ASSOCIATION OF BAY AREA GOVERNMENTS

Representing City and County Governments of the San Francisco Bay Area

ABAG

RETREAT AGENDA

ADMINISTRATIVE COMMITTEE
Thursday, February 28 to Friday, March 1, 2013
Retreat

Location
The Meritage Resort & Spa
875 Bordeaux Way (formerly Trefethen Way)
Napa, California 94558

For additional information, please call:
Fred Castro, (510) 464 7913

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ABAG Administrative Retreat (Feb. 28th-March 1st) and Legislative Workshop/Reception (Feb. 27th)*

Summary Information

Location: The Meritage Resort and Spa
875 Bourdeaux Way, (formerly Trefethen Way) Napa
707 252-2900 (voice)
707 254-8274 (fax)

Check-In Time: Noon

Directions:

From San Francisco/Marin County (via Sonoma/Carneros Highway):

- From the Golden Gate Bridge take US-101 N toward Eureka
- Merge onto CA-37 E via Exit 460A toward Napa/Vallejo for 7.6 miles
- Turn left onto CA-121 N / Arnold DR / Carneros HWY toward Sonoma/Napa and continue for 6.5 miles
- Make a slight right onto CA-121 / Carneros HWY at flashing stop sign and continue for 7.5 miles
- Take the CA-29 S / CA-12 E ramp (right) toward American Canyon / Vallejo / Fairfield over the Butler Bridge
- Turn right onto Soscol Ferry Road and follow around back under highway
- Turn right on Bordeaux Way
- The Meritage Resort and Spa is located on the right hand side

From San Francisco/Oakland/East Bay:

- Take I 80E towards Sacramento for approximately 24 miles across the Carquinez Bridge
- Take Discovery Bay Parkway/Highway 37 exit for approximately 2 miles
- Turn right onto Highway 29 North (Exit 19) for approximately 7 to 8 miles
- Turn left onto Soscol Ferry Road, located 1 mile from Highway 12 intersection and follow around back under highway
- Turn right on Bordeaux Way

- The Meritage Resort and Spa is located on the right hand side

NOTE: If you are attending the Legislative Workshop and Reception and plan to check-in at the Meritage on the 27th, please notify staff to ensure your registration. To date, Supervisors. Cortese, Haggerty, Rabbitt, Pine and Mar have confirmed check-n on the 27th as has Councilmember Pierce. Those interested in carpooling to the Legislative Workshop from Napa, should contact staff and we will arrange rides.

Legislative Workshop/Reception

February 27, 2013

Workshop Location:	CSAC Conference Center, 1020 11th Street, Sacramento
Time:	1:30 PM to 4:30 Workshop
	5:30-7:00 Reception
Reception Location:	**Ella Dining Room and Bar**, 1131 K Street, Sacramento

ASSOCIATION OF BAY AREA GOVERNMENTS
Representing City and County Governments of the San Francisco Bay Area

ABAG

CALL AND NOTICE

For additional information, please call:
Fred Castro, (510) 464 7913

Agenda and attachments available at:
www.abag.ca.gov

CALL AND NOTICE OF SPECIAL MEETING OF THE ADMINISTRATIVE COMMITTEE OF THE ASSOCIATION OF BAY AREA GOVERNMENTS

As Chair of the Administrative Committee of the Association of Bay Area Governments (ABAG), I am calling a special meeting of the ABAG Administrative Committee as follows:

Thursday, February 28, 2013, 9:00 AM to 5:00 PM, through Friday, March 1, 2013, 8:30 AM to 11:30 AM
Special Meeting—Administrative Committee Retreat

Location
The Meritage Resort & Spa, 875 Bordeaux Way, Napa, California 94558

The business to be transacted will include:

Briefing for new Administrative Committee Members

Green Business Program

Resilience Initiative

Plan Bay Area Implementation, SB 375 2017 - Role of ABAG

Affordable Housing Policies

Plan Bay Area Messaging

Plan Bay Area EIR

ABAG Strategies into the future

Joint Policy Committee

The ABAG Administrative Committee may act on any item on the agenda.

Members of the public shall be provided an opportunity to directly address the ABAG Administrative Committee concerning any item described in this notice before consideration of that item.

Agendas and materials will be posted and distributed for this meeting by ABAG staff in the normal course of business.

Mark Luce
Chair, Administrative Committee

February 26, 2013
Date

ASSOCIATION OF BAY AREA GOVERNMENTS
Representing City and County Governments of the San Francisco Bay Area

ABAG

AGENDA

ADMINISTRATIVE COMMITTEE

Thursday, February 28, 2013, 9:00 AM to 5:00 PM, through Friday, March 1, 2013, 8:30 AM to 11:30 AM
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For additional information, please call:
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Agenda and attachments available at:
www.abag.ca.gov

The ABAG Administrative Committee may act on any item on this agenda.

Thursday 9:00 – 10:00 am

Briefing for new Administrative Committee Members (optional)

Thursday 10:00 am to 12:00 pm

Call to Order

1. Green Business Program

Information

What are the key accomplishments and future trends? What is ABAG's role?

Attachments: Green Business/Hazardous Waste; Office/Retail Checklist; Policy Guide

2. Resilience Initiative

Discussion and Input

Since the recent completion of the Resilience Initiative, what are the short term priorities for ABAG? When and how shall ABAG engage state and federal agencies?

A. Review of comprehensive set of issues and strategies
B. Priorities for ABAG actions

Attachment: Regional Disaster Resilience; Policy Papers and Action Plan

Thursday 1:30 to 5:00 pm

3. Plan Bay Area Implementation, SB 375 2017 - Role of ABAG

Discussion and Input

How can ABAG carry the implementation of Plan Bay Area 2013? What are the priorities and alignment of funding, advocacy, policies and local projects?

What are the areas that need to be revisit for SB 375 2017?

A. Funding for Plan Bay Area
B. Coordination and Advocacy
C. Policies and strategies
D. Local programs

Attachment: Implementation

4. Affordable Housing Policies

Discussion

Why does the Bay Area Need affordable housing? How can we address current challenges locally and at the State and Federal levels? What are the most strategic tasks for ABAG?

A. Affordable housing needs
B. Local and regional strategies
C. Legislation proposals

Attachment: Legislative Priorities

Friday 8:30 to 11:30 am

5. Plan Bay Area Messaging

Discussion and Input

How shall we present Plan Bay Area to the public? What are the key messages?

How to refine the process of public engagement?

A. Plan Bay Area
   i. Housing and job growth
   ii. Land use pattern
   iii. Transportation investments
   iv. Actions and next steps
B. Public engagement process

Attachment: Messaging

6. Plan Bay Area EIR

Information

What are the key components of the EIR Alternatives? What are the strengths of the Project within the EIR?

A. Summary of five alternatives
B. Strengths of the project

Attachment: EIR Update

7. ABAG Strategies into the future

Discussion and Input

What did ABAG accomplish since the 2008 Strategic Plan? What are the areas that need priority and attention?

A. Review of accomplishments since 2008
B. Review of current work program
C. Future priorities and funding

Attachment: Achievements and Challenges; Strategic Plan; Performance Plan

8. Joint Policy Committee

Discussion and Input

Given the recent coordination on sea level rise and air quality guidelines for infill development, how should the Joint Policy Committee carry major regional tasks? What are the priorities and essential functions?

A. Shoreline Resiliency
B. Air Quality Guidelines

Attachment: Recent Coordination Efforts; SB 792

Adjournment

Ezra Rapport
Secretary-Treasurer

February 26, 2013
Date

MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Ceil Scandone, Senior Regional Planner

Subject: Bay Area Green Business Program/Hazardous Waste Committee

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Introduction

The Bay Area Green Business Program (Program) was initiated in 1996 by ABAG's Hazardous Waste Management Facility Allocation Committee. The Committee was established to respond to AB 2948, legislation that required that counties plan for facilities to handle hazardous wastes generated within their boundaries. Members asked ABAG to craft a regional response, and agreed to pay an annual fee for staff.

The Memorandum of Understanding that established the Committee addressed AB2948, and committed members to pursue pollution prevention programs. The Green Business Program was the first and to date most comprehensive and successful pollution prevention activity. ABAG staff secured the grants used to design the Program and serves as the Regional Coordinator.

By 2003, the Program was expanding outside the region. In 2005, the Bay Area hosted coordinators from around the state to promote consistent operations, which resulted in the formation of the California Green Business Network. In 2007, with funding from the Department of Toxic Substances Control (DTSC), the Network initiated development of a statewide database to manage the process, measure outcomes, and create a Green Business directory. Launched in 2009, that system is now an essential tool.

Efforts to ensure consistent, high-quality operations and report outcomes were rewarded in 2011, when AB 913 was signed by Governor Brown. AB 913 established the California Green Business Program, conferring state recognition on the Network and our Green Businesses. It directed DTSC to continue funding the database and managing expansion. Due to budget problems DTSC recently eliminated staff and financial support. A statewide planning effort is underway to address this situation.

Current Challenges

Securing funding for the database all our counties use is critical to the Program's future. Funding for local programs is another key concern. Some Bay Area programs are adequately funded, others just barely surviving, others are on extended hold. ABAG's Regional Coordinator helps to identify and pursue potential funding sources. ABAG has secured annual grants from the BAAQMD and recently secured a contribution from PG & E. Avenues we are pursuing include additional funding from PG & E for energy efficiency activities, and eligibility for funding from cap and trade auction proceeds when those become available.

Green Business Program Overview

The Program assists and recognizes small businesses that voluntarily exceed compliance to prevent pollution, conserve resources, and minimize waste (see attached sample checklist). These actions reduce

greenhouse gas emissions. Participants include auto body and repair shops, printers, wineries, restaurants, retail shops, contractors, and landscapers. Local staff ensure that businesses comply with regulations and with assistance from partner agencies and utilities verify on-site that they meet all standards.

The first businesses were recognized in 1997 in Alameda and Napa counties. Other counties joined in subsequent years. Since 2007, all nine counties have offered the Program, at varying levels of staffing based on local funding. Currently, 2,300 firms are certified, including 92 public facilities. All are listed on the Program website at www.greenbiz.ca.gov.

The Program design made the Bay Area Green Business Program unique, a distinction it still holds. Apart from other California jurisdictions and Montgomery County, Maryland that launched Programs based on our model, no other similarly robust small business certification program exists. Santa Cruz, Monterey, San Benito, Santa Barbara, Humboldt and Ventura counties, Santa Monica, and Thousand Oaks now offer the Program with Los Angeles set to launch. Together, these jurisdictions cover 38% of California's population.

Other Activities

In pursuit of the Committee's commitment to pollution prevention, staff has undertaken a variety of projects that complement the Green Business Program, and serve all ABAG members. These include organizing workshops on Environmentally Preferable Purchasing, and reporting on efforts to advance Extended Producer Responsibility for electronics and other hazardous products.

ABAG Staff Roles

The Policy Guide for the Green Business Program identifies the following activities for the Regional Green Business Coordinator, with continued oversight from the Committee:

- convene the Committee and Technical Advisory Committee of Local Coordinators
- facilitate review of program activities and materials to ensure consistency
- maintain and distribute program materials
- develop a marketing plan for use by local programs and the region as a whole
- track indicators of success and writing appropriate reports
- write grant proposals and administer grants

In addition to these tasks, ABAG staff has accomplished the following:

- assisted 6 Bay Area counties and others throughout the state to launch Programs
- strengthened relationships with regional partners such as the Bay Area Air Quality Management District, and Pacific Gas & Electric Company
- served as primary interface with legislative staff in writing and gaining support for AB 913, and in the 2004 legislative effort vetoed by Governor Schwarzenegger
- successfully sought funding for Bay Area local programs and the statewide database from P G & E, which included the Program in its 2013/14 CPUC filing
- built and maintains the Bay Area Green Business Program website
- serves on the Steering Committee of the California Green Business Network
- maintains relationships with DTSC, CalRecycle, CARB, US EPA and other agencies
- monitors and reports to the Committee and L&GO on hazardous and universal waste-related legislation

California Green Business Program

Office/Retail Checklist –Bay Area

General

GENERAL Certification Measures (3 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Inform your customers about your business environmental efforts and what you are doing to meet the green business standards. For example: Post the Green Business logo, certification and pledge in a visible location; Post reminders listing steps you are taking to be a Green Business; Offer tours that highlight your Green Business successes; Offer customers green service or amenities options; Highlight your Green Business efforts and/or certification on your website, and link it to the GBP home page.		X		
2. Adopt a written environmentally preferable (or green) purchasing policy. Ask your Green Business Coordinator for templates.		X		
3. Establish a 'green team' that can help guide efforts to green your business.		X		

Waste

BUY materials with recycled content. (4 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Purchase copier/printer paper with at least 30% post consumer waste.		X		
What is the recycled content of the paper (OPTIONS - 30%, 100% and 50 %, enter two digits)?				
How many reams of paper do you buy annually?				
2. Purchase paper towels with 35% post-consumer waste.		X		
Optional Measures				
1. Use refilled or remanufactured laser and copier toner cartridges.		X		
2. For retail use or shipping, purchase boxes or bags with recycled content.		X		
3. Purchase garbage bags with the highest recycled content available.		X		
4. Purchase tissues with the highest recycled content available.		X		
5. Purchase envelopes with the highest recycled content available.		X		
6. Purchase folders or other paper products with the highest recycled content available.		X		
7. Purchase carpet, carpet undercushion, or flooring. with recycled content.		X		
8. Purchase toilet seat covers and toilet paper with recycled content.		X		

Description	Yes	No	N/A	Post
9. Purchase business cards with recycled content.		X		
10. When building or remodeling: use recycled content, refurbished, or salvaged materials such as building fixtures, ceramic tiles, drywall, insulation, concrete, composite lumber/wood, roofing, flooring, cabinets, ceiling tile, interior paneling, etc.).		X		
11. Retailers stock/sell products made with recycled content.		X		
12. Purchase copy, computer and fax paper with minimum 50% post consumer waste (recommended 100%).		X		
What is the recycled content of the paper (OPTIONS - 30%, 100% and 50 %, enter two digits)?				
How many reams of paper do you buy annually?				
13. Request that marketing materials be printed on recycled content paper.		X		
14. Purchase letterhead with the highest recycled content available.		X		

RECYCLE materials. (3 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Where applicable, provide recycling and composting container(s) at convenient and appropriate locations (i.e. lobbies, guest rooms, vending machines, kitchens, next to existing containers, individual cubicles, housekeeping/custodial service carts, etc.).		X		
2. Recycle all paper, glass, metal, cardboard and plastics accepted in your area.		X		
How many employees does your business have at the certified location? (Leave blank if already entered for previous measure.)				
Do you pay your own garbage bill (yes or no)?				
Optional Measures				
1. Recycle plastic wrap and bags.		X		
2. Recycle CDs/DVDs.		X		
3. Recycle carpeting.		X		
4. Recycle wood, including pallets.		X		
5. Compost food waste.		X		
How many employees does your business have at the certified location? (Leave blank if already entered for previous measure.)				
Do you pay your own garbage bill (yes or no)?				
6. Compost landscape trimmings (green waste) and debris.		X		
How many employees does your business have at the certified location? (Leave blank if already entered for previous measure.)				
Do you pay your own garbage bill (yes or no)?				

REDUCE waste. (7 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Eliminate individual bottles of water for employees and guests.		X		
2. Retailers - If you provide disposable bags to your customers for items purchased or supplied by your business, you must primarily provide paper bags instead of plastic. Plastic bags should only be provided when absolutely necessary.		X		
3. Eliminate the use of polystyrene containers. Utilize one of the following options (in order of preference): paper, paperboard, compostable containers (starch-based sugarcane, rice hulls, and/or corn), or recyclable plastic.		X		
4. Purchase/lease all new copiers and printers with double sided copying capability. Set copier/printer defaults to double-sided.		X		
5. Make two sided printing and copying standard practice in your business (set printers and copiers to default to duplex printing). Make single-sided the exception instead of the rule.		X		
Optional Measures				
1. Subscribe to journals, trade magazines, etc. online rather than receiving hard copies.		X		
2. Select products shipped in returnable, reusable or recyclable containers and with less packaging.		X		
3. Centralize purchasing to eliminate unnecessary purchases and ensure that all waste reduction purchasing policies are followed.		X		
4. Lease, rather than purchase computers and printers or upgrade desktop computers instead of purchasing new ones.		X		
5. Send and receive faxes directly from computers without printing.		X		
6. Practice efficient copying by using the size reduction feature (e.g. print two pages of a document on one page, set word processing defaults for smaller fonts and narrower margins). Minimize misprints by posting a diagram at printers and copiers showing how to load paper, like letterhead or envelopes.		X		
7. In the lunch/break room, replace disposables with permanent ware (mugs, dishes, utensils, etc.) and use refillable containers for sugar, salt & pepper, etc. to avoid individual condiment packets.		X		
8. Retailers - Use optical scanners, which give more details about inventory, for more precise ordering.		X		
9. Eliminate paper documents by using electronic forms and contracts.		X		

REUSE materials. (3 measures required)

Description	Yes	No	N/A	Post
Optional Measures				
1. Purchase reusable rather than disposable office items such as refillable pens, erasable white boards & wall calendars.		X		
2. Donate furniture, supplies, scrap materials, etc., or use a waste exchange program where another business can take your unwanted items.		X		

Description	Yes	No	N/A	Post
3. Have your toner cartridges refilled for reuse.		X		
4. Purchase used or refurbished equipment and/or furniture.		X		
5. Designate a reuse area for office supplies such as binders, folders and staplers.		X		
6. Reuse paper or plastic packaging materials in your own shipments.		X		
7. Retailers- offer durable, reusable bags at checkout.		X		
8. Keep a stack of previously used paper near printers. Use it for scratch paper or internal memos, make it into notepads, or designate a bypass tray on printer for printing draft single-sided documents.		X		
9. Retailers: Offer incentives for customers who bring their own reusable bags, coffee mugs, etc. (or disincentives such as charging fees for bags).		X		

Energy

Equipment and Facility Changes (7 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Use energy efficient exit signs, such as LEDs.		X		
How many LED exit signs does your business use?				
2. Replace incandescent bulbs with efficient compact fluorescents.		X		
How many incandescent lamps have you replaced with CFLs?				
3. Replace all T-12 fluorescent lighting with energy-efficient T-8 or T-5 fixtures with electronic ballasts or other equivalent efficacy lighting.		X		
How many T-12 lamps have you replaced with T-8s (in electronic ballasts)?				
4. Complete regularly scheduled maintenance on your HVAC (heating, ventilation and air conditioning) and refrigeration system at least twice a year.		X		
Optional Measures				
1. Institute a policy that all electronic devices, lighting and room cooling units be turned off when not in use and use light switch reminders to remind staff to turn off the same.		X		
2. Use ENERGY STAR qualified refrigerators (those over 10 years old should be replaced).		X		
How many energy efficient minibars do you have?				
How many ENERGY STAR rated refrigerators does your business use?				
3. Use weather stripping to seal air gaps around doors and windows.		X		
4. Use ENERGY STAR® office equipment and enable energy saving features.		X		
How many ENERGY STAR rated LCD monitors does your business use?				
How many ENERGY STAR rated copier/printer units does your business use?				
5. Apply window film to reduce heat.		X		

Description	Yes	No	N/A	Post
6. Shade sun-exposed windows and walls using awnings, sunscreens, trees or shrubbery.		X		
7. Shade HVAC condensers, especially roof-top units.		X		
8. Use occupancy sensors to control air conditioning and heat.		X		
9. Use and maintain economizers on A/C to increase air circulation.		X		
10. Use a 365 day programmable thermostat to control heating and air conditioning.		X		
11. Use task lighting instead of lighting the entire area.		X		
12. Properly set and maintain lighting control devices (current time and on/off schedule) such as time clocks, photocells and sensors and adjust for season.		X		
13. Clean lighting fixtures, diffusers and lamps twice a year so they are lighting as effectively as possible .		X		
14. Use lighting controls such as dual technology occupancy sensors, bypass/delay timers, photocells or time clocks.		X		
How many ice, vending, and snack machines have motion sensors and are placed in shaded areas?				
How many rooms have time clocks (for large banks of lights on circuit breaker that generally operate during off hours)?				
How many rooms have photo cells (usually for exterior lighting or areas with significant natural light)?				
How many rooms are on occupancy sensors (usually in infrequently occupied areas such as restrooms, private offices, locker rooms, conference spaces)?				
15. Reduce number of fixtures or lamps per fixture.		X		
16. Set refrigerator temperature to meet minimum health requirements (typically between 38F and 41F for refrigerators and between 10 F and 20F for freezers).		X		
17. Incandescent bulbs that are not replaced with compact fluorescents are replaced with LEDs.		X		

Water

Complete if you have landscaping. (6 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Water during early morning, pre-dawn hours.		X		
2. Adjust the irrigation schedule monthly during irrigation season, or as needed.		X		
3. Save water by programming the irrigation system to use shorter, repeated cycles of watering (3 start times of 3 minutes each instead of one start time of 10 minutes).		X		
4. Adjust sprinklers for proper coverage - optimize spacing, avoid runoff onto paved surfaces.		X		
Optional Measures				
1. Use drip irrigation.		X		

Description	Yes	No	N/A	Post
2. Use reclaimed water, graywater or rainwater for irrigation .		X		
3. Plant drought tolerant plants that will not need pruning at maturity.		X		
4. Install rain shut-off devices or moisture sensors that turn off the irrigation during rain.		X		
5. Apply mulch or compost in non-turf areas to improve the water holding capacity of the soil.		X		
6. Group plants with similar water requirements together (hydrozone) on the same irrigation line.		X		
7. Install a self-adjusting, weather-based irrigation controller that tailors watering schedules to local weather, plant types, etc. Qualifying controllers are listed at irrigation.org/SWAT/swat.aspx?id=298.		X		

Conserve water. (7 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Use only dry methods to clean outdoor hard surfaces and post instructions for staff. Call your water company for any exceptions to this rule.		X		
2. Post signs in restrooms and kitchen to encourage water conservation and report leaks.		X		
3. Install low-flow aerators in faucets and showerheads according to water district specifications. Your water district will check your aerators in the audit, and often provides them for free.		X		
How many employees do you have?				
How many faucets do you have with low flow aerators installed?				
What is the flow rate of the aerator (it only qualifies as a low flow aerator if the flow rate is below the federal standard of 2.2 gpm)?				
4. Assign a person to monitor water bills for sudden rises in use, and to track use over time. Call your water company should sudden rises occur.		X		
5. Check for leaks, including in toilets (tablets to detect tank leaks can be obtained from your water company).		X		
6. Install toilets with 1.6 gpf (gallon per flush) or less.		X		
What is the flush volume of your toilet?				
How many customers utilize your facility per day (use averages)?				
How many visitors utilize your facility per day (use averages)?				
How many female employees does your business employ (use averages per year)?				
How many male employees does your business employ (use averages per year)?				
Optional Measures				
1. Conduct annual training to educate staff about the benefits of efficient water use at the workplace.		X		
2. Schedule water company to make a presentation to staff to encourage conservation at home. (Some water companies offer training and take home conservation kits.)		X		
3. Provide additional urinals in mens restroom and reduce number of toilets (urinals use less water than toilets).		X		

