



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

Livermore Amador Valley Transit
Authority

Livermore Amador Valley Transit Authority

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Introduction

Wheels is a service of the Livermore Amador Valley Transit Authority (LAVTA) and provides public transportation for the Tri-Valley communities of Dublin, Livermore and Pleasanton, California. With easy connections to San Francisco via BART, Wheels is a convenient way to travel and an excellent way to build a cleaner, healthier and less congested community.

LAVTA was formed in 1985, under a Joint Exercise Powers Agreement to provide public transit in the cities of Dublin, Livermore, Pleasanton, and in unincorporated areas of Alameda County.

LAVTA is governed by a seven member Board of Directors, composed of two elected city officials from each City Council, and one member appointed by the Alameda County Board of Supervisors.

The annual ridership is 1.8 million, with 60,000 paratransit trips. The District has 74 buses and 27 paratransit vehicles. The annual operating budget for FY 2008/2009 was \$11.9 million.

The Regional Planning Process

LAVTA 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, LAVTA participated in

- Two Transportation Response Plan (TRP) Steering Committee meetings held to solicit input from transit operators and other interested agencies, and
- The Transit Workshop on February 12, 2009 review draft mitigation strategies and reach consensus on priorities for mitigation.

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, LAVTA 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 Agency departments met on a regular basis to identify and prioritize appropriate mitigation strategies. Personnel involved in these meetings included senior management and staff from the planning, administrative services, and marketing departments.

At the first meeting, general priorities and appropriate departments were identified. Subsequent meetings identified mitigation strategies, prioritized said strategies, and reviewed preliminary budgets and potential funding sources for strategies designated as “High” priority for Agency-owned-and-operated facilities. Each person was responsible for communicating existing efforts and thoughts on appropriate future action in their area of expertise. Finally, the draft priorities listing was provided to the program team so that they could review the strategy priorities with the specific members of their department responsible for implementing them, as well as to review preliminary budgets and potential funding sources for strategies designated as “High” priority.

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The Director of Planning, for example, discussed the strategies with marketing staff and the Facilities Supervisor obtained input from the Director of Administrative Services.

Review and Incorporation of Existing Information

This process involved consideration of both the hazard and risk information developed by ABAG and discussed in the overall multi-jurisdictional Local Hazard Mitigation Plan, as well as the assessments of the age and construction type of structures owned by LAVTA and described on page 5. These meetings also discussed the Emergency Operations Plan and Capital Improvement Plan already in place at LAVTA, as well how these plans could be best integrated with this Local Hazard Mitigation Plan Annex.

Process for Updating Plan Sections

LAVTA did not participate in the 2005 multi-jurisdictional Local Hazard Mitigation Plan. Thus, none of the sections in this Annex are updates of a prior Annex.

Public Meetings

The public had three 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 websites of ABAG and MTC, and several transit districts. No public comments were received from either the meeting or the internet posting.
- (2) An opportunity for public comments on the DRAFT mitigation strategies was provided at a public meeting at LAVTA's administrative office on September 17, 2009. No members of the public attended the meeting and no public comments were received .
- (3) The Draft Annex Strategies have been posted on the ABAG website for several months. No comments have been received. LAVTA also posted the annex strategies on its website (www.wheelsbus.com) for the month of September 2009.

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

LAVTA is committed to improving public participation when this plan is updated in five years. To improve this process, LAVTA will consider writing letters to the editor of local newspapers in its service area to promote wider public knowledge of the process.

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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 LAVTA's planning region. However, in LAVTA's role as a transit agency, drought has no impact on the provision of transportation services. All relevant reports developed by LAVTA have been incorporated into this plan. No additional reports describe the hazard or risk to the LAVTA service area.

LAVTA operates four locations for offices, storage, and maintenance. The main office-administration building is on Rutan Court in Livermore. Other facilities in Livermore include a communications facility on Doolan Hill, a transit center on Railroad Ave., and a satellite parking facility on Atlantis Court. Hazards at these facilities are:

Earthquake: None of these facilities are in an Alquist-Priolo Fault Rupture Study Zone. In addition, while they are all in a moderately high area of earthquake shaking potential, the hazard is not as high as in some other portions of the Bay Area. They are also not in the highest categories of liquefaction susceptibility. None are in areas of expected earthquake-induced landslides.

Tsunamis: The December 2009 version of the CalEMA tsunami evacuation planning maps indicated that none of the LAVTA facilities is in this area.

Flooding: None of these facilities are in the 100-year flood plain or in other flood-prone areas and none are in an area subject to dam inundation.

