the emergency services, grants management services, and engineering departments. In addition, the final draft mitigation strategies were forwarded for comment to other departments whose responsibility it is to implement them. Typically, each person was responsible for communicating existing efforts and thoughts on appropriate future action in their area of expertise.

Prior to the meeting, general priorities and appropriate departments were identified. The meeting discussed the mitigation strategies, prioritized said strategies, and reviewed preliminary budgets

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and potential funding sources for strategies designated as “High” priority for District-owned-and-operated facilities.

Review and Incorporation of Existing Information

This process involved consideration of both hazard and risk information developed by ABAG and discussed in the overall multi-jurisdictional Local Hazard Mitigation Plan, as well as the hazard and risk assessments contained in BART’s Seismic Vulnerability Study described on pages 5-7.

Process for Updating Plan Sections

BART participated in the 2005 multi-jurisdictional Local Hazard Mitigation Plan, and this Annex is an update of the Annex prepared for the 2005 plan. The lead in updating this Annex was taken by the Seismic Engineering Manager, based on feedback obtained from the staff who participated in the mitigation priority setting process.

The Planning Process section has been prepared to reflect the updated Annex. However, the process of assigning priorities was simplified because priorities had already been assigned in 2005.

The Hazard and Risk Assessment section has been updated to incorporate the new mapping compiled by ABAG for the overall multi-jurisdictional Local Hazard Mitigation Plan. The specific information on BART has also been updated to reflect additional engineering studies and mitigation activities that have occurred in the past five years, including seismic retrofitting.

The Mitigation Goals and Priorities section has been expanded to take a more comprehensive approach to mitigation.

The Plan Maintenance and Update section is essentially the same as the 2005 Annex, with the addition of some ideas for improving public participation in the process.

Public Meetings

The public had two opportunities to comment on the draft Annex.

- (1) An opportunity for public comments on the DRAFT mitigation strategies was provided at a public meeting on September 22, 2009 at a publicly noticed workshop jointly held by MTC, ABAG, and several transit districts and advertised on the ABAG and MTC. No public comments were received from either the meeting or the internet posting.

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- (2) In addition, the Annex strategies have been posted on both the ABAG website and the BART website providing the public with an additional opportunity to comment. Again, the public did not comment specifically on this Annex.

The BART Board will adopt the plan in a public meeting via an official Resolution upon pre-approval by FEMA. The mitigation strategies will be integrated into the Emergency Operations Plan and Capital Improvement Plan of BART.

However, because BART is committed to continually providing public oversight of its planning process, BART will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the process.

Hazards 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 BART's planning region. However, in BART's role as a transit agency, drought has no impact on the provision of transportation services. All relevant reports developed by BART have been incorporated into this plan.

In addition to the regional assessments included in the Bay Area multi-jurisdictional LHMP, BART has prepared several hazard and risk assessment reports specific to its system consisting of 104 miles of revenue track, 44 stations, and 73 additional critical facilities (for a total of 116 critical facilities). These studies have focused on the vulnerability of the system to earthquakes and are thus included in the *Risk Assessment* section below.

Hazards at these facilities are:

Earthquake: The information in the overall multi-jurisdictional Local Hazard Mitigation Plan on strong shaking, landslides, and liquefaction was known to BART through studies in conjunction with the Earthquake Safety Program and studies performed prior to construction of many of BART's stations and components. That information indicates that earthquakes are the predominate hazard impacting BART facilities.

Three facilities (the Fremont Station, the AFM Fremont substation, and the Concord Shop) are located in study zones for fault rupture. Geotechnical investigations in eastern Contra Costa (Contra Costa Shear Zone) identify more locations of potential fault displacements on the Concord Line than indicated in the multi-jurisdictional LHMP. BART hired a consultant to locate specific fault locations and anticipated creep and co-seismic slip.

Most (103) of 116 critical facilities are located in the two highest categories of shaking potential – the reason that earthquakes are the source of much of BART's existing and planned hazard mitigation efforts.

In terms of ground failure associated with earthquakes, only 6 of 116 facilities are located in areas of high or very high liquefaction susceptibility. Only 2 of 77 facilities are in earthquake-triggered landslide areas (the LDC Dublin Canyon Road Substation and the LSR Schaffer Ranch

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Rd Substation in Dublin). (The remaining 39 facilities are in areas that have not been evaluated by the California Geological Survey.)