Description	Yes	No	N/A	Post
4. Reduce indoor water pressure to no higher than 50 psi by installing pressure reducing valves.		X		
5. Replace water-cooled equipment, such as air conditioning units, with air-cooled.		X		
6. Go beyond the above 1.6 gpf toilets to 1.28 gpf HETs (high efficiency toilets). (Check both this measure and the one above.) Ask your water district about rebates for replacing older toilets >3.5 gpf.		X		

Pollution

ASSESS any potential pollutants. (1 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Assess chemicals used in your business by reviewing Material Safety Data Sheets (MSDS) and Prop.65 warnings on labels. Substitute with less toxic alternatives if available. Track the amounts of hazardous waste generated, and dispose of at local hazardous waste programs.		X		

Clean air (3 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Join the Air Districts Spare the Air program and notify employees and customers of Spare the Air days. Http://www.employerssparetheair.org		X		
2. Encourage commuter alternatives by informing employees, customers and others who visit your office about various transportation options (post bicycle route maps and transit schedules before driving directions).		X		
Optional Measures				
1. Hire locally.		X		
2. Buy renewable energy credits or green tags to offset the CO2 emissions from your offices use of electricity and natural gas (see www.green-e.org).		X		
3. Install renewable energy sources, such as solar panels or wind generators. Specify system size.		X		
4. Complete CO2 or eco-footprint calculator to determine greenhouse gas emissions.		X		
5. Convert company vehicles to low emission vehicles (electric, hybrid, natural gas or alternative fuels).		X		
6. Larger Employers: Offer electric vehicle recharge ports for visitors and employees electric vehicles.		X		
7. Offer telecommuting opportunities and/or flexible schedules so workers can avoid heavy traffic commutes.		X		
8. Enroll in a car share program.		X		
9. Offer a shuttle service to and from bus, train and/or light rail stops.		X		
10. Provide secure bicycle storage for staff and customers.		X		

Environmentally preferable purchasing (8 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Use no products with added antibacterial agents, such as triclosan. This includes products used for hand washing, dishwashing and cleaning.		X		
2. Use low toxic cleaning products such as those that are SF Approved (www.sfapproved.org), Green Seal certified (www.greenseal.org), or receive at least an 8.1 rating on the GoodGuide (www.goodguide.com), in non-aerosol containers.		X		
What is the area (square footage) of your facility? Please include the sq ft of the space you occupy only.				
3. Replace all aerosols with pump dispensers.		X		
4. Reduce chemicals (cleaners, pesticides, paints, etc.) used and stored, safely disposing of any unneeded products at the local Household Hazardous Waste Program.		X		
5. If contracting with a pest control operator, specify in contracts the use of Integrated Pest Management (including non-chemical pest prevention with no perimeter spraying), or choose a contractor that is certified in IPM, such as those listed at www.EcoWiseCertified.com.		X		
6. Eliminate or reduce pesticides by using good sanitation (keeping kitchen, desks and waste storage areas clean) and making physical changes to keep out pests (by caulking/sealing holes or using traps).		X		
Optional Measures				
1. Purchase EPEAT certified (www.EPEAT.net) computers, laptops and monitors.		X		
How many EPEAT LCDs does your business use?				
How many EPEAT CRTs does your business use?				
How many EPEAT CPUs does your business use?				
2. Purchase organically or locally grown foods and beverages for the office kitchen.		X		
3. Eliminate the routine use of all disinfectants and sanitizers, unless needed to comply with Environmental Health.		X		
4. Do business with other green vendors or services, such as recognized Bay Area Green Businesses (listings at www.greenbiz.ca.gov).		X		
5. Replace standard fluorescent lights with low or no mercury fluorescent lights. Provide make and model		X		

RECYCLE/REUSE potential pollutants. (3 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. Properly store and recycle Universal Wastes as required by law. Designate a storage area for spent Universal Wastes, posting a sign and notifying employees of this area. Ensure that these are recycled (and not put into the garbage). Universal Wastes are: Spent fluorescent light tubes & bulbs, Electronic equipment (computers, cell phones, pagers, etc.) and Batteries (RBRC recycles rechargeables for free! www.call2recycle.org).		X		

Optional Measures				
1. Obtain a battery recharger for the office. Use rechargeable (instead of disposable) batteries for flashlights, radios, remote controls, etc.			X	
2.When recycling electronic equipment, take to a certified "e-Steward" for responsible recycling (www.e-stewards.org).			X	
3. Recycle used ink jet cartridges.			X	
4. Store any potentially hazardous materials securely, control access and rotate stock to use oldest product first.			X	

Wastewater

Storm Water pollution prevention (7 measures required)

Description	Yes	No	N/A	Post
Required Measures				
1. If using water to clean parking or other outdoor areas, hire a BASMAA-certified mobile cleaner. Contractor must use equipment that collects wash water and disposes to sanitary sewer.		X		
2. Ensure that no wastewater enters a storm drain. Only rain down the storm drain.		X		
3. Do not wash cars, equipment, floor mats or other items where run-off water flows straight to the storm drain.		X		
4. Clean private catch basins annually (by October 15th), before the first rain and as needed thereafter.		X		
5. Keep dumpsters covered and impermeable to rainwater. If there are no covers on the dumpster, provide overhead coverage. Keep them from overflowing and keep dumpster/parking areas clean.		X		
6. Keep receiving, loading docks, dumpster, landscape, storage and parking areas free of litter, oil drips and debris.		X		
Optional Measures				
1. Label all storm water drains with No dumping, Drains to Bay message. You may choose to have a volunteer organization label storm drains on your behalf.		X		
2. Regularly check and maintain storm drain openings and basins. Keep litter, debris and soil away from storm drains.		X		
3. Mulch, use ground cover, or use a barrier to prevent exposed soil from washing landscaped areas into storm drain.		X		
4. Store deliveries and supplies under a roof.		X		
5. Clean outdoor surfaces by dry sweeping.				

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San Francisco Bay Area Green Business Program
Policy Guide

This document contains a compilation of policies for the San Francisco Bay Area Green Business Program (Green Business Program). The Green Business Program certifies businesses that voluntarily meet all program standards. The goal of the Green Business Program is to form a partnership among business, government, and the public to benefit the environment.

The Green Business Program was developed by the Bay Area Hazardous Waste Management Facility Allocation Committee (Committee) as a means to reduce pollution and hazardous waste generation and to promote resource conservation, solid waste minimization and recycling. The Committee is comprised of locally elected officials and senior staff from the nine-county Bay Area and is staffed by the Association of Bay Area Governments.

The Committee is advised by an appointed technical advisory subcommittee (TAC), comprised of the regional and county Green Business Program coordinators and representatives from regulatory and other local, regional, and state government agencies. The TAC meets regularly to ensure consistent implementation. As needed, the TAC forms subcommittees that may include industry, environmental, public interest and other stakeholders to assist with development of industry-specific materials, outreach and other issues.

The Green Business Program is scaled to work with small to medium, generally consumer-oriented businesses that typically don't have on-site environmental staff. The intent is to ensure that the standards and the technical assistance available from participating agencies and utilities will help businesses achieve meaningful results. Larger and/or more complex businesses may require more robust measures and specialized technical expertise to improve their operations than the Green Business Program typically provides.

Clauses one through eight present the basic policy guidance. From time to time guidance for specific circumstances may be developed and will be appended to this document.

1. Green Business and Green Government Pledges

On April 26, 1996, the Committee adopted the Green Business and Green Government Pledges. The Green Government Pledge represents the core operating principle of the Green Business Program. By taking the pledge, participating agencies demonstrate their commitment to environmental improvement and to a cooperative, coordinated system of interface with one another, the business community, and the public. Each participating jurisdiction should take the pledge, via city or county council resolution, before offering the program to businesses. The pledge should also be adopted by managers and regulators at all levels of city, county, and regional government.

2. PROGRAM STANDARDS

The Green Business Program is intended to establish more constructive relationships between businesses and public agencies in which agencies educate and provide technical assistance to help businesses improve environmental performance. Agencies are encouraged to partner to make the regulatory process more efficient and to foster better relations with businesses in order to bring businesses into full compliance and motivate them to go beyond compliance to achieve Green Business Program standards.

Certification is site specific. To be certified, a business must demonstrate that its practices and operations at a particular location meet Green Business Program Standards. The Green Business Program does not certify manufactured products, professional qualifications or quality of service. To the extent that product inputs and services offered are demonstrably environmentally preferable, these can be counted among the "green" measures being implemented by the business.

a. Pledge Businesses who volunteer to participate in the Green Business Program are required to post the green business pledge in a place that is visible to employees.

b. Compliance A business must demonstrate compliance with all applicable environmental requirements in order to be eligible for certification as a green business. In general, compliance at a business must be verified by each agency with jurisdiction over their particular operations. Agencies with such responsibility might include those regulating wastewater and stormwater discharges, air emissions, and hazardous materials. If a facility has been inspected by an agency within the past year, has no violations, and the agency does not feel the need to reinspect the business, no inspection visit by that agency will be necessary to complete certification. It is recommended, however, that at least one local environmental regulatory agency with jurisdiction verify compliance on-site when a business volunteers for the program.

In order to streamline the regulatory system and to expedite compliance checks, the county coordinators will maintain current listings of all the local, regional, state and federal agencies within their county that regulate businesses. County coordinators will request compliance verification from those agencies whenever a business applies for certification or recertification. Coordinators will provide businesses with available compliance information and agency contacts.

c. Resource Conservation/Pollution Prevention Standards (RC/P2 Standards) Businesses must be in compliance and meet the RC/P2 Standards to be certified. The RC/P2 Standards require that a business is going "beyond compliance" by voluntarily adopting measures to protect the environment through energy and water conservation, solid waste reduction and recycling, and pollution prevention. A complete description of Green Business Program General and RC/P2 Standards is contained in the General Standards Checklist. Modification of the General Standards Checklist may be made to develop industry-specific materials. All modifications must be consistent with the General Standards Checklist and other program documents.

d. Guidance Documents for Businesses, Including Checklists Industry-specific compliance and/or RC/P2 checklists may be developed for use in the Green Business Program. All checklists must be approved by the Committee for consistency with the General Standards Checklist and other program documents before use.

The General Standards and industry-specific checklists include dozens of recommended measures businesses may implement in order to meet the RC/P2 Standards. To ensure that they are up-to-date, the General Standards and/or industry-specific checklists may be revised at the regional level to reflect new regulations, programs, technologies, etc. Local implementing agencies may also modify approved checklists to reflect local regulations, ordinances, or priorities. The Regional Program Coordinator will ensure that all modifications are consistent with the General Standards and other program documents.

All new checklists and modified materials should be reviewed by at least two TAC members before submittal to the Committee for approval. TAC members should seek review from partner agencies to ensure checklists are consistent with their standards. Local agencies that have ordinances more stringent than regional (e.g. AQMD) or state requirements should honor all local requirements; however regionally produced materials will reflect regional or state requirements.

e. Verification of Standards Local implementing agencies should design their implementation strategies around the standards to ensure that participating businesses have the information and technical assistance needed to successfully pursue certification. While they may devise their own verification process, on-site verification that all RC/P2 standards have been met must be included in the process. Self-certification and peer review are not allowed. Businesses may receive credit for previously implemented RC/P2 measures. If completion of RC/P2 verification occurs one year or more after compliance verification, then compliance verification must be updated.

f. Re-certification - Certificate/Decal Renewal Green Business certification, certificate and decal are awarded to a certified business by a local Green Business Program. They are valid for the local inspection cycle of participating jurisdictions. Most Bay Area local agencies are on 3-year inspection cycles. Local agencies may choose to inspect businesses more frequently than every three years. The certification, certificate and decal may not be issued for a period longer than 3 years. Local agencies may require certified businesses to do a yearly self-audit for compliance and/or RC/P2 standards.

Businesses that wish to be re-certified as green businesses must demonstrate a commitment to continual environmental improvement. At a minimum, businesses must demonstrate that they are: in compliance with all environmental regulations; maintaining the measures implemented to meet the RC/P2 standards; and meeting any new RC/P2 requirements established during the preceding certification or re-certification period.

Compliance standards may be modified according to state regulations and local ordinances. RC/P2 Standards may be modified to encourage businesses to continually improve their environmental practices, or respond to environmentally sound changes in technology. The Committee will approve modifications of RC/P2 Standards after such modifications have received input from partner agencies and businesses.

g. Revocation - Certificate/Decal Removal Green Business certification will be revoked, the decal will be removed from the premises, and the business will be prohibited from using the Green Business Program logo for serious deviations from the Green Business Program standards. Serious deviations may include significant violations of environmental regulations or failure to maintain RC/P2 measures. Local Green Business Program implementing agencies will be responsible for adopting local revocation/decal removal policies.

Certified green businesses that relocate their premises will be required to reapply and demonstrate that operations in the new location meet all Green Business Program certification criteria. Green Businesses that change ownership will be required to reapply and demonstrate that operations under the new ownership meet all Green Business Program certification criteria.

3. CERTIFICATION

The green business certification process has been designed by the Committee and will be monitored by the Committee. Local implementing agencies will be responsible for completing the verification process necessary to certify and recognize businesses.

When a business is verified as having achieved environmental compliance **and** has met the RCP2 standards, the business will receive a printed Green Business Program certificate that identifies the business by name as a certified Green Business, a static cling window decal with the Program logo, and the right to use the Program logo in their brochures and other materials. Local implementing agencies may also publicize green businesses in Program promotional materials, events, and advertising.

Local agencies will determine who signs and issues the Green Business certificates and decals and will be responsible for providing records on Green Businesses to the Regional Program Coordinator to track and report information on the program and its success. Local agencies will also be responsible for hosting public recognition ceremonies should they wish to publicly recognize certified Green Businesses.

Certified Green Businesses will receive instructions for logo use along with their green business certificate/decal.

4. MARKETING

The Green Business Program will benefit from a regional marketing plan to optimize expenditure of resources so that participating agencies will obtain maximum benefit. The Regional Program Coordinator will assist in the development and implementation of a marketing plan targeted at localities where the program is being implemented. Local

implementing agencies are encouraged to use regionally produced materials (e.g. logo, document cover pages, display materials, etc.) to promote public recognition that the local programs are part of the broader regional program. The Regional Program Coordinator will develop and implement a regional marketing plan when directed by the Committee.

5. MATERIALS DEVELOPMENT

The Regional Green Business Coordinator will maintain an inventory of existing documents and provide a means for interested persons to obtain copies (paper and electronic copies). The Regional Program Coordinator will oversee the development of model materials for use by all participating local agencies. Local agencies are encouraged to tailor materials to meet the local needs of businesses and the public.

6. FUNDING

The long-term goal of the local and regional Green Business Program is fiscal self-sufficiency. The local and regional programs should prepare long-term budgets to assess needs and develop a long-term strategy. Towards this end, funding may be sought from partner agencies, government and foundation grants as well as other sponsors.

The Committee has indicated that for regular, ongoing Green Business Program operations preference should be given to funding from local implementing agencies, partners, and foundation and government grants. The regional and local Green Business Programs may consider under what circumstances corporate sponsorship may be sought for special projects and events. Issues to be addressed include avoiding conflict with compliance activities and maintaining Program integrity.

Grant applications for projects of regional scope will be sent out and regionally administered through the Regional Program Coordinator, except when the funding entity requires or prefers that an application be submitted by a local agency.

The Committee has agreed that charging businesses an application fee to join the program could inhibit their participation. However, as interest in the Green Business Program grows, the Committee recognizes that local implementing agencies may need to establish fees to help defray expenses. In setting such fees, local implementing agencies should endeavor to establish an inclusive structure that considers size of business, type of business, number of employees, revenues and/or other factors in order to avoid disadvantaging businesses with limited resources. To promote consistency, local implementing agencies are encouraged to consult with one another when developing fee schedules.

7. PROGRAM EVALUATION -MEASUREMENT AND DATABASE

Program evaluation is a much-needed element of a successful program. Local agencies are responsible for collecting at least the following data to supply the regional program:

GENERAL PROGRAM DATA

- number of inquiries about the program
- number of certified businesses in compliance
- number of certified green businesses
- length of time it takes a business to be certified as green
- number of certifications revoked

ENVIRONMENTAL QUALITY DATA

Data to be submitted by industry sector normalized for production. This data should be collected when a business volunteers for the program, and then periodically but no less frequently than every time the business' certificate/decal is renewed. Information to be collected might include:

- average energy use/year
- average water use/year
- average solid waste generation/year
- average hazardous waste (multi-media) generation/year
- pollution prevention-related measures, which will vary by industry

8. REGIONAL ADMINISTRATION

The following tasks have been identified to date that would benefit from regional coordination. Towards that end, the Regional Program Coordinator, with direction from the Committee, will be responsible for the following:

- convening the Committee and TAC
- facilitating review of program activities and materials to ensure consistency
- maintaining and distributing program materials
- developing a marketing plan for use by local programs and the region as a whole
- tracking indicators of success and writing appropriate reports
- writing grant proposals and administering grants
- other projects identified by the Committee

Appendices:

A. Guidelines for Certifying Entire Jurisdictions or Multi-building Business Campuses
B. Home Office Certification Guidelines
C. Statement on Large Construction Companies / General Contractors
D. Guidelines for Certification of Property Managers

Appendix A

Guidelines for Certifying Entire Jurisdictions or

Multi-building Business Campuses

Approved by the Hazardous Waste Management Facility Allocation Committee on May 30, 2003 as an addition to the Green Business Program Policy Guide.

Revised Appendix A approved– May 25, 2012

Background

Development of *Guidelines for Certifying Entire Jurisdictions or Multi-Building Business Campuses* was prompted by certification of the City of Palo Alto in 2002. Since no guidelines existed, the Santa Clara County coordinator consulted with other coordinators throughout the process.

More jurisdictions are seeking certification. Additionally, a multiple-building business campus has applied for certification. The Program coordinators agreed that it would be useful to have guidelines for all counties to use when certifying these types of entities. With the Program expanding beyond the Bay Area, this policy guidance may assist implementation in new locations and ensure Program integrity.

The *Guidelines* identify the types of multiple-facility operations local Programs may certify as one entity and provide a process. The *Guidelines* were approved by the Hazardous Waste Management Facility Allocation Committee on May 30, 2003.

Introduction

The Green Business Program was developed for businesses whose operations are located at a single address. When working with chain or franchise businesses that have multiple locations at different addresses, each location has been certified as a distinct entity. With the certification of the City of Palo Alto, the Marin County Civic Center, and Sonoma County Civic Center, some counties have now worked with multiple facilities within the same public agency. Santa Clara County is currently working with a business that has multiple buildings on the same campus. In these cases, it may be useful to consider certifying multiple – building operations as one entity rather than certifying them by building or operation. To ensure consistency, the Program coordinators reached agreement on the types of multiple – building operations local programs may work with at present, and developed the following guidelines for those situations.

TYPES OF FACILITIES

1 Government: Local programs may work to certify a city, county or special district should they seek certification jurisdiction-wide. (Note: This does not preclude certifying individual operations such as the fleet or print shop individually. Jurisdictions would not have to seek certification for all operations, but would have the option and

guidance should they want to do so.)

2 Business:

a) Local programs may work with multiple – buildings / operations of the same company on a single site or campus as one entity, if the business seeks certification for all the buildings/operations at the same time.

b) Local programs may work with the owner/property manager of a business campus with multiple tenants, if the owner/property manager seeks certification for its own office and all buildings in the campus. *(For additional guidance on Property Manager Certification see Appendix D)*

c) At present, BAGBP will not certify as one entity businesses that have multiple buildings/operations on different sites. This does not preclude certifying individual buildings/operations/sites, or working with such entities in the future provided that the program guidelines are reviewed and updated as needed and clear guidelines acceptable to all program partners have been developed.

GUIDELINES

Regarding any multiple facility operations, the primary question is whether every single building/operation in a jurisdiction or on a business campus needs to qualify individually as a green business. The goal is to ensure that program integrity and credibility are maintained, and partner entities' interests are satisfied.

Criteria for Certifying Multiple Building Operations

For multiple-building operations:

1. Applicant must have a designated staff person to interface with the County Green Business Coordinator.

2. Facilities must all be in full compliance with environmental regulations.

3. Where in-house fleet, print shop, landscaping and cafeteria operations exist, and where the impact of those operations is significant within the facility or jurisdiction, those operations, or any other operations that may be of concern to green business program partners or the broader community, must be fully Green Business Program qualified for the resource conservation and pollution prevention checklist sections most relevant to their operations, using the most appropriate checklist.

4. Applicant will work with the GBP coordinator to assess all facilities/operations to identify both issues and opportunities, and select the best way to meet the "beyond compliance" standards. This could be done in various ways:

a. Choose the Performance Option in which the jurisdiction / business campus shows the required percent reduction for water (15%), energy (15%) solid waste (50%), and/or pollution prevention (25%), using an agreed-upon baseline year; or

b. If working with a single business that occupies multiple buildings on a campus, demonstrate for each separate building/facility that they meet the resource conservation / pollution prevention requirements using either the Office/Retail Checklist or General Standards. Selection of checklist will be at the discretion of the local coordinator based on the complexity of the facility and the activities conducted therein. Adherence to citywide/campuswide contracts, practices, policies; standards for janitorial, buildings, lighting, landscape maintenance, recycling, environmentally preferable purchasing, etc. would need to be verified.

c. If working with an owner/property manager of a campus that has multiple tenants occupying all or part of multiple buildings, the business will use the Property Manager checklist. The owner/property manager must demonstrate that it's own office and all building operations for which it is responsible, whether handled by its own staff or by service contractors – such as, lighting, landscaping, pest management, parking lot maintenance and janitorial services – meet BAGBP standards. In addition, the owner/property manager must demonstrate that at certification, at least 30% of tenant-occupied buildings meet Green Business Program lighting and restroom fixture requirements (i.e. toilets, aerators), with increase to 60% by first re-certification in three years .

5. The GBP is looking for real, good faith effort in the certification process. We want to be flexible, understanding that perfection may not be achievable. However, the public expects and deserves to see full adherence, to the degree possible, to the tenets of the program: full environmental compliance and meeting all of the program standards for resource conservation/pollution prevention.

6. If any issues arise for which there is insufficient guidance or lack of clarity, the county coordinator will refer them to the Green Business Coordinators technical advisory committee for resolution.

Appendix B

Home Office Certification Guidelines

Approved by the Hazardous Waste Management Facility Allocation Committee On May 30, 2003 as an addition to the Green Business Program Policy Guide.

A few home office operations have been certified as green businesses. Home offices are held to the same standards as any other business. However, due to their residential rather than commercial/retail/industrial premises, coordinators and businesses may have somewhat different opportunities to meet the standards.

The Green Business Program coordinators determined that it would be useful to have a consistent framework all coordinators can use when certifying home office operations. The following guidelines identify the areas of a home-based business to consider when assessing energy, water, waste management and pollution prevention opportunities.

Guidelines for Certifying Home – Based Businesses

When considering a home office or other home-based operation for certification as a Green Business, use the following guidelines.