Landsliding: None of these facilities are in an area of existing landslides.

Wildfire: One of these facilities is in an area subject to higher than average wildfire threat, and two others are in a wildland-urban interface threat area.

Dam-Failure Inundation: The LAVTA facilities are not in an area subject to dam-failure inundation.

Delta Levee Failures: The LAVTA facilities are not in an area protected by a levee, or in the Delta.

Drought: The operations of LAVTA are not significantly impacted by drought conditions.

Hazards Conclusion: The most significant hazard to the LAVTA facilities are earthquake shaking and wildfire. This conclusion was based on the hazard exposure information for LAVTA's facilities, as well as past occurrences of disasters impacting the LAVTA service area described in the following section.

Risk Assessment: The four facilities owned by the transit district are all relatively new – one each in 1991 (main office/administrative building), 1997 (transit center), 2003 (communications facility), and 2008 (satellite parking facility).

The critical communications facility was newly installed in 2003. Roadway damage in LAVTA's service area may result in disruptions of service that may necessitate rapid and continuing communication with buses that may be disrupted due to damaged communications equipment or to the buildings in which this equipment is housed.

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Repetitive Loss Properties

The LAVTA buildings 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 Alameda County and the LAVTA service area can be found at <http://quake.abag.ca.gov/mitigation/ThePlan-D-Version-August10.pdf>

The LAVTA 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. In addition to the declared disasters noted in Appendix D, locally significant incidents that have also impacted LAVTA in the last several years include:

- The Livermore Earthquake of January 24, 1980 was a magnitude 5.9 earthquake that occurred at 11:00 a.m. Pacific Standard Time. Based on a summary published by USGS, it injured 44 people and caused an estimated \$11.5 million in property damage (of which, \$10 million damage occurred at the Lawrence Livermore Laboratory at Livermore). The shock was associated with surface rupture along the Greenville fault. At Interstate 580 and Greenville Road (about 4 kilometers north of the Lawrence Livermore Laboratory), pavement on the overpass settled about 30 centimeters and concrete on one abutment cracked and spalled. However, most of the damage to property, including that at the Lawrence Livermore Laboratory, was nonstructural. It consisted mainly of fallen ceiling tiles, fallen bricks from chimneys, broken gas lines and water lines, broken windows, and displacement of mobile houses from supporting foundation. (Summarized from (http://earthquake.usgs.gov/earthquakes/states/events/1980_01_24.php.)
- Weather, Summer Heat and Winter Cold. During weather extremes Alameda county OES monitors situation with cities that are affected.
- May 2009 Vehicle vs Tanker truck. Gasoline spill in city of Dublin. Alameda County OES monitoring situation.

National Flood Insurance Program

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

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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 local goal of LAVTA in designing its mitigation program.

The specific goals of the mitigation program of LAVTA are consistent with this goal. They are to:

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

Mitigation Activities and Priorities

Existing Mitigation Activities

LAVTA was not a participant in the 2005 ABAG-led Local Hazard Mitigation Plan. However, LAVTA has been committed to hazard mitigation for many years.

LAVTA has many on-going mitigation programs that help create a more disaster-resistant transit agency. In particular, LAVTA has utilized, and will continue to utilize, the latest code standards during the design and construction of any future buildings or facilities in particular related to fire and earthquake mitigation.

Future Mitigation Actions and Priorities

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

However, the decision on specific priorities for LAVTA was made the team identified in the section on the Planning Process, and reviewed by LAVTA's Executive Director. The decision on the priority was made based the hazards and risks present in the LAVTA service area, as well as the hazards and risks specific to LAVTA facilities, and past occurrences of natural disasters. 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,

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politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage. The decision was also made to best leverage the implementation mechanisms available to LAVTA, including the Capital Improvement Plan budget and the Emergency Operations Plan.

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 LAVTA's Executive Director. The draft priorities will be provided to the LAVTA Board for adoption pending approval of this LHMP by FEMA.

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

- Shelving, file cabinets, computer systems, and other nonstructural components of the LAVTA's critical facilities will be evaluated and anchored to meet the performance needs of the agency following an earthquake when funds become available. (GOVT a-4) The lead on this strategy is Administrative Services.
- LAVTA will work with structural engineers and others to ensure that engineers are available to inspect the buildings at its facilities within three days after an earthquake when funds become available. (modified from INFR f-1) The lead on this strategy is Administrative Services.
- LAVTA is seeking funding to construct a new operations and maintenance facility that will meet current, stricter standards. (INFR a-4 and GOVT a-2) The lead on this strategy is Planning.