Tsunamis: The December 2009 version of the CalEMA tsunami evacuation planning maps indicated that four facilities are in this area – the Oakland Vent Structure (OKV) B, the San Francisco Vent Structure (SFV), the Baytube East Substation (KTE), and the Baytube West Substation (MTW). However, since the intent of these maps is limited to evacuation planning, not infrastructure vulnerability assessments, the maps solely indicated that there is a need to incorporate tsunami evacuation planning into the BART Emergency Operations Plan.

Flooding: Flood plains and projected water levels were anticipated in initial BART design and construction, and are not considered a significant hazard. Only one station is at risk – the South San Francisco Station. A study for the four-station extension to San Francisco International Airport identified that water levels from a 100-year storm in Colma Creek through South San Francisco could potentially flood a new underground station.

Landsliding: Four miles of trackways, no stations and two other essential buildings/facilities (the LSR Schaffer Ranch Rd Substation in Dublin and a radio tower and breaker station in Dublin) are in areas of existing landslides.

Wildfire: There are approximately 53 miles of BART trackway shown in the multi-jurisdictional LHMP map that indicates potential danger from wildfire or are in wildland urban interface areas (along with associated critical facilities). In the worst of these areas, the Oakland hills and the California State Highway 24 corridor, BART is either in tunnel or in the median of an 8-lane freeway, which provides a buffer from the nearby timber and grass fuel source area. BART service was interrupted for only a short period (less than 24 hours) for replacement of a short stretch of kinked rails during the worst urban wildfire in the Bay Area history, the Oakland Hills fire of 1991.

Dam-Failure Inundation: There are eight stations in the inundation areas caused by potential dam failure shown in the multi-jurisdictional LHMP. Review of the eight BART stations indicate that if dam failure were to occur, the impact on the ability to restore service would probably not be significant. In addition, there are 19 miles of trackways and 13 other essential buildings/facilities located in these areas.

Delta Levee Failures: The BART facilities are not in an area protected by Delta levees.

Drought: Drought does not impact BART. Drought will not have any impact on the safety or function of the BART system. If drought conditions were to occur, BART would curtail use of water for such purposes as washing trains.

Hazards Conclusion: Based on this hazard exposure, the most significant hazards to all of these facilities are related to earthquakes, while flooding and wildfire are a secondary concern. Thus, this conclusion was based on the hazard exposure information for BART's facilities, as well as past occurrences of disasters impacting the BART service area described in the following section.

Risk Assessment

One of the first and most critical undertakings of the Earthquake Safety Program was a system-wide vulnerability study – an assessment of how system components would perform during a major earthquake.

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In 2000, BART hired a team of consultants led by Bechtel Infrastructure and HNTB to evaluate all of the facilities and components in the BART system. Completed in 2002, the Seismic Vulnerability Study was the most comprehensive evaluation of BART facilities since original construction of the system. It involved one and one-half years of engineering and statistical analyses, which included developing scenario earthquakes, computer models, damage predictions, upgrade options, and cost-benefit analyses. The study also incorporated new information from the 1994 Northridge, California and 1995 Kobe, Japan earthquakes.

The original system, consisting of 34 stations and 74 miles of track, was designed to criteria that were considered conservative at the time. However, lessons learned from subsequent earthquakes, including more knowledge about seismicity and behavior of structures, led BART to believe that the system had vulnerabilities that needed to be mitigated. The evaluation contained in the BART Seismic Risk Analysis Report and BART Systemwide Seismic Vulnerability Study Report confirmed that the system and specific facilities/components in the original system were vulnerable to damage that would leave the system with significant life safety and operability impacts. The original BART system, completed between 1972 and 1976, has a service area spanning three counties-Alameda, Contra Costa and San Francisco. System extensions, built mostly during the 1990s, employed more stringent and up-to-date seismic criteria than the original system, and thus do not require upgrades. The original BART system includes the following elements:

- 74 miles of track
- 34 stations (11 elevated, 14 subway and 9 at-grade)
- The Transbay Tube
- The Berkeley Hills Tunnel
- Train maintenance yards
- Terminal, operations and administration facilities
- Power, mechanical, train control and communications equipment

Earthquake scenario studies, including but not limited to the San Andreas magnitude 8.0 and the Hayward magnitude 7.0, were used to assess the impact of likely earthquakes on the life safety and operability performance of the system, and to develop cost/benefit information of various retrofit packages. It was determined that it is not practical or economically feasible to retrofit to a “damage-proof” level. Thus, focused emergency response, inspection and repair plans/procedures are being developed to help expedite restoration of service, and a comprehensive seismic retrofit program for the original BART system is underway.