Consider/visit the parts of the house that would have a parallel at an office, or that function as part of the home business. Without intruding on the owner's privacy, consider other areas that the business owner may ask be included in the site visit. Areas to be consider include:

- Office / workshop and other room(s) where work is mostly done
- Rooms where clients are seen / meetings are held
- Storage area(s)
- Kitchen
- Restroom nearest the office/work area
- Garage or driveway where business vehicle (s) parked/stored
- Any other parts of the house the home business owner is interested in showing (generally, applicants have volunteered to show most parts of the home except bedrooms)
- Landscaping

Appendix C

Statement on Large Construction Companies / General Contractors

The question of whether to certify the office operations only, or the office plus field operations of large construction companies and general contractors was discussed at the Bay Area Green Business Coordinators meeting on August 29, 2007. The local, regional, state and Region 9 coordinators present agreed to the following statement, which was approved by the Hazardous Waste Management Facility Allocation Committee on October 19, 2007 as an addition to the Green Business Program Policy Guide.

The Green Business Program was designed to serve small to medium-sized consumer-oriented businesses that typically do not have staff with environmental expertise and/or for which there are no other certification or recognition programs. The Program looks at the operations within the businesses' premises and, where appropriate, at field operations.

The Green Business Program has developed industry – specific checklists for a number of industries, including remodelers who work on small local projects. To be recognized as a Green Business the remodeler must hold a green building credential, and meet all program requirements at the office and in the field.

Our standards and checklists are not suitable for larger operations that have multiple large sites operating at any given time, have multiple complex ongoing regulatory requirements, may have multiple subcontractors, and may have operations that generally would require Green Business Program coordinators and partners to have specialized expertise in order to evaluate them properly and offer sound advice. We do not believe it is appropriate to separate the office/headquarters side of the business from the field operations and believe it is unlikely the consumer would make that distinction.

Major construction companies may seek certification or accreditation from LEED. They may also seek recognition from entities such as StopWaste.Org in Alameda County, a California Integrated Waste Management Board WRAP award, a US EPA Region 9 Pollution Prevention award, Energy Star designation, or a Governor's Environmental and Economic Leadership award.

Appendix D

Guidelines for Certification of Property Managers

Approved for Addition to the Green Business Program Policy Guide May 25, 2012

We will certify property managers using the following approaches. Local GBPs may opt to use one only, or multiple approaches as appropriate for specific circumstances. There will be a single checklist/application for this sector.

1. We will certify a manager at a specific building where we are certifying "<Property Manager> at <address> or <name of site>".
2. We will certify a/the local branch of a property management firm by requiring both their local management office *and* one of their properties in the same county (which may be co-located or not) meet all of our standards. In this case, we would be certifying "Coldwell Banker" and "Coldwell Banker at 101 California Street". Although the company may apply all of our standards to other buildings, we will not be adding additional buildings to the database.
3. We will certify a property management company/property owner for a specific campus that includes multiple buildings if: janitorial, landscape and similar contracts and environmentally preferable purchasing policies that affect the whole campus meet BAGBP standards; lighting and toilets meet BAGBP standards in at least 30% of the buildings on the campus at initial certification with requirement that 60% meet standards by recertification.

Standards:

a. The required and optional measures will be measures that the property manager (not the tenant) has control over.
b. The property management company will be **required** to have a written environmental policy statement (EPS) that covers best management practices for *all* of their buildings, including green cleaning products, HVAC maintenance, landscape management, structural pest management using IPM, parking lot maintenance, recycling infrastructure, green building/remodeling.
c. The property management company will be **encouraged** to demonstrate that at least one staff member has a relevant green building credential: e.g.
    - LEED AP BD & C; ID & C and/or Homes - www.leedbuilding.org);
    - Certified Sustainable Building Advisor (www.BayAreaSBA.org);
    - AEE Certified Energy Manager (www.aeecenter.org);
    - Certified Green Building; Energy Upgrade California Multifamily Green Property Management Training, http://www.multifamilygreen.org/training

Resources:
Oregon Lawyers for a Sustainable Future http://earthleaders.org/olsf
BOMA GREEN http://www.boma.org/Resources/TheGREEN/Pages/default.aspx
LEED Resources for Commercial Real Estate
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1935

MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Danielle Hutchings Mieler, Earthquake and Hazards Program Coordinator

Subject: Bay Area Regional Disaster Resilience Action Plan Initiative

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1. Summary of Resilience Initiative

The goal of ABAG's Resilience Initiative is to develop a collaborative, sustainable process through which stakeholders in the Bay Area can plan for regional recovery and build resilience. The initiative seeks to identify sector-specific recovery issues that may require jurisdictional coordination and collaboration, understand the current capacity of the region to implement a coordinated recovery around these issues, identify actions needed to improve this capacity, and develop implementation strategies for these actions.

The Resilience Initiative convened workshops to examine the current capacity and needs for facilitating an effective recovery of major regional systems including housing, businesses, infrastructure, and essential goods and services (including supply chains and delivery systems).

A final workshop was held in conjunction with the General Assembly and focused on coordinated regional governance for long-term recovery and identify ways to increase shared understanding, opportunities for coordination, and tools for communication that will lead to regional strategies before the event that may improve the post-disaster recovery process.

2. Initiative Outcomes

The outcome of this initiative is a series of papers which assess the Bay Area's regional recovery capacity, including:

- Issue papers identifying recovery issues for the region on governance, housing, infrastructure, and economy and business.
- An action plan prioritizing actions that can be taken by the region and local governments to improve our regional recovery capacity around the four topic areas above.

3. Major Findings and Next Steps

Building upon the Action Plan, the next step is to develop an Implementation Plan prioritizing key actions for ABAG, using stakeholder input. While ABAG staff and leadership have noted certain topics for prioritization, a stakeholder-driven process should take place to build consensus on next steps. Some potential priority areas include:

a. Use existing intergovernmental committees to convene jurisdictions and facilitate

communication around disaster recovery collaboration.

b. Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes, and increase the number of retrofitted single-family homes by providing financial incentives for homeowners to retrofit
c. Establish a regional baseline assessment of infrastructure systems to identify vulnerabilities and conduct a regional assessment of system interdependencies and the consequences of cascading failures.
d. Develop findings and an ordinance package on recovery for local jurisdictions to implement.
e. Identify a framework for siting of temporary housing after a disaster that facilitates permanent housing recovery.
f. Develop a regional framework utilizing FEMA post-disaster housing subsidies to build permanent housing that aligns with the PDA framework.
g. Create an information gathering system and clearinghouse at the regional level to collect damage information from local governments and special districts, consolidated, and utilized to help develop a regional recovery plan.

Attachments

(1) Bay Area Regional Disaster Resilience Initiative Policy Papers and Action Plan

Regional Resilience Initiative
Policy Agenda for Recovery

February 21, 2013

Paper 1: Executive Summary and Methodology

Paper 2: Background and Context

Paper 3: Governance Policy Paper

Paper 4: Housing Policy Paper

Paper 5: Infrastructure Policy Paper

Paper 6: Economy and Business Policy Paper

Paper 7: Action Plan

earthquake and hazards program
Association of Bay Area Governments

Credits

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A special thanks to all participants in our workshop series, who provided the basis for our Policy Papers.

Thanks also to our interviewees, who provided detailed input essential to the development of these papers:

Doug Ahlers, Harvard Kennedy School

Renee Domingo, City of Oakland

Rich Eisner, Governor's Office of Emergency Service (retired)

Peter Ohtaki, California Resiliency Alliance

Julie Pierce, City of Clayton

Sue Piper, City of Oakland

Chris Poland, Degenkolb Engineers

Laurel Prevetti, City of San Jose

Bruce Riordan, Joint Policy Committee

Julie Sinai, University of California, Berkeley

Tom Tobin, Earthquake Engineering Research Institute

Will Travis, Joint Policy Committee

This project was funded by the Bay Area Urban Area Security Initiative (UASI)

Regional Resilience Initiative
Executive Summary and Methodology

Resilience Initiative Overview

This document and the six papers that follow represent the culmination of the 18-month Regional Resilience Initiative undertaken by the Association of Bay Area Governments (ABAG). The goal of ABAG's Resilience Initiative has been to develop a sustainable process through which stakeholders in the Bay Area can progressively build resilience through collaborative planning for long-term disaster recovery. Through the Initiative, we have identified sector-specific recovery issues that may require jurisdictional coordination and collaboration, sought to understand the current capacity of the region to implement a coordinated recovery around these issues, and identified recommended actions needed to improve this capacity. Our focus has largely been on planning for long-term recovery.

Disaster recovery, as we have seen in past disasters, can span decades. But anticipating post-disaster issues and acting now to support post-disaster recovery is essential. Communities can work in concert with mitigation and disaster response initiatives to create a more sustainable and resilient region—one that has the ability to prepare and plan for adverse events, absorb and recover from their impacts and successfully adapt in the face of change.[1]

Building disaster resilience is an on-going, dynamic process where we seek to continually improve our capacity to respond to and recover from natural disasters, recognizing that disaster resilient regions must also be socially, economically, and environmentally resilient and that resilient regions are composed of resilient individuals, organizations, and communities.

To facilitate an effective and coordinated regional recovery from disasters, local governments, special districts, and regional, state and the federal government must come together in collaboration with key actors, such as businesses, nonprofit institutions, community leaders, and infrastructure agencies to determine responsibilities and decision-making structures.

While regional governance structures for coordination are well-established for disaster response, regional governance for long-term recovery is needed for large-scale disasters because:

- A common vision for regional recovery will instill investment confidence in residents, businesses and the larger global community that the Bay Area will recover;
- Damage to regional infrastructure systems will require coordinated and prioritized decision-making about restoration and reconstruction;
- Many cities will simultaneously face similar decisions about rebuilding housing, restoring business and financing restoration; crafting consistent, effective practices and leveraging mutual resources could facilitate a more uniform recovery across the region; and,

[1] Adapted from *Disaster Resilience: A National Imperative*. National Academies of Engineering, 2012.

DRAFT

- A coordinated regional recovery will further existing goals for a more sustainable, equitable and prosperous region.

A major Bay Area earthquake will leave lasting impacts on our region, altering our built environment, economy, and many other characteristics that make the Bay Area unique. How will Bay Area leaders work together to plan for and address the impacts? Who are the major players in this work? How will cities and counties come together with business, nonprofit and community partners to rebuild our region and restore our economy? What is the message and image we will send to the outside world after an earthquake? Will it be one of competition for limited resources or will we work together in the interest of the entire region and collectively advocate for our common needs? How will priorities be set? Stakeholders indicate that a financing strategy to address rebuilding of the Bay Area's economy, infrastructure and housing is a regional necessity. In addition, advocacy for state and federal funding, along with needed legislative and regulatory could be successfully crafted through an inclusive process. How we come together as a region to grapple with these questions and build regional resilience is the focus of these papers.

The papers are organized around the four Policy topics that emerged from our process: Governance, Housing, Infrastructure, and Economy and Business.

Governance

Recommendations from ABAG's Regional Resilience interview process confirm both the research and workshop findings that regional coordination and decision-making can speed disaster recovery and improve resilience if accomplished prior to the event. There is region-wide agreement that crises are the worst time to come together to craft public policy. Though many small and large cities make up the region, we are one economy, with shared physical and social systems. Environmental issues and regulations cut across jurisdictions and require coordination among levels of government and agencies well before these systems are disrupted. More than half of the Bay Area residents cross county lines to commute to work, making housing workers a regional concern.[2] Many assets are regional, including our transportation, power, sewer, water and communications systems.

The overarching goal of the Governance paper is to achieve forums for **regional communication and collaboration**. Our recommendation is to accomplish this through three goals – **create a regional resilience policy forum**, **develop regional resilience leaders**, and **use information and data analytics for disaster resilience**.

No regional coordinating body or disaster recovery framework is currently in operation to facilitate sharing and decision-making in the aftermath of a major disaster, although FEMA's National Disaster Recovery Framework and CalEMA's Regional Emergency Coordination Plans may provide guidance on such a framework. Jurisdictions independently work their way through the FEMA regulatory system and make recovery decisions on their own, based on their current situation. The urgency for quick action and competing demands for time may inhibit decision-makers' awareness of and access to information about other actions occurring around the Bay Area, or where their rebuilding decisions fit within the regional agenda. This can lead to fragmented recovery efforts and competition for federal funds. This is particularly an issue with the restoration and recovery of regional assets,

[2] *The Bay Area Regional Economic Assessment*. A Bay Area Council Economic Institute Report, October 2012.

such as infrastructure systems. A forum to help coordinate and guide jurisdictions within the region could not only speed restoration of regional services but expedite jurisdictional recovery as well and ensure that the recovery process fits with larger regional goals for residents and businesses.

Helping staff and officials understand what may be asked of them before the disaster hits can help ensure that those involved have adequate powers and tools and are prepared for what they may be expected to contribute in the post-disaster recovery phase. Identifying champions or new types of professionals who deeply understand recovery needs and have the ability to move between departments and influence officials can also greatly assist recovery if they are given appropriate roles and forums to use their skills.

In addition, jurisdictions need many different types of information after a disaster. For example local officials must have essential damage assessment information for utilities, government, and private sector organizations to assist with decisions about outages, damaged infrastructure, transportation disruptions, red-tagged buildings, and related debris and transportation issues. The same damage impact information can support decisions about long-term sheltering, temporary housing, and expedited disaster assistance. Information needs may range from information on individual buildings to a general picture of damage in other parts of the region.

Housing

One of the most seismically active regions in the country, California has developed strong building codes that will largely prevent loss of life in a major earthquake. These codes were developed over many decades and have been continually improved as earthquakes have demonstrated the need for new techniques and stricter codes. Still, these codes do not guarantee that even a new building will be inhabitable or restorable after earthquakes, and many older buildings built before modern codes have not been upgraded and may need to be demolished due to extreme earthquake damage. The challenge for policy makers in the recovery framework is to maintain affordable housing while also improving the seismic resilience of existing housing so that quality affordable housing can survive an earthquake or other disaster.

The first goal of the Housing paper is to **facilitate rapid housing recovery that fulfills regional goals of enhanced quality of life**. Some disaster projections forecast the loss of more than 150,000 housing units across the region. One possibility is to focus replacement housing construction within Priority Development Areas (PDAs), locally-nominated and regionally-supported infill development opportunity areas within existing communities.[3] PDAs are generally areas where there is local commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. These qualities that make neighborhoods an enjoyable place to live also promote more resilient communities and supporting these services after an earthquake will be key to ensuring that residents can remain in their homes.

The second goal is to **promote housing mitigation to reduce housing loss and expedite recovery**. Seismically vulnerable multi-family buildings pose particular challenges for local governments. These buildings are not easy to identify and retrofits are expensive, but the benefits of retrofitting are significant. Rebuilding multi-family housing post-earthquake is generally very slow, taking several years longer than for single-family homes and

[3] Association of Bay Area Governments, FOCUS Program.
http://www.bayareavision.org/initiatives/prioritydevelopmentareas.html

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affordable units are often rebuilt above market rate, resulting in loss of affordable housing options. In some cities soft-story buildings are clustered together, creating potential for widespread loss of housing in concentrated areas.

Older single-family homes will likely account for 9% of overall housing losses after each major earthquake.[4] Single-family homes are generally relatively easy and affordable to retrofit. However, owners who embark on retrofit projects often quickly become perplexed by the lack of retrofit standards for some types of homes and the inconsistent array of retrofitting techniques proposed by contractors. Owners are further discouraged by the lack of incentive programs enjoyed by residents for energy retrofits. An estimated 2/3 of single-family retrofits are done improperly,[5] a waste of homeowners' money that provides inadequate seismic benefits and creates a false sense of security. Quality retrofits benefit not only homeowners and their families, but entire communities when they can get back on their feet faster after earthquakes.

Infrastructure

In the wake of a major disaster, the recovery of our major infrastructure systems will play a large role in our ability to recover quickly and effectively. Many recovery activities are highly dependent upon these systems. For example, the movement of goods - including supplies for rebuilding and daily goods and food for resuming daily lives - depends on a workable transportation system. People will not be able to stay in their homes if water and wastewater services are not available, and businesses will not be able to reopen. Repairing failed infrastructure systems and restoring their services are vital to the recovery of the Bay Area after a disaster, and failure to do so quickly and efficiently will result in widespread and long ranging, potentially devastating impacts.

The first goal of the infrastructure paper is to **increase technical understanding of region-wide system vulnerabilities.** Currently, few understand how systems are interdependent. What knowledge that is available is largely based on speculation, not on rigorous analysis. The region needs peer-reviewed technical studies to better understand system vulnerabilities and what consequences may result from cascading failures.

The second goal is **to increase ways to share risk information to collectively increase regional system resilience**. To better understand interdependencies, we must improve risk information sharing among service providers and regional stakeholders before a disaster occurs. We also have to participate in collaborative planning and accelerate mitigation. This sharing and collaboration is vital to an effective recovery. Communication and information sharing also allows for informed prioritization of infrastructure recovery. Understanding upstream and downstream interdependencies for repairs, as well as which systems key community resources rely upon, can be used to develop an appropriate timeline for streamlined recovery. Understanding priorities and system interdependencies allows providers to identify primary repairs to minimize interdependency and restore certain portions of systems quickly.

[4] *Preventing the Nightmare* (update), Association of Bay Area Governments, 2003.
[5] *Preventing the Nightmare: Technical Appendix B*, Association of Bay Area Governments, 1999 and *False Sense of Security*, Contra Costa Times, 2006.

Economy and Business

The impact of an earthquake on the economy has one of the farthest-ranging implications for disaster recovery in the Bay Area. Without a swift and strong economic recovery, the Bay Area will suffer from a protracted recovery with slow repopulation in heavily damaged areas, slow rebuilding of homes and businesses, loss of revenue from business, tourism, and taxes, and the potential relocation of major industries. Estimates are that a repeat of the 1906 earthquake would generate $120 billion in direct economic building related losses.[6] We have seen repeatedly in disasters that areas with the fastest economic recovery are those which already have strong economies and cultivate conditions to help businesses thrive before a disaster.

The Economy and Business paper has three goals: **retain big business**, **keep small and neighborhood serving businesses open**, and **minimize supply chain disruption and keep goods moving**. The Bay Area regulatory environment, including zoning, permitting and environmental regulations may also inhibit businesses after a disaster, making it too difficult to stay or reopen. Businesses have identified a lack of consistency between regulatory agencies' policies at the local, regional and state level and commented that this situation limited their ability to expand within the region under normal business conditions.[7] The challenges of post-disaster recovery will elicit calls for regulatory relief. With large volumes of rebuilding happening simultaneously, the capacity of regulatory agencies could potentially slow down the process.

Small and locally serving businesses remain an important component of a strong region and are especially vulnerable to closure after a disaster. An estimated 25% of small businesses do not re-open following severe disruptions from a major disaster.[8] One reason why small businesses are so likely to fail is that they tend to operate with small profit margins and limited reserve funds, which means that even a short period without cash flow may have a significant impact on business. Small businesses also may not be eligible for SBA loans, which require businesses to demonstrate that loans can be repaid—a challenge when disasters disrupt business operations.

Other potential barriers to economic recovery include the disruption of vendors and supply chains to and from the region and the repercussions for national and international markets. Business disruption has upstream and downstream impacts on supply chains that can exacerbate impacts on the economy. For example, disruption of a manufacturing business may limit global supply of a particular product, disrupting the economy far beyond the impacted area. While the Bay Area's share of the manufacturing industry is not particularly concentrated, what is manufactured here is highly specialized and focused on sophisticated equipment design and development. Disruption of this specialized manufacturing could have global economic impacts.

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[6] Kircher, Charles, et al, 2006. *When the Big One Strikes Again—Estimated Losses due to a Repeat of the 1906 San Francisco Earthquake*. Earthquake Spectra, Volume 22, No. S2, pages S297–S339. Note: similar losses are expected for a Hayward fault scenario earthquake.

[7] *The Bay Area Regional Economic Assessment*. A Bay Area Council Economic Institute Report, October 2012.

[8] California Seismic Safety Commission, March 2012. Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting

Papers Structure and Format

This suite of papers seeks to provide a high-level analysis of the major goals for increasing resilience through a regional forum along with recommended actions for reaching these goals. The papers are structured into three general categories:

Theory—*Resilience Background and Context*

This paper provides the overall background and theory behind planning for resilience. It places disaster resilience planning in context with other types of resilience and sustainability efforts, particularly ongoing climate change planning and national resilience efforts. This paper also touches upon current state of disaster planning in the Bay Area and identifies major hazards of concern for the Bay Area.

Assessment—*Regional Governance, Infrastructure, Housing, and Economy and Business Policy Papers*

This suite of four papers examines the major issues of governance, infrastructure, housing, and economy and business. The four papers follow a similar format presenting significant goals for regional disaster recovery planning, and identifies regional actions that can be taken to address these issues. The regional decision-making paper serves as the foundation for the three other topic papers, as the goals and actions outlined there set the context for more easily implementing sector-specific recommended actions.

Action—*Action Plan*

The action plan summarizes and prioritizes the actions identified in each of the four issue papers. The actions are analyzed for feasibility and include discussion of how to implement our recommended regional policy platform.

Methodology

The Resilience Initiative was convened over an 18-month period. Stakeholder workshops were held throughout the process to solicit input on the major topic areas of housing, economy and business, including goods and services, and infrastructure. A final policy forum was held in October 2012 in conjunction with ABAG's Fall General Assembly, which focused on coordinated regional governance for long-term recovery and identified ways to increase shared understanding, opportunities for coordination, and tools for communication that will lead to regional strategies before the event that may improve the post-disaster recovery process.

In addition, the team conducted interviews in the summer of 2012 with key resilience stakeholders, thought leaders and elected officials closely involved with exploring new public approaches on resilience. A complete list of our interviewees can be found on the credits page in the beginning of the suite of papers.

The work was also periodically reviewed by ABAG's Regional Planning Committee and will be formally adopted by ABAG's Executive Board in 2013.

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Regional Resilience Initiative
Background and Context

Introduction

The research conducted through the Regional Resilience Initiative at ABAG may offer larger lessons for other communities facing similar regional resilience issues, but is grounded in the unique context of the Bay Area and the factors that characterize our region and our vulnerabilities. The research perspective is also based in the Earthquake and Hazards Program's grounding in resilience and recovery theories, definitions, and tools, which gives these papers their unique voice. This paper provides the background ideas in which the rest of the work is based, as well as paints the picture of our regional context. Each of the subsequent papers comes from the point of view expressed in this paper.

The definitions and theory presented here may also help the region establish a baseline understanding of what we mean when we talk about resilience, hopefully engaging a wider variety of stakeholders. While it is not necessary to be fully engaged with all the concepts laid out here to implement actions towards increased resiliency, this paper may provide the narrative that some need to further explore the topic of disaster resilience.

The first part of this paper explains our definition of "resilience" and relates it to sustainability and disasters. With many definitions of resilience in use, we felt it was useful to define within this paper what constitutes resilience and a resilient region. The paper then describes the importance of planning to recover, as well as some of the tools that can be leveraged to address recovery and resilience. We then address where recovery fits in within the context of the umbrella of resilience, which also includes mitigation and response.