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

The specific strategy priorities of LAVTA are included in the LAVTA spreadsheet attached to this LHMP.

Incorporation into Existing Planning Mechanisms

LAVTA 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. LAVTA will incorporate the goals, objectives and strategies identified in this annex in the annual Capital Improvement budget, as well as into the Emergency Operations Plan.

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As shown in the attached list, LAVTA's specific mitigation strategies and priorities will be implemented as part of the agency's annual Emergency Operations Plan and Capital Improvements Plan. The Emergency Operations Plan outlines equipment requirements in an emergency and operations procedures, while the Capital Improvement Plan identifies the overall budgeting needed for major facilities improvements and equipment over a ten-year period. There are no other planning mechanisms available to LAVTA that are appropriate to incorporate this plan.

The most expensive issue is related to replacing LAVTA facilities. LAVTA's operating facilities were constructed to the codes in place when they were built in 1991. While the current facility is structurally sound, LAVTA is also looking for funding from the grants process to replace the operations facility since the agency has outgrown the current facility.

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 LAVTA within the Planning Department.

LAVTA 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, LAVTA 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 Planning Department 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 engineer determines that a major risk exists at buildings or tanks at the LAVTA facilities, the priority associated with upgrading those facilities will be re-evaluated. Finally, the Annex will be a discussion item on the agenda of the meeting of department heads at least once a year in April when annual budgeting is discussed. 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 heads will be responsible for determining if the plan should be updated.

LAVTA 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 Planning Department 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

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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 and agencies should then work together to identify another regional forum for developing a multi-jurisdictional plan.

LAVTA is committed to public participation. All LAVTA 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, LAVTA 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. LAVTA is committed to improving public participation in the update process over the next five years. To improve this process, LAVTA 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.

Mitigation Plan Point of Contact

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Alternate Point of Contact

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Title: Executive Director

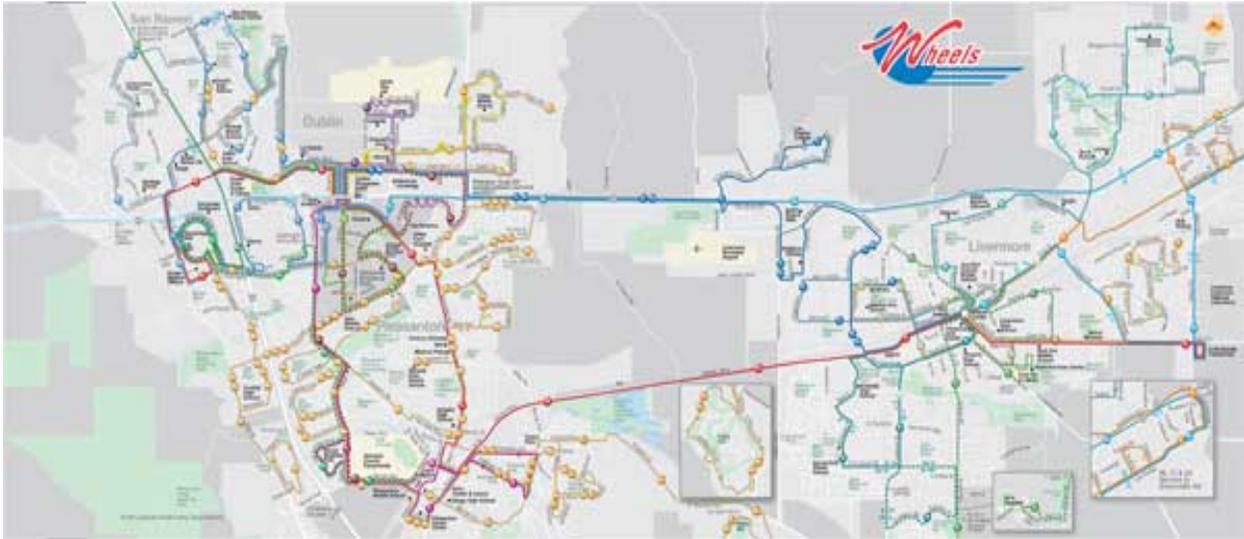
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Exhibit A - General LAVTA System Map



In general, LAVTA serves the cities of Livermore, Dublin, and Pleasanton. For a more detailed map, and other maps, see <http://www.lavta.org/schedules/systemap.html>.

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Exhibit B - LAVTA 2010 Mitigation Strategy Spreadsheet

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