Results of the Seismic Vulnerability Study indicated that if the BART system is not strengthened, it would take years to restore service after a major earthquake. The study found that portions of the system most susceptible to earthquake damage include the Transbay Tube, aerial structures, stations and equipment. The study recommended that priority be given to the Transbay Tube, where soil backfill is prone to liquefaction.

BART has generated estimates of potential dollar losses due to four earthquake scenarios. Estimates of direct capital losses to overhead and at-grade trackways, the Transbay Tube, the Berkeley Hills tunnel, stations, buildings, systems and equipment due to faulting, shaking, liquefaction, and landslides are provided below. Damage to specific components, and loss by type of component was also determined.

- Hayward – Magnitude 7 - \$1.1B

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- San Andreas – Magnitude 8 - \$860M
- Calaveras – Magnitude 6.8 - \$260M
- Concord – Magnitude 6.8 - \$250M

Repetitive Loss Properties

The BART buildings and rail lines are not repetitive loss properties for flooding.

Past Occurrences of Disasters (natural and human-induced)

The Loma Prieta Earthquake of 1989 is an example of the kind of large-scale disaster which can strike the Bay Area. It killed 63 persons, injured 3,757, and displaced over 12,000 persons. With over 20,000 homes and businesses damaged and over 1,100 destroyed, this quake caused approximately \$6 Billion of damage. Reconstruction continues some two decades later as the replacement for Oakland-Bay Bridge is still several years from completion.

More information on State and Federally declared disasters in the four counties in the BART service area can be found at <http://quake.abag.ca.gov/mitigation/ThePlan-D-Version-August10.pdf>

The BART service area has experienced a number of different disasters over the last 50 years, including numerous earthquakes, floods, droughts, wildfires, energy shortages, landslides, and severe storms. The most significant disasters impacting the district were the Loma Prieta earthquake and the East Bay Hills Firestorm.

BART's success in maintaining continuous service directly after the 1989 Loma Prieta earthquake reconfirmed the system's importance as a transportation "lifeline." While the earthquake caused transient movements in the Tube there was no significant permanent movement and BART service was uninterrupted except for a short inspection period immediately following the quake. With the closure of the Bay Bridge and the Cypress Street Viaduct along the Nimitz Freeway, BART became the primary passenger transportation link between San Francisco and East Bay communities. Its average daily transport of 218,000 passengers before the earthquake increased to an average of 308,000 passengers per day during the first full business week following the earthquake.

However, Loma Prieta may not be the biggest test of BART's ability to withstand seismic impact. Unlike Loma Prieta, which was centered more than 50 miles south of San Francisco, future earthquakes could be close to or directly under the BART system.

In the areas most subject to wildfire threat and wildland urban interface (the Oakland hills and the California State Highway 24 corridor), BART is either in a tunnel or in the median of an 8-lane freeway, which provides a buffer from the nearby timber and grass fuel source area. BART service was interrupted for only a short period (less than 24 hours) for replacement of a short stretch of kinked rails during the worst urban wildfire in the Bay Area history, the Oakland Hills fire of 1991.

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National Flood Insurance Program

As transit agency, BART is not eligible to participate in the National Flood Insurance Program (NFIP).

Mitigation Goals and Objectives

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 BART in designing its mitigation program.

Mitigation Activities and Priorities

Existing Mitigation Activities

BART was a participant in the 2005 ABAG-led Local Hazard Mitigation Plan. The specific objectives of the hazard mitigation program in place at BART include:

- Ensure the safety and security of BART employees and passengers
- Minimize disruption of service to BART passengers
- Minimize damage and loss to BART equipment and buildings
- Speed recovery from any disruption of service to BART passengers as quickly as possible

On-Going Mitigation Strategy Programs

BART has many on-going mitigation programs that help create a more disaster-resistant transit agency, as discussed below.

Earthquake: BART has utilized, and will continue to utilize, the latest code standards for the design and construction of all extensions to the original system and any future buildings or facilities.

Through the Seismic Vulnerability Study, upgrade design concepts were developed for vulnerable portions of the system. Through the Earthquake Safety Program (ESP), these concepts were refined during the design phase and currently over 12 construction contracts have been awarded and are either complete or in progress. By carefully planning and monitoring upgrade

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work, BART has been able to continue normal train operations during construction, with minimal impact to BART riders.

ESP gave the highest priority for upgrades to the Transbay Tube, which connects Oakland to San Francisco. Upgrade concepts include the following:

- Vibro-replacement to compact soil backfill,
- Increasing seismic joint capacity and sealing around joints, and
- New concrete shear walls in the Oakland Ventilation Structure.