The second part of the paper describes our unique conditions within the Bay Area, including our assets and vulnerabilities. Understanding general trends and characteristics of the Bay Area, as well as a sense of the threats we face, allows stakeholders to better predict the types of issues we will face after a major disaster. The Bay Area enjoys a high quality of life with many natural and man-made resources and assets. By understanding what makes our region unique, we can plan to preserve and enhance our quality of life, despite major disruptions.

The following papers in this suite, with their high-level goals and specific recommended actions, all emerged from the foundation laid out by this paper, which guided our process and set the context for the Resilience Initiative work.

Defining Disaster Resilience

Resilience itself is not a new concept. Cities and counties have been and are currently pursuing various strategies to become more resilient, but may use a wide range of language to define, understand and communicate what they are doing.

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Resilience may combine aspects of environmental sustainability, economic strength, risk management, emergency preparedness, and strong social communities; however a major aspect of defining resilience as a region is coming to a common understanding about what a desired resilient state looks like. It is ultimately not important that every county, jurisdiction, and special district in the Bay Area use the same definition of resilience, but it is helpful to have an overarching common concept to use to begin to create a usable and common language within the region.

Below we have provided some widely accepted definitions of many of the elements we feel contribute to resilience to help create a platform for regional understanding.

Sustainability

Sustainability and resilience are tightly integrated concepts – a sustainable region is inherently more resilient, and a resilient region is inherently more sustainable. Sustainability is commonly defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." [1] California's State Hazard Mitigation Plan further defines sustainability using a vision by the National Commission on the Environment, which states that sustainability is "a strategy for improving the quality of life while preserving the environmental potential of the future," of "living off interest rather than consuming natural capital."[2] Sustainability largely refers to the way that a society uses resources and the implications of those actions on various systems, scales, and timeframes.

The term sustainability is often used to speak about environmental issues, but can be expanded to also include social and economic sustainability. This basic pyramid of environmental, social, and economic sustainability is often referred to as the "triple bottom line." This thought can be further expanded to include any valuable resource that a community relies upon for its quality of life, including physical, historical, and cultural resources. This multiple-resource approach to sustainability is particularly beneficial to use in the context of resilience, as resilience addresses not just protecting the built environment or physical world but maintaining and enhancing economies, social systems, and any number of other resources as well.

Resilience and sustainability have a symbiotic relationship. Increasing the sustainability of a community can increase resilience to disasters. For example, resilience to disasters cannot be maximized if environmental sustainability is not valued – in many instances, the degradation of the environment in fact can contribute to disaster vulnerability, such as the loss of wetlands increasing vulnerability to hurricanes or sea level rise. In addition, disasters that destroy or dramatically alter resources render communities unsustainable, since they impact the long-term ability of the community to access and use resources. Increasing resilience to disasters thus inherently increases the sustainability of a community, as it helps maintain access to resources, now and in the future.

Resilience

There are many specific definitions of resilience in academic literature, but we have found that all definitions share common characteristics. The National Academies defines resilience as "the ability to prepare and plan for,

[1] *Our Common Future, Bruntland Commission, 1987*
[2] *State Hazard Mitigation Plan, p. 102*

absorb, and recover from or more successfully adapt to actual or potential adverse events."[3] California's State Hazard Mitigation plan similarly defines resilience as "the ability of a system to absorb shock and maintain its structure and functions with a minimum loss… (and) resume pre-event functionality in a relatively short time."[4] From these definitions, we can gather that the inherent attributes of resilience are that it is a function, not an end state (it is an ability); it helps to minimize negative impacts of large events; and it facilitates the quick resumption of an operable state to a system, which may be similar to the previous state or superior to the previous state.

The San Francisco Planning and Urban Research Association's (SPUR) Resilient City initiative defines "seismic resilience" specifically around the concept of resilience to a major earthquake. The organization's definition is the "ability of a city to remain safe and usable after a major earthquake. A resilient city is able to contain the effects of earthquakes when they occur, carry out recovery activities in ways that minimize social disruption, and rebuild following earthquakes in ways that mitigate the effects of future earthquakes." [5]

While the exact definition of resilience may vary in its specifics in terms of describing its focus and scope, the Community and Regional Resilience Institute (CARRI) gives us a language of five core concepts to anchor every definition:

- Resilience is an **attribute** of the community, system, region, etc
- Resilience is **continuing**, an inherent and dynamic aspect of the system
- Resilience involves elements of **adaptation** and can easily adapt to new variables
- Resilience puts systems on a positive **trajectory** relative to its pre-disaster state
- Resilience is **comparable** and **relative** – it is possible to compare systems' ability to be resilient[6]

It is helpful to examine a few other factors that we feel contribute to a state of resilience or that help to explain how resilience is defined. First is the concept of scale – the state of being resilient is greatly enhanced when it exists at multiple scales, ranging from the individual, neighborhood, community, city, county, and region to the state and federal levels. For our purposes we also wish to emphasize adaptability and the ability to recognize opportunities for growth and improvement as a key element of resilience – the ability to see a disruption as a chance for transformation – to "build back better."[7] Lastly, as discussed above, it is important to see resilience and sustainability as highly interconnected.

Resilience can also be viewed through the complete life cycle of a disaster. Resilience begins with mitigating a system to be able to withstand or adapt during a disaster, then continues as response begins immediately after a disaster. An effective and resilient response effort understands how actions undertaken during the response phase have implications for the long-term health and recovery of the system. Resilience continues throughout short-term and long-term recovery, and effectively shortens the period of time between the disaster and full

[3] *Disaster Resilience: A National Imperative (2012)*
[4] *California State Hazard Mitigation Plan (p. 102) http://hazardmitigation.calema.ca.gov/docs/2010_SHMP_Final.pdf*
[5] *Defining what San Francisco needs from its seismic mitigation policies, (2009). SPUR.*
[6] *Definitions of Resilience: An Analysis. (2009). Plodinec, M.J. Community and Regional Resilience Institute (CARRI)*
[7] *From State Hazard Mitigation Plan, page 102. http://hazardmitigation.calema.ca.gov/docs/2010_SHMP_Final.pdf*

recovery. Lastly, in a resilient society, the long-term recovery phase includes the integration of mitigation measures in rebuilding practices, effectively beginning the life cycle again.

Similar to the term "sustainability," the term "resilience" applies more to a "philosophical perspective than a scientific concept."[8] An understanding of the many definitions and attributes of resilience helps to form the baseline concept of regional resilience, despite variations that neighborhoods, communities, cities, counties, infrastructure providers, and businesses may define in terms of system boundaries and scale within their own definition of resilience.

Defining a Disaster

It is also helpful to understand what we mean when we speak of a "disaster." In general, the types of disasters we are considering for the context of our work are those that are due to natural hazards, have disruptive consequences on one or more built environment, social, or economic system (man-made system), and are large enough to cross jurisdictional boundaries or overwhelm the capacity of a single jurisdiction or entity to overcome, making them regional in nature.

Disasters and their consequences can take on many forms and characteristics. Disasters can be "fast," such as a sudden earthquake or tornado; "slow," such as long-term degradation due to sea level rise or changes in weather patterns; or "hybrid," when fast and slow disasters occur simultaneously and a sudden event is exacerbated or compounded by existing slow disasters.[9] The impact of the disaster can be low or high, and can range in geographic scale.[10] Impacts can also vary based on preexisting conditions – if a community has a strong economy and is on a general upward trajectory in terms of quality of life and well-being, an impact may be much less devastating than in a community dealing with disinvestment and lowering of quality of life.

It should be noted that natural hazards are not in themselves disasters. In *Disasters by Design*, a natural hazard – an extreme, low-probability phenomena – has the potential to cause a disaster when it strikes a human collective, but is not in and of itself a disaster. The disaster emerges at the point of intersection between the hazard and man-made systems, and only if the hazard causes negative impacts on the systems. This interrelationship is a complex one with many variables – for example, man-made systems often create a negative feedback system that increases the frequency or strength of a natural hazard, such as when paving over wetlands reduces its ability to attenuate hurricanes and major storms; additionally the consequences of a natural hazard become more severe as man-made systems become more complex. The trauma and consequences of a disaster are inherently defined, reshaped, and redirected by human actions and perception.[11]

It is also worth examining the difference between a disaster and a catastrophe. Webster's dictionary defines a catastrophe as a disastrous event that results in a *final end or conclusion*. This definition implies a disaster that is insurmountable and where recovery to a pre-disaster or equivalent state is not feasible. According to thinking by San Francisco author Rebecca Solnit, in her book *A Paradise Built in Hell: The Extraordinary Communities That Arise in Disaster*, communities can overcome disasters, but by definition they cannot overcome catastrophes. The defining element that differentiates a disaster from a catastrophe is resilience. The elements that allow a

[8] *Disasters by Design: A Reassessment of Natural Hazards in the United States (1999). Joseph Henry Press.*
[9] *Envirenew Resilience Part 1 Report: Creating Resilient Communities (2012)*
[10] *Ken Topping (2012)*
[11] *Disasters by Design: A Reassessment of Natural Hazards in the United States* (1999). Joseph Henry Press.

community or system to adapt and overcome a disaster prevent any one event from becoming catastrophic and insurmountable (Solnit, 2009).

Objectives of Planning for Recovery

Why plan to recover?

After a disaster, many people in positions of authority face immense pressure to quickly make decisions and ensure that recovery action is taking place. The public expects quick restoration of the life they had previously known, and this pressure can often lead to decisions that are uncoordinated, not fully considered, stopgap in nature, or do not align with a community's agreed-upon long-term goals. Communication among various levels of authority and different systems may be lacking. Outside interests or financial constraints may place additional pressure on decision-makers. Decisions may be made without public input or public consideration. Outdated rules and regulations may present unforeseen problems, with no public policy tools available for change. Many *ad-hoc* groups may arise and make decisions of their own without awareness of or regard for other groups. Outside experts with little or no knowledge of local issues may come in to contribute their opinion, without sufficient knowledge of the local social context and with little regard to follow-through and consequences. Many issues may arise in the recovery phase that can have repercussions in the community for decades.

While specific recovery actions cannot be known or implemented until after a disaster, when the full consequences are assessed and the immediate needs of the community are met, there are many actions that can be taken before a disaster that assist and expedite recovery, such as adopting a Long Term Recovery Plan, creating a Recovery Task Force, and adopting a Repair and Recovery Ordinance.

It is possible, however, to begin to understand, anticipate, and put planning tools in place before a disaster to minimize or eliminate many of these issues and conflicts. The region, as well as individual jurisdictions, has many tools at its disposal to "plan for recovery." Planning for recovery can result in an expedited recovery, due to coordinated communication, pre-approved recovery plans, and established planning systems and frameworks. Resilience/recovery planning in advance of a disaster may also result in a recovery phase that requires far less repair or restoration investment, because interjurisdictional efforts are not duplicated, money is spent in a coordinated manner, and pre-disaster mitigation has lessened damage. Anticipating where people will live and creating a post-disaster housing plan means fewer displaced residents, which can contribute to a more stable economy post-disaster. Planning with businesses on how to retain their services after a disaster can also stabilize the local economy, and minimize disruption to people's everyday lives. Planning for recovery can also identify and prioritize actions for vulnerable populations and anticipate their unique needs. Lastly, the process of planning for disaster recovery before a disaster happens can result in a shared vision for the future, as stakeholders and residents begin to understand how they want their region to grow and what it could look like if a disaster expedites change and renewal. This can also result in a more empowered and informed public.

What planning/policy/legislative tools are available to support disaster recovery planning?

There are many tools currently in use today that can be used by stakeholders to plan for recovery. In considering these tools, we must keep in mind that the post-disaster decision-making landscape will likely be significantly different than the current landscape and so the way these tools are used may change. In examining existing

tools it is also useful to consider which tools are not helpful or useful or may hinder recovery, and to begin to identify new tools that may be needed for long-term disaster recovery.

Planners largely have tools for managing land use, housing distribution, and the urban character in the recovery phase. Planners can play a large role in how quickly and effectively rebuilding happens, and what the vision is for the process and outcome of the rebuilding process. Some planning tools are below.

- General plans and specific plans: These will guide the vision of the city with or without a disaster, but must make it clear that in the event of a disaster, the vision will still be followed.
- Zoning tools such as overlay districts, nonconforming use regulations, special use permits, etc: Review existing zoning through the lens of recovery and rebuilding to identify potential conflicts or issues.
- Zoning for temporary housing and temporary commercial spaces: Temporary zoning has major implications for reconstruction and land use decisions. Understanding how this will work before a disaster will greatly aid recovery.
- Buyouts and financial incentives for where to build/not build, easements, etc.: Have a plan for where a buyout program might be a possibility and where funding might come from.
- Historic preservation/historic district ordinances, historic landmark designations, and associated state and federal tax credits.

Who conducts this work?

Traditionally, work around disasters has been largely conducted by emergency managers. Yet as the practice of recovery planning evolves, the work involves new and different stakeholders throughout the recovery process. In addition to emergency managers, elected officials, city managers, county administrators, city/county attorneys, planners, community development staff, economic development staff, finance staff, and many other players in day-to-day government operations will likely play a large role in the recovery process. Additionally, a new type of professional is emerging that engages in recovery planning as a large or whole percentage of their job. These professionals are largely still defining their role and developing support for their positions. The *National Disaster Recovery Framework* from FEMA identifies the role of a Recovery Manager and Recovery Coordinator at the local, state, and tribal levels along with a Federal Disaster Recovery Coordinator position within FEMA. These FEMA-designated roles can help inform what recovery professionals may look like.

As recovery planning evolves, these new professionals, as well as existing staff who will perform beyond their daily duties after a disaster, will need outlets for sharing information, learning new skills and knowledge, and making connections with other recovery professionals. The region needs a forum to gather these professionals performing many functions including hosting lectures, learning events, and networking events, publishing newsletters, conducting research, setting standards for newly-defined tasks and job roles, and helping to match professionals to jobs and needy cities to professionals. Schools may also begin to develop curriculum and new degrees, similar to the newly developed Graduate Programs in Sustainable Management at the Presidio Graduate School.

Mitigation and response planning to facilitate recovery

Appropriate and robust pre-disaster mitigation can mean the difference between a speedy, stabilized recovery process and a city that does not ever fully recover. Most disasters will cause the greatest amount of damage, by far, to the built environment. Damage to the built environment can cause injuries and deaths, displace residents from their homes and employees and employers from places of business, and disrupt the provision of basic services. Damages to infrastructure can impede the flow of people and goods and have spillover effects on multiple sectors. While not all damages can be anticipated and mitigated against, structurally mitigating homes and other buildings to withstand ground shaking can significantly lessen overall damage to the built environment, and mitigation to infrastructure can reduce loss of service.

Mitigating damages means a more intact built environment after a disaster, greater stability for residents and businesses, and far less money required for physical repairs. If people are able to stay in their homes because of minimal damage, they are less likely to leave the area and also do not require temporary housing. Minimizing physical damage to businesses allows them to begin functioning again more quickly and keeps the economy more stabilized. And while mitigation to buildings now may require an upfront investment, the money spent pre-disaster will likely prevent a much larger outlay of money that would be required post-disaster to make repairs or rebuild in a tightened and competitive construction market – one federally-sponsored study on mitigation efforts states that for every dollar invested in pre-event risk reduction, four dollars in response and recovery funds are saved.[12] Keeping the built environment more intact through mitigation also preserves the character of the urban area, maintains existing affordable housing, and minimizes the likelihood of a significant change in demographics after a disaster.

The way disaster response is conducted also has lasting impacts on long-term recovery. Traditionally, these two phases have been seen as separate. However, the connection between response and recovery should be made explicit, since they so heavily influence one another. Disaster response procedures set up structures, timelines, and precedents that can carry long into recovery. Where emergency housing is located impacts where rebuilding and new development goes. Structures for decision-making may be set up hastily and place important decisions in uninformed hands or leave out important stakeholders. Short-sighted and compartmentalized decisions made to expedite rebuilding may not be coordinated regionally or fit in with long-term goals. Hours-long delays in decision-making during the response phase can translate into months-long delays during the recovery process. Actions during response can easily set a community on a difficult or unintended recovery path unless there is clear-sighted, long-term thinking taking place during response and communicated widely and effectively.

Quick, confident, and coordinated actions that foresee the long-term future, however, can be very powerful in instilling confidence and faith in residents and business leaders. If the community trusts that recovery will be effective and beneficial, people will be more likely to stay in the region. Transmitting this message quickly is highly important – if people perceive incompetence, lack of coordination, delay, or contentiousness in decision-makers, they will quickly lose confidence in the recovery of their community and are far more likely to leave. The same is true for businesses – small and large alike.

[12] MMC/NIBS, 2006

Context

While the concepts of resilience and recovery planning may be largely universal and relatable to many different locations and conditions, the unique characteristics of the Bay Area allow us to tailor our understanding to the specific needs and vulnerabilities we face. The following briefly describes many of the major components of the Bay Area's assets and vulnerabilities – what we want to protect and preserve, what we can leverage for a successful recovery, and what types of threats we can anticipate that will disrupt our quality of life.

Bay Area Overview [13]

The focus of this study is the greater 12-county Bay Area, which combines the 9-county San Francisco Bay Area, consisting of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties, plus the counties of Santa Cruz, Monterey, and San Benito around Monterey Bay. The greater Bay Area is extremely diverse in every sense of the word - it is culturally rich, with a large diversity of ethnic groups; it is geographically diverse, with the bay, salt marshes, estuaries, wetlands, and hills and valleys, all shaped by major and minor faults; and its urban character ranges from downtown San Francisco with its high-density, highly urban form to the preserved farmland and rural areas to the North and South including the area around Monterey Bay. This diversity is what makes our region a unique, beautiful, and desirable place to live, but this is also what creates many unique challenges to building regional resilience.

Population

In 2010, the greater 12-county Bay Area had a population of 7.88 million people, with 7.15 million people located in the San Francisco Bay Area and 732,000 people in the Monterey Bay Area. The three most populous cities in the San Francisco Bay Area are San Jose (Population: 946,000), San Francisco (Population: 805,000) and Oakland (Population: 391,000). The three biggest cities in the Monterey Bay Area are Salinas (Population: 150,000) Santa Cruz City (Population: 60,000) and Watsonville (Population: 51,000). While the core area around the San Francisco Bay is densely populated and has a highly urbanized character especially in the big three cities (San Jose, San Francisco and Oakland), the area north of the San Francisco Bay and around Monterey Bay have a lower population density and a more rural character, dominated by open space and agricultural land. The greater 12 county Bay Area population is expected to grow by 1.98 million people or 25% in the next 25 years taking the overall population to 9.86 million by 2035. The majority of this growth will be focused in the core urban areas around the San Francisco Bay within the urban growth boundaries to protect open space and agricultural land.

[13] *Source for the following numbers are: ABAG (2012): Plan Bay Area, Jobs-Housing Connection Scenario (Draft) and AMBAG (2011): Envisioning the Monterey Bay Area, A Blueprint for Sustainable Growth and Smart Infrastructure, unless marked differently*

Jobs and Economy

The greater 12-county Bay Area was home to around 3.71 million jobs in 2010. A large majority of jobs (3.39 million) are located in the San Francisco Bay Area with the biggest employment centers in San Francisco (569,000 jobs), San Jose (375,000 jobs) and Oakland (190,000 jobs). The Monterey Bay Area had a total of 329,000 jobs. San Francisco has the highest proportion of jobs to population, making it an employment hub for the region. The biggest employment sectors in the San Francisco Bay Area in 2010 were Professional Services, Government, Leisure and Hospitality and Manufacturing and Wholesale. The biggest employment sectors for the Monterey Bay Area were Educational Services and Health Care and Social Assistance, Retail Trade, Agriculture and Fishing and Professional Services[14]. With the economy expected to grow in the next decades, the employment number for the 12 county Bay Area is expected to increase by 22% to 4.72 million jobs in 2035. A large proportion of those new jobs will be concentrated in the employment centers of San Jose, San Francisco and Oakland or in the development corridors that stretch along both sides of the San Francisco Bay. The employment growth will be driven by the Knowledge Based sector, which includes professional services, Information and finance, the Health and Education sectors and the Leisure and Hospitality sectors. Many major corporations are headquartered throughout the region. Silicon Valley and the broader South Bay is home to many leading IT and high-tech companies making it a world-class business location. There are four national laboratories, over 30 public and nearly 50 private colleges and universities, and over a dozen seminaries. Students, faculty, visiting lecturers, and researchers come to the Bay Area from around the world to take advantage of the rich resources these facilities provide, and they also contribute greatly to our economy by being major regional employers.

Regional Infrastructure

The regional transportation system in the greater Bay Area is divided between the San Francisco and Monterey areas with some linkages between. The highly urbanized core area around the San Francisco Bay is serviced by multiple transit options, such as BART, Amtrak, or the regional rail system operated by Caltrain as well as light rail and inter-county ferries. The areas outside the core area such as the North Bay, West Peninsula or the areas south of San Jose, are more dependent on bus services or the personal use of the automobile and the network of highways.

Much of this transportation system has been retrofitted over the 20+ years since the 1989 Loma Prieta earthquake. Weaknesses, however, still exist and according to a recent study by the San Francisco Planning and Urban Research Association (SPUR), the failure or significant damage to any of these regional transportation systems could temporarily paralyze San Francisco or a wider regional area. In addition to maintaining the currently existing infrastructure and its public transit network, expansion compatible with future population growth of the greater Bay Area is crucial. Developments in this direction are already being made with the planned expansion of BART to San Jose for example. In general, there is a regional priority to increase non-auto modes of transportation, including walking, biking, and public transportation. Besides various transit improvements the region has seen developments to improve 'bikeability' with the Bay Trail, which almost covers

[14] US Census 2010

the entire shoreline of the San Francisco Bay. This improvement not only meets regional goals of sustainable development, but also provides alternate transit routes post-disaster.

The region has three major airports – San Francisco, San Jose and Oakland International, as well as Monterey Regional and Sonoma County Airports. San Francisco and Oakland International are directly connected to BART, while San Jose International is also well connected to public transport.

The larger Bay Area has three ports located in Oakland, Richmond and San Francisco. The Port of Oakland is the fourth busiest container port in the U.S., handling over 2 million freight units annually, and is served by the Burlington Northern Santa Fe and Union Pacific Railroads. Oakland loads and unloads over 99% of the containerized goods that move throughout Northern California. The Port of Richmond handles oil tankers and associated shipping, as well as automobiles and other dry and liquid bulk goods, and is the leading port in the San Francisco Bay Area in tonnage of automobiles and bulk liquids. The port has five city-owned and ten private terminals and is served by the Burlington Northern Santa Fe and Union Pacific Railroads. The Port of San Francisco handles mainly cruise ships, passenger ferries, and commercial and sport fishing activities on the northern waterfront. Fisherman's Wharf is the center of Northern California's commercial and sport fishing fleets, and is a key tourist destination. Pier 45 houses the West Coast's largest concentration of commercial fish processors and distributors. All three ports play a major part in the regional economy, not only as hubs of trade, but also as employment centers.

The region has five major oil refineries in Benicia (Valero), Martinez (Shell and Tesoro), Richmond (Chevron), and Rodeo (ConocoPhillips), and depends on multiple power plants, wastewater treatment plants, waste management locations, and an extensive telecommunications system located throughout the Bay Area. The majority of the Bay Area depends on PG&E for power (some jurisdictions, including Palo Alto, Marin, and Alameda, generate their own), while multiple entities provide water, wastewater, and waste services, which vary widely in size and scope. Both the San Francisco Bay and Monterey Bay Areas are serviced by a dense network of PG&E gas transmission pipelines.

Natural and Manmade Hazards Affecting the Bay Area

While the focus of this Initiative was on the effects of earthquakes on the region, other natural and manmade hazards can have regional consequences requiring a recovery effort similar to that for an earthquake. These threats include tsunamis, firestorms and windstorms, prolonged rain events with widespread flooding and landslides, droughts, pandemics, terrorist attacks, catastrophic events caused by aging infrastructures and systems failures and technological disasters.

There is a need for additional assessment capabilities and studies of impacts particularly to infrastructure from earthquakes and other major disasters, including vulnerability of the Bay Area water supplies to Delta levees and flooding from a super storm, to better determine restoration requirements, timelines, and costs in advance of an event. There is also a need to identify vulnerable neighborhoods that might be most heavily impacted by various earthquake events in the Bay Area. Focusing on areas that may suffer significant structural damage, housing and business loss could stimulate pre disaster recovery planning and discover organizational, programmatic, financial, and legislative gaps.

Earthquakes

The region is particularly vulnerable to large earthquakes. There are numerous major active faults in the region with a combined thirty year probability of a major earthquake in excess of sixty percent. Two fault systems pose significant risk in the Bay Area. The Hayward Fault runs about 74 miles long mainly along the western base of the hills on the east side of San Francisco Bay through densely-populated Richmond, El Cerrito, Berkeley, Oakland, San Leandro, Hayward, Fremont, and San Jose. The San Andreas Fault, which cuts through Tomales Bay in Marin, runs offshore as it passes San Francisco and returns to shore as it passes through the San Francisco Peninsula, is the other significant regional threat. A large magnitude earthquake on either the Hayward or San Andreas Faults would cause significant damage to the region.

Soil liquefaction is a significant problem throughout much of Bay Area. Large areas around the Bay have been filled and now support residential and commercial buildings and infrastructure assets. Often the soils compaction at these sites is not sufficient to prevent liquefaction. Underground infrastructure assets—water and sewer pipes, natural gas and liquid fuel pipelines, power distribution lines, and communications cables and equipment are particularly vulnerable to liquefaction, as well as above ground structures. Deep soil basins, such as in Silicon Valley, can amplify ground shaking. Bridges, tunnels, and roadways will be impacted by disaster damage and debris. Large proportions of older buildings are not retrofitted for earthquakes and will be at risk, and others will be subject to land and mudslides. Along the coastal areas, there is the threat of tsunamis. For detailed information on earthquake and tsunami threats and impacts, see the ABAG website at http://quake.abag.ca.gov/.

Catastrophic Rain Events and Major Floods

So-called “pineapple express” storms which sweep off the ocean near Hawaii can cause a “super storm” that can result in a rapid “mega flood” which, in turn, could trigger a catastrophic failure of many of the old and degraded levees in the 1100-mile area in the Sacramento-San Joaquin Delta, originally built to control floodwaters and increase farmland. Such a flood would submerge hundreds of square miles, impacting and washing away communities and some of the region’s (and nations) most productive farmland.

Fire and Windstorms

Between late November and early March strong Pacific storms can bring both substantial rainfall (saturating and weakening soil) and strong wind gusts that can cause trees to fall on power lines, sometimes affecting hundreds of miles of coast and interrupting essential services for up to several days in some more remote localities. In the spring and fall, strong offshore winds often develop. These winds are an especially dangerous fire hazard in the fall when vegetation is at its driest. Examples of firestorms are the 1923 Berkeley Fire and the 1991 Oakland-Berkeley Hills Fire (Tunnel Fire). In the last 120 years, there have been over 100 significant urban/wildland interface fires in the East Bay hills alone.

Mudslides and Landslides

Some geologically unstable areas have been extensively urbanized, and can become mobile due to changes in drainage patterns and grading created for development. These are usually confined to small areas, but there have been larger problems in the Santa Cruz Mountains.

Climate Change

In coming years, the Bay Area will be subject to increasing effects of climate change. The extensive coastline and bay shoreline will be subject to rising sea level, leading to more frequent and more severe temporary flooding as well as eventual permanent inundation. The Bay Area will also experience more frequent and more severe storms and storm surges, increased risk for wildfires, and increased temperatures, heat waves, and air pollution. Increased snowmelt earlier in the season could flood the delta, and beaches will experience increased erosion and sand loss. Sea level rise will put many regional assets at risk, including transportation, water, and power infrastructure, and will impact shoreline ecosystems and recreational space. Existing flood control measures will soon become inadequate, bearing greater loads and experiencing overtopping.

Multiple Hazards

Some locations in the Bay Area are located in areas that have conditions that make them susceptible to multiple hazards. In the case of earthquakes, many areas will experience not just ground shaking, but liquefaction, landsliding, surface fault ruptures, or tsunamis. Many of the same areas that will experience sea level rise are also areas that are highly vulnerable to liquefaction, and so will need to consider multiple hazards in the future. Fires ignitions after an earthquake due to damaged natural gas valves may cause significant damage in areas particularly susceptible to firestorms. In planning for recovery and resilience, hazards must be considered together, as planning efforts may be wasted if all hazards are not considered.

Conclusion

Placing the work of the Regional Resilience Initiative and the papers that have resulted from this initiative in context and embedded in theory helps to validate our work. Crafting a standard definition and theory of resilience within the region provides a platform for all additional work initiated by this project and helps create a baseline standard for discussing the idea of resilience. Expanding the conversation around resilience beyond the well-known realms of mitigation and response also encourages new professionals to join in the conversation, which helps ensure a more complete recovery process. Disaster recovery is not separate from many of the tasks that cities pursue today – it is the process of city-building and economic development, amplified and intensified. Resilience is largely about maintaining and improving the Bay Area's quality of life, despite natural events that may have the potential to disrupt our most significant systems. Expanding the conversation about disasters and resilience to present a more holistic vision will allow resilience-building actions to become more integrated into all aspects of developing and planning for our region.

DRAFT

Regional Resilience Initiative Governance Policy Paper

Introduction

A major Bay Area earthquake will have lasting impacts on our region, altering our built environment, economy, and many other characteristics that contribute to the Bay Area's high quality of life. How will Bay Area leaders work together to plan for and address the impacts? Who are the major players in this work? How will cities and counties come together with business, nonprofit and community partners to rebuild our region and restore our economy? What is the message and image we will send to the outside world after an earthquake? Will it be one of competition for limited resources or will we work together in the interest of the entire region and collectively advocate for our common needs? How will priorities be set?

Stakeholders who participated in ABAG's Regional Resilience Initiative process indicate that a financing strategy to address rebuilding of the Bay Area's economy, infrastructure and housing is a regional necessity. In addition, advocacy for state and federal funding, along with needed legislative and regulatory changes could be successfully crafted through a consensus process. ABAG's role has been to examine how we come together as a region to grapple with these questions and build regional resilience.

Governance in the context of this paper refers to the broad spectrum of regional actors, stakeholders and institutions that will be involved in regional recovery from an earthquake. This paper addresses the major issues we uncovered throughout our Regional Resilience Initiative about our collective capacity to set priorities, make decisions, and implement policy. Our key recommendation is to facilitate a regional resilience policy forum to enhance resilience. The desired end state is a region that makes coordinated decisions and works for common resilience goals, at the jurisdictional and the regional levels.

The San Francisco Bay Area governance structure is complex: we have 101 cities, 9 counties, and hundreds of special districts with overlapping jurisdictional boundaries. Four regional agencies are responsible, respectively, for land use (Association of Bay Area Governments), transportation (Metropolitan Transportation Commission), air quality (Bay Area Air Quality Management District), and shoreline development planning, programming, and regulation (Bay Conservation and Development Commission). The agencies connect through the Joint Policy Committee. As well, many other organizations and agencies have a stake in our region's recovery, including state and federal agencies, businesses, nonprofits, and faith based and community organizations. Their interests should be folded into local and regional discussions and planning efforts.

The Bay Area has already developed a nationally recognized structure for emergency response to disasters. The planning that supports this response includes diverse stakeholders.[1] The long-term recovery process, however,

[1] During the 1991 Oakland-Berkeley Hills Fire (Tunnel Fire), regional first responders could not effectively coordinate to fight the blaze. Consequently, Bay Area legislators, Tom Bates and Nicholas Petris, sponsored legislation requiring the California

is more complex and less defined. Few jurisdictions have developed recovery plans and even fewer plans or studies have been performed to develop a regional recovery process. The time period for recovery can last decades, and all levels of government and the private sector have roles to play. The recently released National Disaster Recovery Framework from FEMA provides some guidance for recovery roles and responsibilities, but maintains the emergency response in the city-county-state-federal structure. As a region with an interconnected economy, the Bay Area has a long history of effective planning across counties. How should we organize to continue this tradition to build a more resilient region and plan our recovery from earthquakes and other regional scale disasters?

Long term disaster recovery begins immediately after a disaster. A recovery plan needs to be adopted by the region with an assertive strategy for securing supplemental federal assistance. Given the federal deficit and increasing frequency of climate change related disasters, this assistance will be increasingly difficult to obtain in the future; consequently, the regional recovery plan will need to be comprehensive, detailed, and as accurate as possible**. Community and elected leaders must recognize that few Bay Area assets, whether housing or infrastructure, are insured for earthquake damages**. The region will rely upon a recovery plan that is funded from local, state, and federal sources – but also needs to provide security such that private property and business owners choose to re-invest.

Jurisdictions can and should plan for their own recovery. But to adequately address regional recovery objectives, we need more than a few local plans. We need a coordinated regional effort that balances the needs and priorities of cities and counties. Only through coordination can a recovery plan be expedited that includes interjurisdictional and local priorities.

We recognize that regional agencies simultaneously grapple with similar questions about strengthening the regional economy and adapting to a rising bay. It is ABAG's intention that these efforts coalesce into a unified campaign to build resilience to all major threats we face. The recommendations are crafted as a regional policy agenda specific to earthquake risks, but can have a great impact if also applied to support and strengthen regional policy around all threats. Many of the recommendations are similar to those made by other policy bodies to address other regional disasters or threats.

The Overarching Goal: Regional Communication and Collaboration

Recommendations from ABAG's Regional Resilience interview process confirm both the research and workshop findings that regional coordination and decision-making can speed disaster recovery and improve resilience if accomplished before the unexpected occurs. There is region-wide agreement that crises are the worst time to

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Office of Emergency Services (now CalEMA) to develop a Standardized Emergency Response System (SEMS)—a comprehensive system for multi-agency and multi-jurisdictional response to emergencies. This system was taken to scale and adapted nationally as the National Incident Management System (NIMS). Through SEMS aid and resources are requested by cities to the county, by counties to the state, and finally by states to the federal government. Response coordination is organized and managed effectively. In addition, the Urban Areas Security Initiative has developed five Regional Emergency Coordination Plans.

come together to craft public policy. Though many small and large cities make up the region, our economy shares physical and social systems. Environmental issues and regulations cut across jurisdictions and require coordination among levels of government and agencies well before these systems are disrupted. More than half of the Bay Area residents cross county lines to commute to work, making housing workers a regional concern.[2] Many assets are regional, including our transportation, power, sewer, water and communications systems.

Our ability to recover from a disaster as a region is uneven. The capacity to fully prepare for disruptions is a challenge for many local jurisdictions given current economic difficulties. This uneven ability can impede a consistent, region-wide recovery. Many municipalities don't have the financial resources to fund or manage disaster recovery; all would benefit from a regional approach to overcome resource disparities and support regional neighbors. Best practices and technical assistance for planning can be effectively provided at a region-wide level to coordinate regional information in support of local decisions and needs. Examining recovery at a regional level can strengthen restoration of local economies, address environmental concerns, and project confidence that encourages private sector business and financial institutions to continue to invest in the region.

Resilience Initiative's participants agreed that more region-wide coordination could support resilience-building at the local level. Bay Area leaders coming together to identify and address these issues now will reduce disaster impacts and promote an accelerated recovery that is equitable and strengthens our economy. Though commonly agreed upon issues emerged in the process and are presented below, findings from the stakeholder participation process must be further explored to plan better implementation and overcome barriers to disaster recovery. Our recommended actions begin to suggest ways in which to prioritize further research and action.

The overarching drive towards increased regional communication and collaboration, facilitated by the region but driven by jurisdictions, spurs ABAG's recommended actions in this paper, the other issue papers, and our Action Plan. Improved regional communication will help facilitate our recommended actions, and in mutual support, each of our recommended actions work to increase regional communication. All issues and recommendations laid out aim to use a regional forum to increase collaboration to enhance jurisdictions' ability to be more resilient to disasters.

Goal #1: Create a Regional Resilience Policy Forum

No regional coordinating body or disaster recovery framework is currently in operation to facilitate sharing and decision-making in the aftermath of a major disaster, although FEMA's *National Disaster Recovery Framework* and CalEMA's *Regional Emergency Coordination Plans* may provide guidance on such a framework. Jurisdictions independently work their way through FEMA regulatory system and make recovery decisions on their own, based on their current situation. The urgency for quick action and competing demands for time may inhibit decision-makers' awareness of and access to information about other actions occurring around the Bay Area, or where their rebuilding decisions fit within the regional agenda. This can lead to fragmented recovery efforts and competition for federal funds. This is particularly an issue with the restoration and recovery of regional assets, such as infrastructure systems. A forum to help coordinate and guide jurisdictions within the region could not

[2] The Bay Area Regional Economic Assessment. A Bay Area Council Economic Institute Report, October 2012.

only speed restoration of regional services but expedite jurisdictional recovery as well and ensure that the recovery process fits with larger regional goals.

Recommended Action G-1: ***Use existing intergovernmental committees to convene jurisdictions and facilitate communication around disaster recovery collaboration***

The Joint Policy Committee (JPC) is tasked with overseeing and coordinating the work of the four regional agencies, including Association of Bay Area Governments (ABAG), the Bay Conservation Development Commission (BCDC), Metropolitan Transportation Agency (MTC), and the Bay Area Air Quality Management District (BAAQMD). Since recovery spans all four agencies, the JPC, as one option, is uniquely poised to facilitate a regional conversation around recovery, including local stakeholders from all four agencies. Additionally, ABAG's Regional Planning Committee (RPC) is an existing body that convenes regularly to bring together regional stakeholders around planning issues in the Bay Area. The RPC seeks to represent the greater interests of the Bay Area and find planning solutions that consider and accommodate a wide variety of Bay Area stakeholders. Since the Committee is composed of Bay Area elected officials representing jurisdictions and special districts, with a diverse stakeholders and the nonprofit community, the perspectives and opinions uniquely represent the local perspective, yet seek regional solutions. Such an existing body, along with a staff level task force, could serve as the structure for convening jurisdictions and facilitating recovery planning that comes up from the jurisdictions, rather than down from the region.

The role of a regional convener is to create a forum for policy discussions and information sharing, as the jurisdictions direct the content. Such a regional facilitator could involve varied stakeholders, convene in person on a regular basis, provide timely information, and facilitate projects and initiatives designated by the stakeholders. Desired outcomes would be more involved and informed stakeholders, consensus on major recovery decisions, and a coordinated regional policy platform. Providing a platform to develop disaster recovery planning could facilitate regional, state, and federal policy changes that benefit all jurisdictions.

> ***Sidebar: Houston COG case study***
> Following Hurricane Ike in 2008 the Houston-Galveston Area Council, a 13-county region with more than 5.7 million people, helped rebuild its region. The COG's robust databases on infrastructure and household information provided decision makers with damage estimates for the whole region within days. The COG acted as an impartial mediator as funding and programmatic decisions were made, and facilitated regional discussions about economic development and needed structural protections such as seawalls.
>
> *"We had people and staff who were not heavily impacted by the storm, while a lot of our communities were literally digging out—trying to clear roads and get sewage plants back online—we were able to focus on some of those high-level needs we knew would be important as people moved at the federal and state levels to allocate disaster funds." –Chuck Wemple, HGAC's economic development program director*

Recommended Action G-2: ***Examine the feasibility of a regional disaster recovery framework***

Within a broader forum, a regional disaster recovery framework could allow jurisdictions to develop procedures for making decisions about operations or processes as well as financial management issues that cross jurisdictional boundaries or are too cumbersome for one jurisdiction to manage alone. Jurisdictions will make many decisions independently based on their unique needs, and will largely run their recovery process within their own boundaries. Agreeing upon larger regional goals can help the Bay Area present a coordinated coalition to better attract and utilize resources and assistance.

A decision-making structure or framework could also speed the transition between disaster response, which has an existing regional system, and disaster recovery, where a system needs to be developed. Facilitating a transition ensures that communication and coordination take place and that decisions made during disaster response are considered in recovery, and allows recovery stakeholders to communicate their goals and priorities during the response phase. Often, decisions made during response have long-term repercussions on recovery, such as when rebuilding is allowed to take place in highly vulnerable areas, driven by the desire to return to "normal" as fast as possible. Having a structure in place for communication and decision-making that has consensus-driven goals during the response phase can help avoid mistakes in recovery. Certainly, rebuilding in recovery must take into account future hazard mitigation, as well as long term community sustainability.

A regional recovery framework must incorporate input from a wide variety of stakeholders. The roles of local, state, and federal agencies and regional organizations in recovery vary and overlap; cities and local jurisdictions must integrate the practical application of resources from the public and private sectors and institutions that are partnering in the recovery collaboration. Outreach to local community political leaders is also needed in recovery planning, along with boosted public outreach and education campaigns for community resilience, with defined recovery guidance measures and standards.

This framework may take the form of a written recovery plan, outlining procedures, roles, and tasks for all stakeholders involved, similar to FEMA's recently released *National Disaster Recovery Framework*. It should align with and incorporate other established recovery structures and concepts, such as the National Academy of Science's *Disaster Resilience: A National Imperative.* Model post-disaster recovery plans, such as those released by the American Planning Association, San Francisco's Resilient City Initiative, and Florida's *Post-Disaster Redevelopment Planning: A Guide for Florida Communities* could also serve as templates for a regional plan. This framework should also be flexible enough to consider other long-term growth issues, such as economic challenges, environmental sustainability, sea level rise, and other threats to the Bay Area's long-term quality of life. However, the final product should be guided by stakeholders' needs. The framework can provide information to help local jurisdictions identify staff and leadership roles as a part of local recovery plans, with guidance on how to fulfill those roles. If operational authority at both the regional and local levels is identified before a disaster, responsibility and accountability are defined, ensuring that the recovery process succeeds.

Recommended Action G-3*: Integrate resilience policy into existing current plans and practices*

Many elements that support resilience and recovery can be integrated into existing regional and local work. The region should seek ways to integrate resilience work with existing projects to facilitate increased resilience without significant additional resources. Regionally, disaster resilience policy should be incorporated into

ABAG's Sustainable Communities Strategy, the Joint Policy Committee's work on climate change, and other regional initiatives towards sustainability, economy, land use planning, and quality of life. These efforts create a regional vision with the potential to effectively guide disaster recovery.

For example, through Plan Bay Area[3] the Bay Area has already begun developing a vision for its future which will be carried out over the coming decades to create a more sustainable, equitable, prosperous place to live. The plan is a blueprint for sustainable future growth; this vision could be incorporated as we rebuild damaged neighborhoods and cities. The Bay Area has a rich history of visioning and implementing plans. We decided to reroute the Cypress freeway to better connect the Port of Oakland and enhance the West Oakland neighborhood; the Embarcadero and Central freeways in San Francisco were torn down to better connect the city with the waterfront and revive nearby neighborhoods. We know that such decisions can take years to reach and are hotly contested. However, having a common vision and guiding principles before a disaster can help guide and hasten our decision making process after the disaster.

Local leaders already grapple with difficult issues in their daily work, including finding affordable housing solutions, attracting good jobs and businesses, competing with other jurisdictions for tax dollars, providing services for needy residents, and reducing greenhouse gas emissions. Language and policy on recovery can be integrated into existing city-level documents to formalize policy and procedures rather than requiring new initiatives. Discussion of recovery can be integrated into the General Plan's Community Safety Element during a routine General Plan update, and Climate Adaptation Plans can be updated to acknowledge liquefaction as a threat that is often concurrent with areas vulnerable to sea level rise. Such efforts provide a solid basis for policy and action for disaster recovery. Robust, well-developed plans for the future adopted now can serve as blueprints for the future, whether or not a disaster hits. If a disaster does hit, the plans serve as a framework already in place for a recovery plan and reduce the need for a lengthy planning process after a disaster, which delays recovery.

Goal #2: Develop Regional Resilience Leaders

Initiative stakeholders felt that disaster recovery was well handled by emergency managers. However, long-term recovery can extend years or even decades after response ends and requires many specific capabilities and expertise in addition to those required of an emergency manager. Disaster recovery actively requires input from the whole community and requires coordination among a wide range of departments over a very long period of time. It also requires knowledge, understanding of and coordination with state and federal agency policies, programs and both public and private funding sources.

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[3] Plan Bay Area is an integrated regional land use and transportation plan that combines the Sustainable Communities Strategy (SCS), Regional Transportation Plan (RTP), and Regional Housing Needs Allocation (RHNA) into a single vision for the Bay Area. This plan identifies anticipated growth and where it should be focused in coordination with jobs and transportation. Jurisdictions participate by nominating Priority Development Areas (PDAs) to focus future growth. ABAG and MTC presented multiple growth scenarios and solicited feedback from ABAG boards as well as the general public to arrive at the preferred growth plan, the Jobs-Housing Connection Strategy.

In the recovery phase many local government staff and officials will find themselves conducting similar tasks and fulfilling similar roles as they do today – only with the added pressure of how to permit quickly the rebuilding of housing, businesses, their own buildings, their economy, and major infrastructure systems. Everyday tasks will become elevated with higher stakes, more and impassioned input, and extreme pressure on quick implementation. The fiscal base of many cities will be severely damaged, necessitating the layoff of staff. They may also find that they are asked to perform tasks well beyond the original scope of their jobs. Helping staff and officials understand their post-disaster responsibilities before disaster hits can help ensure that adequate authorities and tools and are prepared for what may be needed in the recovery phase. Identifying champions and professionals with expertise in recovery policy and are adept in working with senior officials can assist recovery in strategic roles that leverage their skills.

Recommended Action G-4: ***Lead reconnaissance missions for local leaders, staff, and community stakeholders to areas undergoing disaster recovery***

Many of our local leaders who have led their jurisdictions to greater resilience began to do so after they experienced firsthand the disaster recovery process, such as visiting New Orleans after Hurricane Katrina. Many of our region's earthquake planning champions were staff and elected officials during the Loma Prieta earthquake and the Oakland-Berkeley Hills Fire (Tunnel Fire); they vividly remember the challenges they faced in responding to and recovering from those disasters with little training or planning. For those who haven't experienced them first-hand and without recent local disasters in recent collective memory, disaster recovery tends to be abstract. It becomes easy to ignore risks and focus on short-term, urgent issues. However, seeing, speaking to, and relating to official counterparts in disaster-stricken cities can make tangible the reality of the recovery process and spur action at home. Experiencing the aftermath of a disaster can be a strong motivator for elected and community leaders to assume new responsibilities and guide action in their jurisdictions.