Construction associated with these concepts has been completed.

Aerial guideway structure upgrade concepts are as follows:

- Enlarge or reinforce concrete foundations,
- “Jackets” around concrete columns,
- Additional shear keys, and
- Additional foundation piles (where poor soil conditions exist).

ESP has completed the retrofit to several large segments of the aerial guideways.

Station upgrades include using similar aerial structure upgrade techniques as well as strengthening platform connections, canopies, and stairways. For mechanical, electrical, and other equipment, upgrades will consist of additional anchorage. BART has currently completed the retrofit at four (4) stations and construction to retrofit several more stations is underway.

This project included seismic retrofits of parking structures at six stations: Concord, Daly City, El Cerrito del Norte, Hayward, Pleasant Hill and Walnut Creek. These retrofits were recently completed.

To ensure that lessons learned and technological advancements are applied to the program, BART has worked closely with advisors such as the California Seismic Safety Commission, Caltrans, and independent panels of world-renowned experts in seismology, geotechnical engineering, risk analysis, and upgrade design. The panels of experts reviewed and concurred with the findings of the Seismic Vulnerability Study and recommended that upgrade work begin as soon as possible. BART continues to draw upon knowledge of the expert panels, when required.

The estimated duration for design and construction of the program is 10 years.

The total project budget for the Earthquake Safety Program is \$1.3 billion (in 2004 dollars). The various funding sources are:

- \$134 million from California Department of Transportation Local Seismic Safety Retrofit Program (for aerial structures)
- \$143 million from Regional Measure 2 (RM2) (through toll bridge increases to be contributed toward the Transbay Tube retrofit)
- \$11.5 million from Transportation Congestion Relief Program (TCRP)
- \$3 million from FEMA Pre-Disaster Mitigation Program (for the LMA building)
- \$980 million from General Obligation Bonds (Regional Measure AA) passed in November 2004

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BART's contribution for the \$1.307B retrofit package, consisting of retrofitting to achieve operability of the Core of the system (from the Berkeley Hills tunnel to Daly City) and life safety for the remainder of the system is \$50M. The method of raising BART's contribution has yet to be determined. In addition to the \$50M required for Core operability, BART is trying to find additional funds (estimated to be \$300M) to allow operability retrofits to essential facilities/components outside the Core.

Another of the highest priorities identified in the 2005 LHMP Annex was the retrofit of the LMA building and the MetroCenter building, which housed much of BART business operations.

- \$3 million from FEMA Pre-Disaster Mitigation Program is a project that involved the dismantling of the above grade portions of the LMA building, which was determined to be at-risk in the event of a large magnitude earthquake. It also included reconfiguration of stairs, elevators and other below grade facilities. Following the dismantling and removal of the LMA building, the plaza was restored to a safe and stable condition. This mitigation project occurred during the 2005-2010 time period and is now complete.
- Since BART is a minority owner in the MetroCenter building, MTC was the lead agency to seek and receive FEMA Pre-Disaster Mitigation Program funds for the seismic retrofit of this facility, which houses BART's Emergency Operations Center. Retrofit of this building was completed in 2010.

Flooding: A study for the four-station extension to San Francisco International Airport identified that water levels from a 100-year storm in Colma Creek through South San Francisco could potentially flood a new underground station. As a result, the station entrance was raised and the capacity of local flood control structures (i.e., Colma Creek and its tributaries) was increased. BART performed similar drainage work throughout the SFO Extension.

Wildfire: In the worst of these areas, the Oakland hills and the California State Highway 24 corridor, BART is either in tunnel or in the median of an 8-lane freeway, which provides a buffer from the nearby timber and grass fuel source area. The District also has an ongoing weed abatement program for at-grade sections of trackway.

Climate Change: BART has a policy to encourage public transit and to develop green alternatives to people commuting in cars, thus promoting policies that will reduce greenhouse gas emissions.

Future Mitigation Actions and Priorities

As a participant in the 2010 ABAG multi-jurisdictional planning process, the staff of BART helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The 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.

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Representatives from multiple departments then met to review progress on the mitigation, to identify and prioritize additional mitigation strategies to be a specific focus for the 2010-2015 period.

These draft priorities were submitted and reviewed by BART's Executive Management. The draft priorities will be provided to the BART Board for adoption pending pre-approval of this LHMP by FEMA.