Professional groups already conduct such reconnaissance trips. The Earthquake Engineering Research Institute's (EERI) Learning from Earthquakes Program sends out reconnaissance teams into the field after major disasters to assess damage, document initial observations, and assess the need for follow-up research. The region could consider working with EERI to expand reconnaissance teams to include local and community leaders and appropriate staff. SPUR also leads annual learning trips for members, which could be geared towards disaster recovery as suitable.

Goal #3: Use Information and Data Analytics for Disaster Resilience

Jurisdictions need many different types of information after a disaster. Local officials must have essential damage impact information for utilities, government, and private sector organizations to assist with decisions about outages, damaged infrastructure, transportation disruptions, and related debris and transportation hazards issues. The same damage impact information can support decisions about long-term sheltering, temporary housing, and expedited disaster assistance. Information needs may range from information on individual buildings to a general picture of damage in other parts of the region.

Activities underway in the Bay Area support this information sharing, and existing technologies can be leveraged for this purpose to expand current efforts. More focused development of and integration with existing capabilities are called for to advance a system that communicates a common operating picture and supports regional situational awareness.

Recommended Action G-5: ***Establish and maintain a recovery clearinghouse to house resources for pre-disaster recovery planning and post-disaster recovery guidance***

Currently there is no central repository for information on long-term recovery, so knowledge distribution throughout the region is uneven and lacking. Many stakeholders simply don't have sufficient information to plan for recovery and don't know where to find the information. The region could benefit from an informational clearinghouse to house and share case studies, best practices, model ordinances, checklists, recovery plans, financing strategies, and other forms of guidance to help stakeholders better understand the recovery process and to have easily accessible tools to enact relevant policy, before and after a disaster. A sample of such information was shared at ABAG's 2012 Fall General Assembly for all participants and regional members.

The clearinghouse should not just collect information, but direct stakeholders to the information they need most at the times they need it most –for example, just-in-time checklists, ordinances, and other information readily accessible to them immediately after a disaster strikes. The clearinghouse should allow for contributions and updated content from the users within the region as it is developed, which can be vetted and organized by clearinghouse managers. Staff can also provide technical assistance so users can understand what kind of resources and information is available to them at critical points in their recovery process. For example, distributing FEMA reimbursement checklists before money is spent to ensure that jurisdictions comply with reimbursement requirements.

In addition to collecting information and tools, the clearinghouse should manage regional hazards data on and data on the recovery process. Data by itself, such as building damage data, does little for stakeholders who need to make decisions quickly and under immense pressure in the post-disaster period. The data needs to be analyzed to tell its story and find its role in the larger disaster and recovery narrative. Specialized analysis can detect trends and patterns of land and building damage, population movement, and recovery trends; such analysis can inform policy decisions and plans and incite action. For example, mapping analysis can indicate to jurisdictions areas of concentrated damage, where significant demolition and rebuilding will need to occur, and where services for residents will need to be concentrated. At a regional scale, identifying jurisdictions with disproportionately severe damage can help inform where funding for rebuilding may go. Elected officials and the media can use maps, charts, or tables, or even narratives and statistics to convey understandable damage and recovery data. Analyzing data and crafting useful messages for varied stakeholders requires technical skills as well as understanding of who needs what information, at what time, and how to convey it effectively.

ABAG's Planning Group currently manages and analyzes land use, planning, and population data for the region and uses this data to work with local jurisdictions to meet long-term regional goals. Expanding the type of data sets it manages and analysis it performs to include disaster data, such as HAZUS™ results or vulnerability analysis

before a disaster, and damage data after a disaster, would enable local jurisdictions to more fully understand disaster planning implications without major significant resources.

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Regional Resilience Initiative Housing Policy Paper

Background

As one of the most seismically active regions in the country, California has developed strong building codes that will largely prevent loss of life in a major earthquake. These codes were developed over many decades and have been continually improved as earthquakes have demonstrated the need for new techniques and stricter codes. However, these codes do not guarantee that even a new building will be inhabitable after earthquakes and many older buildings built before modern codes have not been upgraded.

In a major earthquake on the Hayward or San Andreas faults, it is estimated that 5% of the Bay Area's housing stock—approximately 150,000 units—will be immediately and permanently damaged.[1] Nearly two-thirds of these losses will be in multi-family apartment buildings. Approximately $85-90 billion in direct residential building-related economic losses are expected in this scenario.[2] Compounding the problem, fires that occur after an earthquake can consume many more units, especially if fire suppression systems are not upgraded to survive an earthquake.

Rebuilding and repairing damaged housing after an earthquake in the Bay Area will be particularly challenging since only 6-7% of the loss from ground shaking will be covered by residential earthquake insurance.[3] This is in contrast to disasters in other areas where a greater proportion of losses would be covered by insurance. For example, if the same earthquake were to occur in the Midwest, 60-80% of losses would be covered by insurance because earthquake coverage is part of a standard insurance policy.[4] In Hurricane Katrina, 50% of losses were covered due to the availability of and requirements for flood insurance under the National Flood Insurance Program.

[Insert insurance coverage chart here]

While the greatest loss of housing in the Bay Area will occur primarily along either the Hayward or San Andreas fault, the impact will be felt region-wide. Following the earthquake, many uninhabitable units may be demolished quickly or abandoned. To accommodate displaced persons, temporary housing in offsite locations may need to be constructed. Displaced residents will seek alternate housing options all over the region,

[1] *Shaken Awake! Estimates of Uninhabitable Dwelling Units and Peak Shelter Populations in Future Earthquake Affecting the San Francisco Bay Area*, ABAG, 2003; and *ABAG Housing Data*, 2009

[2] *1868 Hayward Earthquake: 140-Year Retrospective*, RMS November 2010. Modeled loss estimates consider post-event loss amplification. All loss estimates are for property insurance coverage only. All losses above include shake and fire following earthquake. *Note: This estimate includes losses for Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties only. Similar losses are expected for a San Andreas fault scenario earthquake.*

[3] *1868 Hayward Earthquake: 140-Year Retrospective*, RMS November 2010. Modeled loss estimates consider post-event loss amplification. All loss estimates are for property insurance coverage only. All losses above include shake and fire following earthquake. *Note: This estimate includes losses for Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties only. Similar losses are expected for a San Andreas fault scenario earthquake.*

[4] *Ibid.*

impacting commute patterns and housing prices, and small business recovery. Housing is the key to a strong region and will impact the recovery of businesses and the strength of our regional economy.

It is particularly important to consider the needs of low-income residents, who have fewer resources to handle the challenges of a major earthquake. Low-income residents who live in flatland neighborhoods in cities such as Richmond, Oakland, San Leandro and Hayward and parts of San Francisco will be particularly impacted due to liquefaction, their proximity to the fault, and the preponderance of vulnerable housing types in these neighborhoods. Some low-income residents may be permanently displaced outside of the region due to loss of affordable housing options and temporary loss of jobs. In some of these areas it will be difficult to rebuild housing in-kind and future climate change effects like sea level rise, storm surges, increased flooding, and liquefaction may make the decision to rebuild in certain areas unattractive.

The challenge for policy makers is to address the present need to create and maintain affordable housing while also improving the seismic resilience of existing housing so that quality affordable housing can be maintained for the long-term. Looking to the region's Priority Development Areas (PDAs) is a good place to start for reconstruction. Before the earthquake these neighborhoods of regional significance can be strengthened and made more resilient to provide quality housing options and preserve regional investments for many years to come. After the earthquake, these neighborhoods can provide a blueprint for planning and reconstruction for the region.Some of the recommendations in this paper are highly technical and specific, reflecting the advanced state of knowledge in the region on housing mitigation and recovery needs. A major barrier to implementation of many of these needs is adequate financing and public will.

Goal #1: Facilitate a rapid housing recovery that fulfills regional goals of enhanced quality of life

ABAG and MTC have with other regional agencies, local governments, and other stakeholders to develop the region's first Sustainable Communities Strategy (SCS), an integrated long-range transportation and land-use plan for the San Francisco Bay Area. A cornerstone of the SCS are Priority Development Areas: locally-nominated and regionally-supported infill development opportunity areas within existing communities.[5] They are generally areas where there is local commitment to develop more housing along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit. Over the next 30 years, the 169 PDAs in 72 jurisdictions across the region are expected to accommodate 80% of new housing and 66% of new jobs on little more than 4% of the region's land.[6]

The PDAs provide a good framework for aligning investments to improve the region's disaster resiliency with regional goals for future increased housing and transportation choices, economic prosperity, and environmental enhancement. The qualities that make PDAs and neighborhoods enjoyable places to live can also promote more resilient communities. Using the PDA framework after an earthquake to guide the rebuilding process will help us achieve regional goals and can expedite rebuilding.

Policy makers have already begun to invest in PDAs by improving transit and infrastructure and encouraging policies to promote compact, complete communities. Further investment to retrofit existing housing and require stronger building standards for new construction will improve the seismic resilience of these neighborhoods and will ensure that good affordable housing options are maintained even after major earthquakes.

[5] San Francisco Bay Area FOCUS Program. http://www.bayareavision.org/initiatives/prioritydevelopmentareas.html
[6] Jobs-Housing Connection Strategy.

When the earthquake strikes homeowners with adequate insurance coverage will be able to quickly rebuild their homes. Regional leaders can help ensure that earthquake insurance is an adequate tool that is a sensible investment for every homeowner. Homeowners who lack insurance coverage will struggle to repair and rebuild their homes and may abandon their equity rather than paying their mortgage, delaying recovery of the region.

While permanent housing is being built temporary housing will be necessary and policy makers must develop solutions for temporary and interim housing that maintain community synergy and encourage residents to invest in the Bay Area, and that are coordinated with plans for the region's long-term housing recovery.

Recommended Action H-1: ***Identify areas where mitigation and recovery resources are particularly important***

Some areas will rebuild much faster than others and likely require fewer resources to do so due to prevailing market strength and current levels of investment (e.g. San Francisco). Areas with lower household incomes, lower savings rates, and limited access to financing will face longer housing reconstruction times than other areas.[7] It is estimated that a disproportionate number of vulnerable populations live in earthquake vulnerable neighborhoods across the region, particularly in cities along the Hayward fault. Multi-family housing in particular tends to take longer to rebuild and is often not rebuilt as affordable housing.

Incorporating future land use planning and development feasibility into disaster planning can result in more mitigation and recovery resources devoted to places that especially need them. By overlaying information on hazard zones with vulnerable housing type, vulnerable populations, locations of subsidized housing units, and PDAs, policy makers can direct policies and allocate resources to strengthen housing, reduce individual losses, shorten housing reconstruction timelines, minimize economic disruption and promote long-term regional growth and economic goals.

Recommended Action H-2: ***Explore interim housing solutions that encourage residents to invest in the Bay Area's recovery***

If possible, while homes are being repaired, residents should be enabled to remain in their home or neighborhood through shelter-in-place policies. When residents remain, local businesses are more likely to stay in business, and families are more likely to quickly return to the routine of school and work. Regional plans to provide neighborhood support centers can enable families to remain in place by providing centralized food and water distribution, access to generators and medicine, and other needed services and supplies. Neighborhood support centers facilitate maintenance of existing neighborhood support networks.

Residents in uninhabitable buildings will have to seek temporary emergency shelter and then rental or temporary housing until their homes are rebuilt or they find alternate permanent housing. When temporary housing solutions are needed, counties should strive to accommodate displaced residents within their own counties to help maintain access to jobs and schools while preserving community fabric. In addition, the siting of temporary housing should be carefully considered as it has important impacts on the locations and timing of permanent housing solutions and the long-term recovery of neighborhoods.

Recommended Action H-3: **Use the SCS as a framework to directing resources for permanent replacement of housing**

[7] *2007 Metropolitan Disaster Planning: Analytical Support of the American Housing Survey.* U.S. Department of Housing and Urban Development, Office of Policy and Research, 2009.

When housing needs to be reconstructed on a large scale, regional leaders can use the SCS framework and the identified areas for growth (PDAs) to guide post-earthquake planning and development. PDAs have plans for building that in some cases are ready to be executed and an earthquake can be an opportunity to implement these plans. This will have the dual benefit of stimulating recovery while achieving our regional vision.

Regional leaders should also work with other disaster prone areas to reform the Stafford Act to allow FEMA to help pay for permanent replacement housing, not just interim housing. Certainly, the region will be looking to state and federal housing finance assistance to construct new replacement units.***Recommended Action H-4: Address the problem of underinsured homes with more realistic hazard insurance availability***

To reduce the need for government assistance and stimulate rebuilding, policymakers can ensure that damaged homes are repaired and rebuilt more quickly by ensuring that more homeowners are covered by adequate hazard insurance. Policymakers should work with the California Earthquake Authority (CEA) to reduce both its annual premium and deductibles. The CEA is undertaking a research program that may allow for significant premium reductions for homes that have been seismically strengthened, providing both incentive for retrofit and benefit to homeowners. Earthquake insurance policies for renters, however, are a good value and their use should be more widely encouraged.

Goal #2: Promote housing mitigation to reduce housing loss and expedite recovery

Multi-family buildings

Seismically vulnerable multi-family buildings, such as soft-story buildings, pose particular challenges for local governments. These buildings are not easy to identify and retrofits are expensive, but the benefits of retrofitting are significant. Rebuilding multi-family housing post-earthquake is generally very slow, taking several years longer than for single-family homes, and affordable units are often rebuilt as market rate units, resulting in the loss of affordable housing options. In some cities, soft-story buildings are clustered together, leading to the potential for widespread loss of housing in concentrated areas. Because of the large number of residents living in multi-family soft-story buildings across the region (an estimated 100,000 dwelling units), regional solutions may be beneficial. Further work is needed region-wide to accurately identify soft-story buildings and make the cost of retrofitting more affordable.[8] Policy makers in cities with particularly large numbers of soft-story buildings such as Oakland, Berkeley and San Francisco have made progress in identifying potentially vulnerable buildings, but have had limited success to date in encouraging owners to retrofit these buildings. This is in part because the size and complexity of the retrofit may trigger requirements for additional upgrades to meet building codes, which can increase the total cost of the project and may exceed the value of the property.

Better awareness of seismic issues by tenants and prospective buyers may help create market-driven incentives for owners to retrofit. Financial assistance programs can make retrofitting more attractive while providing a vehicle for education about seismically vulnerable buildings. Many cities view a revolving loan program through a voluntary assessment district, similar to those being developed for solar installations under the PACE program[9], as the best possible solution to provide financing to as many owners as possible. These loans are paid

[8] *Development of Simplified Guidance for Seismic Rehabilitation of Soft-Story Wood-Frame Buildings* (ATC 71-1). This soon-to-be-released document will provide guidance for addressing seismic retrofit requirements for soft-story wood-frame buildings in seismically active regions. The project will also develop practical model code provisions for seismic retrofit of soft-story wood-frame buildings that can be adopted by cities.

[9] Property Assessed Clean Energy (PACE) is a means of financing rooftop solar panel installation and other energy improvements through issuance of bonds to investors and then making loans to consumers which are repaid via an annual assessment on their property tax bill over the assigned term (typically 15 or 20 years). One of the most notable

back in first position on property tax bills. The loan payments stay with each building and not with their originating owners, so when the buildings change hands, loans can be transferred to new owners and spread out over 30-year loan periods. The seismic improvements enhance the value of the building and help secure the existing mortgages. No sources of capital, however, have been identified to initiate the program.

Recommended Action H-5: ***Encourage accurate identification of soft-story buildings***

Owner notification programs such as those taking place in Berkeley, Oakland, and Alameda are part of a broader societal trend recognizing the seismic vulnerabilities of soft-story buildings and placing liability on building owners. This exposure is something that owners will have to take into account when deciding how they will operate their buildings.[10] San Francisco, in 2012, embarked upon a ten-year mandatory evaluation and retrofit program for soft-story multi-family buildings.[11] While politically difficult, this mandatory program will likely serve the City's, the building owner's, and the residents' best interests in the long run.

While each of these cities has begun the process of identifying soft-story buildings in their city, more is needed to refine these assessments and other cities with significant numbers of soft-story buildings need to begin this process to identify buildings in their cities. ABAG can assist by sharing best practices and lessons learned from other cities already embarking on this process.

Recommended Action H-6: ***Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes***

We recommend that policymakers work together to find creative financing mechanisms to facilitate retrofit of residential properties. One possible solution is to work through ABAG's Finance Authority to utilize the PACE program for seismic retrofits and to lobby the federal government to provide the initiating capital.[12] In addition to PACE, a suite of policies and incentives can be adopted by cities wishing to encourage seismic retrofit.[13] Other existing programs that can be tapped for seismic retrofits include the California Earthquake Authority (CEA) and local Community Development Block Grants (CDBG). In addition, local governments working together with lending institutions, insurance companies, and other government agencies before future earthquakes could design new coordinated lending processes.

Single Family Homes

Older (typically pre-World War II) single-family homes will likely account for 9% of overall housing losses after each major earthquake.[14] Single-family homes are generally relatively easy and affordable to retrofit. However, owners who embark on retrofit projects often quickly become perplexed by the lack of retrofit standards for

characteristics of PACE programs is that the loan is attached to the property rather than an individual. Recent legislation (AB 184, Swanson) has broadened the use of PACE to seismic retrofits. The residential PACE program is currently on hold nationwide pending a ruling by the Federal Housing Finance Agency that PACE assessments pose unusual and difficult financial risk for lenders, servicers, and mortgage securities investors without community benefits (PACEnow.org).

[10] Personal communication, Ken Moy, ABAG legal counsel

[11] Applies to three or more story, 5 or more unit soft-story wood frame residential buildings, phased in four categories based on geological hazard and use.

[12] AB184 (Swanson) allows PACE to be used for seismic retrofits, but it is not currently being implemented. Cities wishing to implement these programs must also come up with the initial funds to be distributed as loans.

[13] Samant, Laura and Tom Tobin. Memo to the Advisory Committee, Community Action Plan for Seismic Safety, "Incentives to Encourage Seismic Retrofits: Options for San Francisco". San Francisco, CA. 5 Sept. 2008. http://www.sfcapss.org/PDFs/Incentives_to_Encourage_Seismic_Retrofits.pdf

[14] (2003) *Preventing the Nightmare* (update), Association of Bay Area Governments.

some types of homes and the inconsistent array of retrofitting techniques proposed by contractors. An estimated 2/3 of single-family retrofits are done improperly,[15] a waste of homeowners' money that provides inadequate seismic benefits and creates a false sense of security. Owners are further discouraged by the lack of incentive programs enjoyed by residents for energy retrofits.

Quality retrofits benefit not only homeowners and their families, but entire communities when they can get back on their feet faster after earthquakes. Local policymakers can work with state and national policymakers to implement the following policies that would encourage more and higher quality home retrofits.

Recommended Action H-7: ***Reduce personal and community losses by increasing resilient building and retrofit practices***

While the California Building Code has adopted, by reference, a standard for retrofit of single-family homes[16], it only applies to very specific housing types that have crawl spaces with walls less than four feet in height. While adoption of this standard was an important step for residential seismic risk reduction, there remain broad categories of single-family dwellings that are not covered by a retrofit building code. Clear and comprehensive guidelines for the retrofit of all remaining single-family dwellings are needed. This lack of a standard means that permits will be issued for voluntary seismic retrofits that may not be adequate. Local policy makers should encourage efforts by the California Earthquake Authority and FEMA to develop recommendations for future evaluation and retrofit codes and standards.

Recommended Action H-8: ***Improve the quality of non-engineered retrofits by developing a statewide retrofitting license for contractors, or providing contractor training***

Similar to a plumbing or electrical license or the Home Improvement Certification category (which was allowed to sunset on January 1, 2004) a retrofitting license or certification would help ensure that contractors performing seismic retrofits are properly trained. Implementation would require action by the California State License Board to develop new regulations. A new class of license, or a certification within the existing license, would provide a new skilled class of contractors who could advertise their services and who would be better trained. This would greatly benefit owners by increasing the likelihood that work is performed properly and by allowing owners recourse for work not performed properly. A first step in implementation is to organize best management practices in a structural design bulletin to help inform the industry of the complexity of this type of work and add credibility to the need for a specialty license.

Bay Area local governments may not be able to wait for state action to implement this policy. An interim step might be to establish a regional certification program for pre-disaster retrofit and post-disaster repair that would address the most vulnerable Bay Area building types. This certification should build on previous ABAG efforts to train contractors on proper retrofitting techniques for a small class of single-family home. Bay Area cities and ABAG could develop improved retrofit training for single-family homes and encourage homeowners to hire contractors that have been properly and adequately trained. Future training should:

- Include testing to ensure comprehension;
- Require refresher courses every three years coincident with building code updates to disseminate new knowledge and information, and;

[15] (1999) *Preventing the Nightmare: Technical Appendix B*, Association of Bay Area Governments, and (2006) *False Sense of Security*, Contra Costa Times.
[16] Chapter A3 of the International Existing Building Code.

- Provide certification of completion to the retrofit installer who took the training, rather than a company to ensure that the individual on site during construction has actually been trained.

Recommended Action H-9: ***Increase the number of retrofitted homes by providing financial incentives for homeowners to retrofit***

Financial incentives not only make retrofitting more affordable, they can also improve the quality of retrofits by setting a minimum standard that retrofits must achieve in order to receive assistance, and create opportunities to educate communities about the prudence of seismic retrofitting.

Berkeley has a model incentive program that could be emulated by other local governments. Berkeley raised the transfer tax from 1% to 1.5% and then offered to refund new homebuyers the 0.5% difference if it was used to seismically strengthen their home. Since its implementation, 600-800 homeowners have taken advantage of the program and costs to the City are very low since the owners themselves are effectively paying for their retrofits through tax refunds. The City of Oakland successfully implemented a similar program from 2008-2010 during which 360 retrofit permits were issued, compared to only 6 prior to the program. These programs demonstrate the effectiveness of incentives, that they do not have to cover the full cost, and time of sale is a very effective way to reach homeowners when it is easy to add the cost of the retrofit to the mortgage or alternatively lower asking prices.

Regional agencies could consider including seismic improvements in any funding made available to support implementation of the Sustainable Communities Strategy. Funding seismic upgrades of existing buildings would help ensure the long-term sustainability of PDAs.

We recommend that policy makers also endorse the involvement of the insurance industry in developing owner incentives for retrofitting structures. As required by state law[17], the California Earthquake Authority (CEA) has set aside approximately $20 million from annual investment income for residential mitigation efforts. The CEA is developing a statewide mitigation program that may provide financial incentives to consumers that retrofit their houses and provide training to retrofit contractors. ABAG could use the results of Recommended Action H-1 (***Identify areas where mitigation and recovery resources are particularly important)*** to identify the most vulnerable residential structures and provide a list of target neighborhoods to CEA for funding consideration.

[17] California Insurance Code section 10089.37

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Regional Resilience Initiative Infrastructure Policy Paper

Introduction

In the wake of a major disaster, the recovery of our major infrastructure systems will play a large role in our ability to recover quickly and effectively. Many recovery activities are highly dependent upon these systems. For example, goods movement - including supplies for rebuilding and daily goods and food for resuming daily lives - depends on a workable transportation system. People will not be able to stay in their homes if water and wastewater services are not available, and businesses will not be able to reopen. Repairing failed infrastructure systems and restoring their services are vital to the recovery of the Bay Area after a disaster, and failure to do so quickly and efficiently will result in widespread and long ranging, potentially devastating impacts.

Many of our significant infrastructure systems are vulnerable to damage in earthquakes.[1] The majority of the Bay Area population resides along two transportation corridors along major fault lines. Highway 101, connecting the South Bay to the Peninsula and the North Bay, parallels the San Andreas Fault -Highways 580 and 880, linking the South Bay to the East Bay and Solano County, are situated on and adjacent to the Hayward fault. Nearly every major east-west connection that the Bay Area depends on upon for water, power, gas and transportation crosses several major faults. Hundreds of streets underlain with transmission lines also cross faults. In an earthquake, these major lifelines transmission systems will be damaged by significant lateral movement caused by crossing fault lines. East Bay Municipal Utility District (EBMUD) estimates that 40% of its customers will be without water, and that it could take as many as 50 days to restore full service[2]. Similarly San Francisco Public Utilities Commission estimates that until its Hetch-Hetchy pipeline retrofit is complete in 2014, a major earthquake could cause catastrophic failure of the pipeline, which could take as long as 60 days for full repair[3]. The liquefaction prone margins of the Bay will cause additional infrastructure damage, particularly for sewer treatment plants, the Port of Oakland and the San Francisco and Oakland airports.

Many issues will impact our ability to quickly repair damaged infrastructure. These warrant further understanding and study now, before a disaster, so stakeholders are better prepared to face the complex task of restoring infrastructure systems when disaster hits.

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[1] This section is largely adapted from *1868 Hayward Earthquake: 140-Year Retrospective*, RMS November 2010. Modeled loss estimates consider post-event loss amplification.

[2] "EBMUD: A Decade of Seismic Mitigation Progress – More Work to Do." Presented at ABAG's Regional Planning Committee, December 3 2008 by Bill Cain.

[3] City and County of San Francisco Emergency Response Plan, Earthquake Annex. April 2008.

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The major infrastructure systems included in the recommendations set forth in this paper are:

- Power systems
  - Electricity generation and transmission
  - Oil and natural gas pipelines
- Water and wastewater
  - Treatment
  - Transmission systems
- Transportation systems
  - Local roads
  - Highways
  - Public transportation systems – buses, rail and ferries;
- Telecommunications systems
  - Phone and data lines

Other significant infrastructure systems in the Bay Area not included in this initial study include gas refineries, airports and ports. Each system depends on physically or virtually linked elements to stay operational. These elements range from the people who operate and control the systems; mechanical and electrical equipment; transmission lines; buildings that house operations and equipment; and information systems that process large amounts of data. In a disaster, all these elements are vulnerable to damage from ground shaking, liquefaction, landslides, fire, or flooding, and damage to just one portion of the system may cause complete failure in all or part of the system, cutting off services to customers. Cascading systems' failure is a norm in metropolitan disruptive events due to tightly coupled infrastructure mechanics.

Infrastructure systems are interdependent and will not be able to be fully restored without the repair of corresponding, upstream structures. For example, treating wastewater is dependent upon power systems to operate pumps and other equipment. Because of such dependencies and links, it can be very difficult to make assumptions about how disasters will impact a particular system or how recovery will take place if the impacts to lateral or upstream system are unknown. Interdependencies also create new or exacerbate existing failures over time if not promptly resolved. The implications of delayed recovery due to interdependencies are largely unknown. Salient lessons in social restoration and recovery can be found from recent regional disasters such as the 2011 Tohoku earthquake and 2012 Superstorm Sandy and can be applied in other disaster-prone regions.

The fragmented nature of infrastructure system ownership and regulations exacerbate barriers to recovery planning and impact the ability to address the vulnerability of the interdependency of physical systems. Many utility systems are privately or jointly owned and vary widely in size, control, access to resources, accountability, age, seismic standards, guidelines, and code requirements. In total, there are over 500 special districts with overlapping jurisdictions that provide services within the Bay Area. The California Utilities Emergency Association represents California utilities on emergency related issues, but currently there is no forum for utility leaders to coordinate with other owners within the Bay Area and plan for recovery and restoration, so owners may not have a comprehensive understanding of how their systems fit in with other systems. Multiple owners

or service providers can lead to a wide variety of practices, technologies, and mitigation standards within any given sector. This diversity creates problems with understanding, anticipating, and coordinating disaster recovery activities.

Goal #1: Increase technical understanding of region-wide infrastructure system vulnerabilities

Currently, few understand the ways in which systems are interdependent. The information that is available is largely based on speculation, not rigorous analysis. The region needs peer-reviewed technical studies to better understand system vulnerabilities and what consequences may result from cascading failures. Some of this information is considered confidential for security reasons; however, information should be shared at levels of detail sufficient to understand how to resolve issues post-earthquake.

New technologies can assist with gathering technical data for analysis, but may increase vulnerability as operators of interdependent infrastructure systems become more reliant on virtual systems to monitor and control infrastructure. While technology has the potential to provide greater and more sophisticated information on system performance, it also introduces new interdependencies on power and IT systems because of reliance on computer servers. For example, PG&E's Smart Grid system provides better, more accurate information about the power system if it is operational. But reliance on specialized technology can make systems more difficult to restore and requires improved human expertise and intervention in crises, which can impede restoration and recovery.

We need a detailed understanding of how interdependencies interact and what impacts might occur in disruptions due to disasters. The following actions suggest how this might be done.

Recommended Action I-1: ***Establish regional baseline assessment and system performance standards to identify vulnerabilities and define interdependencies***

Current methods for evaluating system performance in a disaster typically involve the use of an earthquake scenario to anticipate ground shaking and what damage and loss may occur. This loss estimate is then reviewed together with interviews of staff with technical expertise in different system components and operations. Performance findings for multiple system components and their links then need to be aggregated to comprehensively understand the workings of the complete system. This approach leads to a qualitative and holistic understanding of vulnerabilities, but is limited by incomplete human understanding and interpretation.[4]

Other analytic tools include computer modeling of systems using software programs that generate disaster loss estimates based on specific disaster scenarios, including HAZUS or systems' visualization applications developed

[4] This approach is similar to the one taken by the San Francisco Lifelines Council for their Lifelines Interdependency Study. For more information on this approach, see http://sfgsa.org/index.aspx?page=4964

for the defense industry. These methods provide a vulnerability snapshot of systems and system components. Elements of these assessments include information on component fragility, system fragility, and critical data on functionality, repair time, and repair cost. It is crucial to note that smaller service providers may lack resources to use existing tools effectively, or may not have accurate results due to lack of technical expertise in failure studies. Both qualitative and quantitative analyses offer data on typical systems' failures operators may encounter in disasters, which can support improved crisis response and provide powerful motivation to implement pre-disaster recovery planning.

The region needs to establish common tools for evaluation and assessment, and build consensus around the type of analysis and how to present findings. One way to begin this is to establish common earthquake scenarios for evaluating systems so consequences can be compared and interdependencies are defined across the region. San Francisco's Lifelines Council utilizes a repeat of the 1906 earthquake as its assessment scenario; this 7.9 San Andreas Fault earthquake falls within SPUR's definition of an "Extreme" earthquake scenario.

SPUR's "Resilient City " reports typically base recommendations on an "Expected" earthquake, defined as a 7.2 San Andreas quake, the same used for San Francisco's Community Action Plan for Seismic Safety program. Both of these scenarios are appropriate for San Francisco, but other scenarios such as a Hayward Fault event, may be more useful for planning in other Bay Area locations. Therefore, utilizing multiple planning scenarios may be productive for regional planning purposes. The common earthquake scenarios should be severe enough and present a wide enough scope of damage to be realistic and useful, but should not be so extreme that mitigation strategies would be seen as too costly.

We need to, as a region, assess the existing state of infrastructure systems, much of which is aging, deteriorating, and functioning at capacities beyond their original design, which all increase vulnerability. ABAG has helped lead local efforts to assess infrastructure in Priority Development Areas, but this effort should be expanded and considered through the lens of seismic vulnerability. Considering that much of our infrastructure is buried or difficult to acquire data on, new methods should be identified and shared for quantifying *in-situ* conditions. Such assessment techniques include remote sensing technologies, sensors, use of cameras and video cameras, and component testing. Existing assessments done by utilities should also be collected and made publicly available.

Regional infrastructure stakeholders could conduct and share research on evaluations, best practices, and recommendations for effective and uniform analysis of vulnerabilities. This might include common assumptions about what magnitude of earthquake to use as the basis for analysis and mitigation, and improve regional understanding about possible disaster losses.

Recommended Action I-2: ***Conduct a regional assessment of system interdependencies and the consequences of cascading failures***

Similar to San Francisco Lifelines Council's current lifeline qualitative review, the region should conduct a high-level assessment of Bay Area infrastructure systems to identify and assess critical interdependencies. The study could be based on a standardized earthquake scenario or scenarios (see above) and identify and assess lifeline

systems by performance (similar to SPUR's performance categories) along with peer-reviewed approaches. Then communities can prioritize system improvements based on defined performance targets that suggest key mitigation actions.

Understanding vulnerabilities is a first step that must be followed by defining disaster consequences. Infrastructure failures have direct and indirect economic, environmental, and societal consequences, ranging from lost revenue to a store without power to public health issues due to lack of wastewater treatment. We need better tools to understand the short and long-term consequences to the regional economy from infrastructure failures, including how time and geographical scales impact economic consequences. Attempting to understand the number of people who will be directly affected and the severity of the consequences can also be a significant motivator for developing a better recovery plan.

Recommended Action I-3: ***Evaluate the usefulness of creating performance targets to establish region-wide performance goals for all infrastructure systems***

In addition to better understanding vulnerabilities and risks, providers need to have a more accurate understanding of feasible timelines for recovering their systems, interdependent systems, and the consequences of these timelines. Many providers' anticipated recovery timelines make assumptions about the performance of interdependent systems, and may not be accurate or feasible. Providers need a better understanding of factors outside of their control may impact their ability to quickly restore service. Providers also need to better understand potential trigger points and cascading effects of delays in recovery - is there a point when a delay triggers a much larger consequence, either within their system or in an interdependent system? Interdependencies may also change as time passes. For example, a system that has generator capacity for three days is not dependent upon power for this time, but once the generator fuel runs out, they become dependent on the power grid or short-term fuel supply if power is not yet restored. This type of delayed interdependency or failure is not well understood.

San Francisco Planning and Urban Research (SPUR) has created categories of expected performance for lifelines within San Francisco, as well as goals and targets for recovery of infrastructure systems within 4 hours, 3 days, 30 days, and 4 months and beyond after a disaster. ABAG suggests considering developing similar performance categories at a regional level using peer-reviewed evaluation methodology to provide clear expectations and goals for all utility providers, as well as provide a useful tool for evaluating the current state of systems and communicating this information with other providers. SPUR also provides a table for identifying target states of recovery as compared to expected current status, and a similar table using regional performance goals could be widely utilized by regional infrastructure providers.

Recommended Action I-4: ***Identify strategies to reduce interdependencies and develop plans to assist with implementation***

Concurrent with examining vulnerabilities and impacts, research could be conducted to identify cost-effective, feasible strategies to mitigate interdependencies, including system redundancy or backup, "islanding"

vulnerable systems to limit their impacts and impacts to them, or creating smaller, self-contained "districts" of systems rather than one large, vulnerable system. This study should include identifying existing policies and regulations that impede or assist recovery as well as identifying what policies and regulations are need to propel infrastructure recovery.

Critical to reducing interdependencies is breaking down barriers of confidentiality. Currently, many providers have begun their own internal analysis of their systems to understand their own vulnerabilities. While being mindful of security, proprietary and liability issues, summary results of these analyses should be shared with other providers to provide a common operating picture. This can help providers understand how other sectors and providers' assumptions and timelines will impact their own restoration efforts. Providers and regional coordinating bodies (such as that suggested below in Recommended Action I-5) could also benefit from understanding if their risk and vulnerability assessment tools are powerful and technically accurate enough to gain an adequate understanding of likely consequences from a disaster and be able to plan appropriate mitigation actions.

Goal #2: Increase ways to share risk information to collectively improve regional infrastructure system resilience

As previously identified, to better understand interdependencies the industry must improve risk information sharing among service providers and regional stakeholders before a disaster occurs. We also have to participate in collaborative planning and accelerate mitigation. This sharing and collaboration is vital to an effective recovery.

By understanding interdependent failures that occur and identifying cross-system "hot spots," communities, facilitated by regional coordinating bodies, can best and most quickly repair all services, not just individual systems. Strategic repairs on a region-wide basis will enhance and expedite Bay Area recovery.

One way to begin to understand this is to seek lessons from past disasters on the process of infrastructure system recoveries and what providers learned after the fact. These lessons may come from Bay Area providers who recall the recovery process after Loma Prieta in 1989, or they may come from the twenty east coast states hit by Sandy. Examining the recovery process in past disasters inevitably reveals interdependencies and impacts and can also uncover missed opportunities for efficiency to implement now before a future disaster.

Communication and information sharing also allows for informed prioritization of infrastructure recovery, allowing key nodes such as hospitals, support centers, emergency housing, and government buildings to recover first. Understanding upstream and downstream interdependencies for repairs as well as which systems key community resources rely upon can to develop an appropriate timeline for streamlined recovery. Understanding priorities and system interdependencies allows providers to identify primary repairs to minimize interdependency and restore certain portions of systems quickly. Regional performance categories, as discussed above, can be utilized as a tool to begin make prioritizations based on the performance category.

Recommended Action I-5: ***Establish a senior leadership forum on infrastructure resilience issues to convene providers and stakeholders***

Infrastructure providers and the region's jurisdictions need a forum in which to share and gain situational awareness, spark mitigation programs and create new or utilize existing decision-making and prioritization tools. Currently, there are many sources of information available to infrastructure decision-makers - ranging from Caltrans, other providers, news reports, and crews working on the ground. Organized assistance can also help to identify cross-sectoral specific data needs and ways to circulate risk studies among providers. Tapping a third-party, neutral convener can offer impartial perspectives in prioritizing policy and strategic actions as well as providing a central information hub. A committee team can engage other stakeholders for decision-making and program prioritization, including the broader community.

There are already other mechanisms in place that serve this type of function, including the Bay Area Emergency and Security Information Collaborative (BAESIC), California Water Agency Response Network (CalWARN), and the Bay Area Water Multi-Agency Coordination Group, but these are sector-specific. Bringing existing groups together and developing a larger forum based on these smaller existing models can leverage current actions. The committee team could also consider using the California Earthquake Clearinghouse, an existing body that compiles damage information after a disaster for use by government agencies, non-profit organizations, and academia, as a conduit to collect and distribute infrastructure damage information after a disaster.

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Regional Resilience Initiative
Economy and Business Policy Paper

Background

The impact of an earthquake on the economy has one of the farthest-ranging implications for disaster recovery in the Bay Area. Without a swift and strong economic recovery, the Bay Area will suffer from a protracted recovery with slow repopulation in heavily damaged areas, slow rebuilding of homes and businesses, and loss of revenue from business, tourism, and taxes. Estimates are that a magnitude 7.0 earthquake on the Hayward fault would generate $90-96 billion in direct commercial building related economic losses across eight of the Bay Area counties.[1] We have seen repeatedly in disasters that areas with the fastest economic recovery are those which already have strong economies and cultivate conditions to help businesses thrive before a disaster. Just as individuals who maintain a healthy lifestyle recover more quickly from illness, a strong economy has the potential to rebound quickly from an earthquake or natural disaster.

The major keys to economic recovery after a disaster are keeping residents employed, creating an environment that motivates big businesses to stay in the region, and keeping small businesses open. Keeping residents in the Bay Area and in their homes and able to meet their daily needs is also a high priority so employers have a work force available to keep maintain business momentum.

Currently and historically, the Bay Area region enjoys a strong local economy that is one of the most prosperous in the country and is continuing to improve despite a slow national economy. Of the major metropolitan areas within California, the Bay Area has the highest real GDP per capita, outpacing San Diego, Los Angeles, and the United States as a whole.[2] As a recognized center of innovation and one of the largest concentrations of people and wealth in the United States, the Bay Area economy is critical not only to the entire region, but to the state and federal governments as well, providing tax revenue and cutting edge innovation technology for all sectors of the U.S. economy, including defense.

The Bay Area functions as a single economic unit, meaning that among the counties in the region there is a high degree of interconnectedness between where people work and live. Jobs as well as housing are distributed widely throughout region, and only 53% of residents work in the county in which they live. All of the counties and sub-regions are highly dependent on one another for their economic functioning and on the region's transportation network. San Francisco, as the major jobs center, has the largest net inflow of workers, while more suburban Contra Costa County has the largest net outflow.

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[1] *1868 Hayward Earthquake: 140-Year Retrospective*, RMS November 2010. Modeled loss estimates consider post-event loss amplification. All loss estimates are for property insurance coverage only. All losses above include shake and fire following earthquake. *Note: This estimate includes losses for Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties only. Similar losses are expected for a San Andreas fault scenario earthquake.*

[2] The following section is largely adapted from The Bay Area Council Economic Institute Report *The Bay Area: A Regional Economic Assessment* (October 2012)

The Bay Area economy supports innovative, highly productive technology companies, which in turn support many other job industries. The region has significantly higher levels of concentration than the nation and the state in several key sectors: computer systems design and equipment, semiconductors and other electronic equipment, magnetic and optical media, software, space research and technology, communications equipment, industrial machinery, scientific research, pharmaceuticals and medicine, information services, and beverages. Competitiveness in these areas supports jobs throughout the region and at all levels of the economy. The region is also characterized by a highly productive tourism sector, with higher than national average concentrations of accommodation and food services and the arts, entertainment, and recreation industries.

These industries benefit from a highly skilled and educated labor force, which is present in large numbers in the Bay Area. This concentration of skilled workers in turn attracts more skilled workers and businesses to employ them. The region also benefits from many research universities, private and federal laboratories, investment capital, and a business environment that encourages innovation and entrepreneurship. The local economy also benefits from the high quality of life in the Bay Area—the top reason new companies tend to locate here is because the founders live here or want to live here, suggesting that many business owners have strong ties to the region. However, the success of the region has also created drawbacks, such as high housing costs and long commutes to jobs.

Overcoming Barriers to Economic Recovery

Despite the strong regional economy, there will still be many issues impacting economic recovery after a disaster. For example, the economy will not just need to maintain its current strength, but will need to be even more profitable after an earthquake than before. After the 1989 Loma Prieta earthquake severely damaged Santa Cruz's downtown area, an economist determined that businesses in the Pacific Garden Mall needed to do 35% more post-disaster business to afford to move back into replacement buildings because of the increased costs of new construction. This is a single example of what will need to be overcome to create a good business environment.

Goal#1: Retain Big Businesses

The Bay Area Council's (BAC) Regional Economic Assessment, largely focused on the biggest economic players in the region, has identified impediments to regional economic growth and prosperity. These impediments will likely be exacerbated in a disaster. For example, housing costs are already very high, stemming from lack of supply. This supply will decrease when a major earthquake damages a large portion of the existing housing supply, and the cost of new construction will likely increase costs for replacement housing. If housing costs go up so that workers can no longer afford to live in the Bay Area, businesses will lose their labor force.

The Bay Area regulatory environment, including zoning, permitting and environmental regulations may also inhibit businesses after a disaster, making it too difficult to stay or rebuild. In the Bay Area Council's report, businesses identified a lack of consistency between regulatory agencies' policies at the local, regional and state level and commented that this situation limited their ability to expand within the region. These challenges will likely be highlighted after an earthquake when large amounts of rebuilding happens simultaneously, potentially overwhelming the capacity of regulatory agencies and slowing the process. The California Seismic Safety

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Commission has identified potential obstacles, regulations, and other impediments that can be resolved to help business quickly return to normal operations following a catastrophic event in California such as a major earthquake[3]. Many commercial buildings may be damaged beyond repair. Services will be needed to facilitate business relocation to available space throughout the region. Policy makers can make use of recommendations from this study to improve business and economic recovery.

Other factors likely to impact economic recovery include the dependency of businesses on our regional infrastructure systems—water, sewer, power, and access to broadband and communication—which are key to business operation and continuity. Ongoing infrastructure disruptions or unreliability will challenge businesses. Public transit, roads and highways are essential for the workforce to travel to work, particularly when more than half of Bay Area residents reside in a different county than where they work.[4] The recovery of the education sector is also key—K-12 schools not only provide education to children, but provide the daycare that allows parents to return to work. Long schools closures due to structural damage or prolonged shelter use will delay return of employees to work.

Goal #2: Keep Small and Neighborhood Serving Businesses Open

The BAC study focused on the leading industries and business in the Bay Area, but small and locally serving businesses remain an important component of a strong region and are especially vulnerable to closure after a disaster. An estimated 25% of small businesses do not re-open following severe disruptions from a major disaster.[5] Many of these businesses provide the day-to-day necessities for residents such as groceries, shopping, doctors' offices, pharmacies, and restaurants. Essential services are mandatory for getting residents to remain or return. Until essential goods and services are available, people will stay away.

One reason why small businesses are so likely to fail is that they tend to operate with small profit margins and limited reserve funds, which means that even a short period without cash flow may have a significant impact on business. Small businesses also may not be eligible for SBA loans, which require businesses to demonstrate that loans can be repaid. This is difficult to do with small profit margins, and particularly when your building, supplies and materials (means of production) have been damaged or destroyed. Businesses need to secure funding right away in order to plan to rebuild, but with the lack of availability of SBA loans and the fact that many small businesses cannot take on more debt, many businesses will fail if they can't secure funding. In addition, it is estimated that only about 15% and 20% of the commercial losses of a major Hayward Fault earthquake will be reimbursed by insurance.[6]

As part of the recovery process from Hurricane Sandy, New York City is offering bridge loans of up to $25,000 for small business owners needing quick capital to avoid small business closures and help businesses get back on

[3] March, 2012 California Seismic Safety Commission "Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting LLP
[4] Bay Area Council Economic Institute Report *The Bay Area: A Regional Economic Assessment* (October 2012)
[5] March, 2012 California Seismic Safety Commission "Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting LLP
[6] RMS, 2008. 1868 Hayward Earthquake: 140 Year Retrospective

their feet.[7] The Louisiana Bridge Loan Program after Katrina was a similar program to provide "gap funding" to businesses waiting on other types of funding. Over $55 million has been loaned to date.[8] Loans of this type can be facilitated at the regional level in the aftermath of a major disaster.

Other factors that decrease the odds of a small business staying open after a disaster include being a younger or less established business, being in a highly competitive or low-growth industry, having only one location, and leasing as opposed to owing the business.[9] Many of these factors often apply to locally-owned, small businesses.