The BART LHMP planning group staff also prioritized specific mitigation tasks for the next 5 years. This list includes implementation process, funding strategy, responsible agency, and approximate time frame. The full list is included as an attachment to this Annex. This list includes implementation process, funding strategy, and responsible agency. In particular, BART plans to focus on obtaining funding to ensure that:

- BART continues to seek funding to complete additional seismic upgrades identified in the Seismic Improvement Program (INFR a-1, INFR a-4). Costs are summarized on the previous page. The departments in charge are Operations and TSD.
 - Hazards Addressed: EQ, LS, WF, FL, SEC
- BART will continue to work with structural engineers and others to ensure that engineers are available to inspect the buildings at its facilities within days following an earthquake when funds become available. Key personnel have already taken ATC-21 training (INFR f-1). The costs of this effort should be minimal and associated with staff time availability. The department in charge is Operations.
 - Hazards Addressed: EQ, LS, WF, FL, SEC
- BART recognizes that more needs to be done in the area of Emergency Recovery Planning and Continuity of Operations/Business Continuity Planning, but currently lacks the resources to develop a more comprehensive plan without additional funding, which will be sought, as appropriate, during the next few years (INFR b-1 through b-5). The budget for this effort has not been developed at this time due to a lack of knowledge of the full scope of the effort. The departments in charge are Operations and TSD.
 - Hazards Addressed: EQ

The timetable for these strategies is 5-10 years, depending on the economic recovery of the Bay Area.

The specific strategy priorities of BART are included in the BART strategy spreadsheet attached to this LHMP (look at exhibit B).

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Incorporation into Existing Planning Mechanisms

BART has, and will continue to use, a variety of project-specific mechanisms to ensure that the projects and mitigation strategies identified as existing or having relatively high priorities in this LHMP Annex are implemented.

As shown in the attached list, most of BART’s specific mitigation strategies and priorities are being implemented as part of the Earthquake Safety Program. In addition, the strategies are being implemented throughout the BART organization. There are no other planning mechanisms available to BART that are appropriate to incorporate this LHMP Annex.

During the past five years, the Earthquake Safety Program has been an extremely effective mechanism to ensure implementation of the mitigation strategies promoted in this LHMP Annex. BART intends to continue that process to ensure that the 10-year goals of the program are fully implemented.

The final strategies and Annex will be adopted in the same resolution adopting the overall LHMP by the BART Board following “Pre-Approval Pending Adoption” by FEMA.

Ongoing integration of the policies and programs identified in this Local Hazard Mitigation Plan will be monitored by BART Executive Management.

BART will continue to work with MTC and the transit districts in the Bay Area to encourage them to adopt the Local Hazard Mitigation Plan and to ensure that these mitigation plans are incorporated into an overall regional planning process.

Plan Update Process

As required Disaster Mitigation Act of 2000, BART 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.

BART Executive Management 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 service area, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. For example, if a structural engineering evaluation shows that a major risk exists at more or more facilities based on data collected from a future earthquake, the priority associated with upgrading those facilities will be re-evaluated. Finally, the Annex will be a discussion item on the agenda of the Board of Directors at least once a year.. That meeting will focus on evaluating the Annex in light of technological and political changes during the past year or other significant events. Executive Management will be responsible for determining if the plan should be updated.

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During the 2005-2010 period, monitoring of this Annex and mitigation safety goals occurred by the **Seismic Engineering Department**. In addition, the goals of this plan were supplemented and leveraged by the **Risk Management Department** and **Safety Department**.

BART is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The Chief Engineer will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the agency again plans to participate in the multi-jurisdictional plan. If BART is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the four county Offices of Emergency Services in which BART operates. Counties and agencies should then work together to identify another regional forum for developing a multi-jurisdictional plan.

BART is committed to public participation. All BART Board meetings are open to the public and the public is invited to comment on items on the Board Agenda. 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, BART 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. BART is committed to improving public participation in the update process over the next five years. To improve this process, BART will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the issues related to disaster mitigation and the planning process.

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Exhibit A – General BART System Map

BART serves the communities ranging from SFO and Millbrae in San Mateo County, through San Francisco, to Pittsburg/Bay Point in Contra Costa County, and from Richmond in Contra Costa County to Fremont and Dublin/Pleasanton in Alameda County. For an interactive version of the map below, see <http://www.bart.gov/stations/closest.aspx>.



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Exhibit B – BART 2010 Mitigation Strategy Spreadsheet

[Available on LHMP CD or at <http://www.abag.ca.gov/bayarea/eqmaps/mitigation/strategy.html>]