The federal Economic Development Agency (EDA) has various tools available to support local and regional Economic Development Districts (EDDs) in post-disaster long-term economic recovery, such as: support to develop long-term recovery strategies and integrate recovery planning into local Comprehensive Economic Development Strategies (CEDS); resources to hire a regional disaster response coordinator as a full-time EDD staff member; funds to establish revolving loan funds (RLFs); assistance for public infrastructure improvements; and technical assistance.[10]

In California, small businesses make up 99.2% of the state's employers and 82% of private sector jobs.[11] Projecting similar numbers on the Bay Area, the impact of small business loss has the potential for more widespread impacts in job losses, lost tax revenue for local governments and loss of revenue for vendors.

> **Case Study: Santa Cruz Pacific Garden Mall**
> Local governments can look to Vision Santa Cruz as a successful model that supported local downtown businesses, provided temporary storefronts and rebuilt the downtown in a new way that strengthened local business for the future. After the Loma Prieta earthquake in October 1989, the city, together with downtown businesses, scrambled to set up tents and other temporary structures to enable local businesses to reopen in time for the holiday shopping season. The temporary downtown opened the day after Thanksgiving, just over a month after the earthquake. Holiday events and a farmers' market kept the downtown active as a destination for residents.

While there is clearly a need to identify and pursue innovative solutions to business disruption following a disaster, there is perhaps a greater need to find practical solutions to limit impacts on small businesses through economically feasible pre-disaster preparedness and mitigation initiatives. Small businesses may recognize they are located in vulnerable buildings, but often do not have the resources to undertake costly retrofits and have difficulty securing financing to do so. Some may opt to purchase insurance to provide coverage for limited damage or business disruption rather than invest in structural mitigation projects. The development of new

[7] http://www.nyc.gov/html/sbs/nycbiz/downloads/pdf/home/Emergency_Loan_FAQ.pdf
[8] http://ssl.csg.org/innovations/2007/2007applications/Southapplications2007/07S48LADISASTERRESPONSE.pdf
[9] Dahlhamer, J., and Tierney, K. (1996). Winners and Losers: Predicting Business Disaster Recovery Outcomes Following the Northridge Earthquake. University of Delaware Disaster Research Center.
[10] July 2011, NADO Research Foundation, "Resilient Regions – Integrating Economic Development Strategies, Sustainability Principles and Hazard Mitigation Planning"
[11] California Seismic Safety Commission, March 2012. Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting

strategies for integrating hazard mitigation and risk reduction actions into long-term economic development is crucial to maintaining small business in the post-disaster environment.

Goal #3: Minimize Supply Chain Disruption and Keep Goods Moving

Other potential barriers to economic recovery include the disruption of vendors and supply chains to and from the region and the repercussions for national and international markets. Business disruption has upstream and downstream impacts on supply chains that can exacerbate impacts on the economy. For example, disruption of a manufacturing business may limit global supply of a particular product, impacting the economy far beyond the original area. While the Bay Area's share of the manufacturing industry is not particularly concentrated, what is manufactured here is highly specialized and focused on sophisticated equipment design and development.[12] Disruption of this specialized design and manufacturing could have global economic impacts or affect long-term growth in the region.

The consequences of impacts to specialized manufacturing can be seen in Japan after the 2011 Tohoku earthquake and tsunami. The shutdown of specialized parts manufacturing plants in Japan led to assembly plant shutdowns in US. Because of their specialized nature, the lack of even small parts can shutter an entire plant if there is no alternative. Often, highly specific parts can't be made just anywhere – Japan in this case had specialized producers with patented production processes. While others could learn to produce a similar product, quality is an issue and certifying quality from another producer can take up to a year. The lack of production of automobiles in the US due to the loss of parts from Japan led to a constrained auto supply worldwide, impacting global prices. This event raised awareness of the economic challenges of recovery beyond the immediate concerns for protecting human life and property but to protecting economic interest, as it continues to impact domestic and multi-national business operations. The 2011 Tohoku earthquake has had long-term economic consequences such as loss of market share, higher unemployment, and loss of businesses entirely.[13]

On the other side of the supply chain, inability to get goods into the damaged area can cause a shortage of goods for daily needs as well as materials and labor for rebuilding. Many businesses today operate with a "just-in-time" model for goods deliveries, stocking only enough to last until the next delivery. The transportation and shipping industries are key in a "just-in-time" era – businesses need fast availability of goods in constrained environments. After a disaster, small or no stockpiles coupled with an inability to deliver new goods can have major implications on response and recovery. For example, many hospitals store limited quantities of medical supplies and rely on frequent regular deliveries of supplies. Many may also have no requirement for suppliers to develop continuity of operations plans to enable supplies to be delivered after a major disaster, when they are needed most. Similar issues arise around groceries and food supplies - most grocery stores have limited stockroom supply and will quickly run out of food after a disaster if new deliveries cannot be made. Even banks and financial institutions often have very little cash supply on hand and may not have enough cash to cover their

[12] March, 2012 California Seismic Safety Commission "Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting LLP
[13] (March 30, 2011) Japan earthquake impact hits U.S. auto plants. CNN Money. http://money.cnn.com/2011/03/28/autos/japan_earthquake_autos_outlook/index.htm

immediate expenses, much less be able to distribute cash to residents. This may become a serious issue if lack of power or broadband makes cash the only viable currency for purchasing goods. It is unknown how these types of shortages may impact the price of goods, but history shows that a constrained market raises prices for everyday goods.

The construction industry will also likely feel a shortage as building supplies such as wood, steel, cement, and aggregate become more difficult to import at the same time as demand increases due to extensive rebuilding and repair. The shortage of construction materials and skilled labor could increase the cost of rebuilding over pre-disaster prices and render insurance payouts insufficient.

Recommended Actions

The field of economic recovery from disasters is largely unexplored and unknown. As more frequent and larger disasters put more strain on local, regional, national, and worldwide economies, more detailed research and actions will likely emerge. At this stage, our recommendations are largely policy-level and rely on the basic assumption that a strong pre-disaster regional economy will help the economy recover quickly and come back stronger after a disaster. Some additional disaster-specific actions have been identified to support this process.

Recommended Action EB-1: ***Encourage the development of best practices that support business continuity and facilitate restoration of regional economies***

Concrete knowledge on economic recovery is limited, particularly within the context of the Bay Area. We recommend partnering with research bodies such as the Bay Area Council, the California Seismic Safety Commission (CSSC) and research institutions such as UC Berkeley and Stanford to continue to conduct Bay Area-specific research and studies on specific actions that local governments or regional groups can take to expedite economic recovery. We recommend implementing findings from the CSSC and conducting a more thorough survey on existing best practices, both specific to the Bay Area and from other disasters within the US. Best practices already identified by CSSC and others include:

- Provide expedited permits and create a system for requesting additional temporary skilled staff through mutual aid agreements with other government agencies to ensure fast processing of permits to help businesses rebuild quickly and minimize costly downtime
- Identify temporary space for retail and commercial businesses to quickly relocate temporarily, helping to minimize disruption and downtime.
- Provide bridge financing to assist small businesses
- Create a “toolkit” for distribution, and include a) employee preparedness at home, b) continuity plan template, c) disaster recovery plan template, d) roadmap of what to do based on each part of the disaster cycle, e) “Everything a Business Needs to Know about Government Programs and Planning Before, During, and After an Emergency” pamphlet and guidebook.

We recommend research focused around our first two issues in particular - getting large businesses to stay in the region and keeping small businesses open.

Recommended Action EB-2: ***Support pre-disaster economic development through existing regional best practices***

Several regionally-focused groups have conducted extensive research on how to best maintain and grow the Bay Area's economy. ABAG has conducted extensive economic research through its Plan Bay Area document, Jobs-Housing Connection Strategy, and is currently developing a Regional Prosperity Plan. ABAG is also developing a Regional Policy Background Paper on Economic Development which will include recommended actions for continued economic growth.

The Bay Area Council's Economic Assessment report outlines actions designed to strengthen today's economy, and a strong and nimble economy today will provide a basis for a strong regional economic recovery after an earthquake. We recommend that the region implement the BAC's six recommended areas for attention to ensure that the Bay Area's economy is strong before a disaster. In particular, the BAC's first recommended strategy of identifying a public-private focal point for regional economic strategy could be a strong tool in recovering the Bay Area economy and ensuring that decisions of elected officials benefit businesses and residents alike. Harmonizing regulations across the region has been identified as a potential stumbling block and can also foster a more even economic recovery, ensuring that businesses have the flexibility to recover in a uniform business climate.[14]

The research and recommended strategies around economic growth should also be considered through the lens of preparing for disaster recovery. Further study could be utilized to identify and prioritize existing strategies that strengthen the economy in areas that may be particularly susceptible to disruption from a major disaster. These strategies should also help drive recovery plans to ensure that economic recovery aligns with the region's larger economic goals.

Recommended Action EB-3: ***Implement the recommendations of the Resilience Initiative's Decision-Making, Housing, and Infrastructure Policy Papers***

Many of the key factors in economic recovery are closely linked to the issues laid out in the Initiative's issue papers on housing, infrastructure and regional decision-making. Strengthening these areas will bolster our overall economy and ability to recover quickly. These recommended actions also support issues identified in BAC report as necessary for a strong regional economy.

We recommend a particular focus on strengthening housing for recovery, as our housing stock is such an important resource for the strength of the economy, and is both largely uninsured and highly vulnerable to damage. Protecting our housing stock allows residents and workers to stay in the region and maintains housing affordability.

Expedited repair of infrastructure systems also allows businesses to reopen sooner, since they cannot operate without basic services and employees cannot reach their places of work without a working transportation

[14] California Seismic Safety Commission, March 2012. Post-Disaster Rapid Economic Recovery Plan Project – Leading Practices and Potential Steps for a Rapid Post-Disaster Economic Recovery," Report by Deloitte Consulting

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system. In addition key transportation corridors could be identified and made accessible to goods movement companies to improve supply chain continuity.

Implementing recommended actions about regional decision-making will help build political consensus on recovery priorities across the region, contributing to the sense that jurisdictions are working together for the common good of the region. This will instill confidence in businesses to continue to invest in the Bay Area, and instill confidence in residents that they will continue to have jobs and a high-quality place to live. Positive messaging about the pace of recovery will also be needed to bolster business confidence.

Recommended Action EB-4: ***Explore innovative financial incentives to support disaster resilience initiatives for small business***

Pre-disaster funding directed toward hazard mitigation for small business is currently limited to conventional lending practices which generally are either not available or not cost-effective for small business owners. Additionally, earthquake or business interruption insurance can be prohibitively expensive for small businesses operating with a small profit margin. There is a need to engage Chambers of Commerce, Economic Development Departments, lending institutions, the insurance industry and federal agencies, such as the Economic Development Administration, the Historic Trust Main Street Program, in a discussion of potential strategies to support pre-disaster hazard mitigation incentives for small businesses. At the local level, Business Improvement Districts, revolving loan programs, or pooled financing should be explored.

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Regional Resilience Initiative Action Plan

Introduction

This paper consolidates the recommended actions identified through ABAG's Regional Resilience Initiative process and explored in detail in our Regional Decision-Making, Housing, Infrastructure, and Business and Economy Policy Papers into one Action Plan. Organized by those four topic areas, this paper categorizes actions, sets priorities and identifies initial implementation tasks.

In general, actions associated with our Decision-Making Policy Paper serve as a platform to support and facilitate topic-specific actions. We recommend regional policy makers begin implementing many of the decision-making recommendations in the near-term, while simultaneously pursuing easily achievable strategies from the other categories. Many of the more complex recommendations will require coordinated regional policy before being enacted. Implementing the decision-making recommended actions will help with more even implementation across the region, increasing resilience as a whole.

Implementation Level

In this paper, each action has been identified by the level at which it can be initiated and implemented – regional, local, or both. Many actions will need to be developed and initiated through a regional effort, led by a regional body such as ABAG, MTC, or JPC. For certain actions, this regional work will then spur community-specific actions at the local level with policy, assistance, or information-sharing. The focus of this work is on regional-level initiatives, therefore very few actions are recommended for local initiation prior to regional resolution. Planning and technical guidance for those local actions will be available from the region.

Action Categories

Recommended actions are also categorized by type based on thematic similarity. The categories of actions are as follows:

Facilitation: These types of actions create forums and frameworks to facilitate action, but do not necessarily generate a concrete resilience action. They depend upon enabling participants to discover, communicate, and collaborate to implement concrete actions. These actions also help to build relationships, which is crucial to building resilience.

Education/Information: Education and Information actions actively seek to gather and communicate new information to assist stakeholders and encourage voluntary actions to plan for recovery or to increase resilience.

Evaluation: In many cases we may not have a clear picture on what the status or effectiveness of existing programs, policies, or resources. Evaluation tasks help to better understand our current level of resilience and set a baseline against which to track future work.

Policy Development: This category seeks to develop policy which supports resiliency capacity building and that can be adopted at the regional level or serve as a model for adoption at the local level. The goal is to provide tools that can be easily utilized by jurisdictions as well as establish consistent baseline policy for the entire Bay Area.

Further Study/Research: Many of the recommended actions require additional understanding or technical research on best practices or development of tools before specific actions should be implemented. Actions in this category warrant additional resources for study.

Program and Operation: These actions require a program with stakeholder support, resources, public involvement, and a defined outcome. Many of these types of actions will require local-level programs, with the region providing assistance and coordination.

Timeframe

Each recommended action is assigned a general timeframe for implementation. The reasoning behind the timeframes is below:

Short-Term: These are items that can be easily accomplished in the near-term with few additional resources or research. Many of these actions require organizational changes or slightly changed or expanded scopes of work rather than entirely new scopes of work. These changes could be completed within 1-5 years.

Medium-Term: Actions in this category require a bit more effort to implement. They may require some level of resources, additional research, or depend on another task or action to be accomplished before they are feasible. They may require setting up a new program or operation, or staff to plan for implementation. These actions could be completed within 5-10 years.

Long-Term: This category encompasses the most complex actions which may require substantial resources, research, or preparatory work. They may require broad coordination or change of political will that may take years to accomplish. These actions may be subdivided into phases to make them more achievable. Actions in this category may take up to 20 years to complete.

How to Use This Document

Each action is summarized in a quick overview table, enabling the reader to easily see the timeframe, categories, and level of implementation. This is followed by a text summary of the meaning of the action and initial implementation tasks. This document also contains two larger tables – a summary table at the beginning of the document showing all of the recommended actions at-a-glance (see below) and an initial implementation timeline following. This “timeline” helps to organize the actions to prepare for the development of a detailed implementation plan.

Recommended Actions Summary

Regional Decision-Making				
		Timeframe		
Recommended Action	**Level of Implementation**	**Short-Term**	**Medium-Term**	**Long-Term**
G-1: Use existing intergovernmental committees to convene jurisdictions and facilitate communication around disaster recovery collaboration	Regional	√		
G-2: Examine the feasibility of a regional disaster recovery framework	Regional		√	
G-3: Integrate resilience policy into current plans and practices	Regional, local			√
G-4: Lead reconnaissance missions for local leaders, staff, and community leaders to areas undergoing disaster recovery	Regional, local	√		
G-5: Establish and maintain a recovery clearinghouse to house resources for pre-disaster recovery planning and post-disaster recovery guidance	Regional, local	√		
Housing				
		Timeframe		
Recommended Action	**Level of Implementation**	**Short-Term**	**Medium-Term**	**Long-Term**
H-1: Identify areas where mitigation and recovery resources are particularly important	Regional, local	√		

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H-2: Explore interim housing solutions that encourage residents to invest in the Bay Area's recovery	Regional, local			√
H-3: Use the SCS as a framework to directing resources for permanent replacement of housing	Regional, local			√
H-4: Address the problem of underinsured homes with more realistic hazard insurance availability	Regional, local		√	
H-5: Encourage accurate identification of soft-story buildings	Regional, local	√		
H-6: Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes	Regional, local		√	
H-7: Reduce personal and community losses by increasing resilient building and retrofit practices	Local	√		
H-8: Improve the quality of non-engineered retrofits by developing a statewide retrofitting license for contractors, or providing contractor training	Regional		√	
H-9: Increase the number of retrofitted homes by providing financial incentives for homeowners to retrofit	Regional, local		√	
Infrastructure				
		Timeframe		
Recommended Action	**Level of Implementation**	**Short-Term**	**Medium-Term**	**Long-Term**
I-1: Establish regional baseline assessment and system performance standards to identify vulnerabilities and define interdependencies	Regional		√	

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I-2: Conduct a regional assessment of system interdependencies and the consequences of cascading failures	Regional	√		
I-3: Evaluate the usefulness of creating performance targets to establish region-wide performance goals for all infrastructure systems	Regional			√
I-4: Identify strategies to reduce interdependencies and develop plans to assist with implementation	Regional			√
I-5: Establish a senior leadership forum on infrastructure resilience issues to convene providers and stakeholders	Regional	√		
Economy and Business				
Recommended Action	**Level of Implementation**	**Short-Term**	**Medium-Term**	**Long-Term**
EB-1: Encourage best practices that support business continuity and facilitate restoration of regional economies	Regional		√	
EB-2: Support pre-disaster economic development through existing regional best practices	Regional, local	√	√	√
EB-3: Implement the recommendations of the Resilience Initiative's Decision-Making, Housing, and Infrastructure Policy Papers	Regional, local	√	√	√
EB-4: Explore innovative financial incentives to support disaster resilience initiatives for small business	Regional, local		√	

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Initial Implementation Guide

Short-Term (Completed in 1-5 years)	
Recommended Action	**Initial Implementation Tasks**
G-1: Use existing intergovernmental committees to convene jurisdictions and facilitate communication around disaster recovery collaboration	• Convene the Joint Policy Committee (JPC) and/or Regional Planning Committee (RPC) to discuss potential formation of disaster recovery forum • Identify potential roles and organizing structure for forum • Identify goals and objectives for forum • Recruit "champion" within RPC or JPC to help gather stakeholders • Coordinate with other similar initiatives, such as the Joint Policy Committee's Climate Action and Energy Resilience Project
G-4: Lead reconnaissance missions for local leaders, staff, and community stakeholders to areas undergoing disaster recovery	• Identify potential funding sources • Identify leaders to attend, such as ABAG's RPC members or other groups • Establish a MOU with the Earthquake Engineering Research Institute (EERI) to expand their program to include local stakeholders
G-5: Establish and maintain a recovery clearinghouse to house resources for pre-disaster recovery planning and post-disaster recovery guidance	• Identify a staff lead, with funding, to begin research and resource collection • Examine platforms for sharing, including websites, Base Camp, and file-sharing systems
H-1: Identify areas where mitigation and recovery resources are particularly important	• Gather vulnerable population data to input into GIS • Secure funding for ABAG staff time

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H-5: Encourage accurate identification of soft-story buildings	• Share regional best practices and lessons learned • Begin drafting policy language based on existing ordinances that is easily adoptable by jurisdictions
H-7: Reduce personal and community losses by increasing resilient building and retrofit practices	• Establish a technical team to research and develop standard guidelines for single-family retrofits • Engage with the California Earthquake Authority and FEMA to coordinate efforts
I-2: Conduct a regional assessment of system interdependencies and the consequences of cascading failures	• Utilize ABAG's existing Lifelines Committee to oversee a system assessment • Research best practices for interdependencies assessments • Partner with San Francisco Lifelines Council to avoid duplicating efforts • Develop scenario and work plan
I-5: Establish a senior leadership forum on infrastructure resilience issues to convene providers and stakeholders	• Identify existing groups that may be able to expand to take on this responsibility • Establish goals and objectives for forum
EB-2: Support pre-disaster economic development through existing regional best practices	• Identify topics for further research • Identify appropriate research teams or partnerships with research institutions to establish programs of study
EB-3: Implement the recommendations of the Resilience Initiative's Decision-Making, Housing, and Infrastructure Policy Papers	• Identify short-term tasks in previous recommendations that most effectively support the regional economy and begin implementation
Medium-Term (Completed in 5-10 years)	
Recommended Action	**Initial Implementation Tasks**

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G-2: Examine the feasibility of a regional disaster recovery framework	• Look at existing recovery plans and frameworks to establish best practices and ensure integration • Work with regional recovery forum to establish a working group tasked with development of a recovery framework • Establish stakeholder input process to solicit feedback from local jurisdictions
H-4: Address the problem of underinsured homes with more realistic hazard insurance availability	• Establish contact with the California Earthquake Authority and engage in discussions
H-6: Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes	• Engage lobbyists and prepare a policy platform around PACE funds and upholding AB184 • Identify best practices and sources of funding for seismic retrofit funding • Explore innovative public/private partnerships for funding sources
H-8: Improve the quality of non-engineered retrofits by developing a statewide retrofitting license for contractors, or providing contractor training	• Organize best management practices to inform state licensing • Establish a regional certification program for pre-disaster retrofit and post-disaster repair, building on ABAG's previous efforts
H-9: Increase the number of retrofitted homes by providing financial incentives for homeowners to retrofit	• Work with One Bay Area Grant managers to establish language for seismic improvements in grant qualifications • Partner with the California Earthquake Authority to utilize their mitigation funding effectively • Implement Recommended Action H-1 to identify high priority areas for mitigation funding
I-1: Establish regional baseline assessment and system performance standards to identify vulnerabilities and define interdependencies	• Research best practices for assessing infrastructure vulnerabilities and baseline conditions • Establish a working group to identify standard earthquake scenarios and educate infrastructure providers on how to use the

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	scenarios for assessment purposes • Provide a platform for providers to share their own research and best practices
EB-1: Encourage best practices that support business continuity and facilitate restoration of regional economies	• Identify topics for further research • Identify appropriate research teams or partnerships with research institutions to establish programs of study
EB-4: Explore innovative financial incentives to support disaster resilience initiatives for small business	• Identify private sector partners to begin conversations about incentives • Explore best practices and case studies around financing incentives
Long-Term (Completed in 10-20 years)	
Recommended Action	**Initial Implementation Tasks**
G-3: Integrate resilience policy into existing current plans and practices	• Incorporate resilience discussions into the second iteration of the SCS • Identify best practices for jurisdictions and develop a guide to assist in implementation
H-2: Explore interim housing solutions that encourage residents to invest in the Bay Area's recovery	• Identify best practices shelter-in-place policies and the development of neighborhood support centers • Develop pre-disaster temporary sheltering plans and policies
H-3: Use the SCS as a framework to directing resources for permanent replacement of housing	• Consider the feasibility of adopting the SCS as the regional housing recovery plan
I-3: Evaluate the usefulness of creating performance targets to establish region-wide performance goals for all infrastructure systems	• Develop a technical team to examine SPUR and other existing performance categories for feasibility • Conduct necessary research on the Bay Area's infrastructure systems to develop categories tailored to our specific Bay Area

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	needs
I-4: Identify strategies to reduce interdependencies and develop plans to assist with implementation	• Develop a technical research team composed of engineers and other mitigation experts • Research existing policy and develop recommendations based on technical research

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Governance

G-1: *Use existing intergovernmental committees to convene jurisdictions and facilitate communication around disaster recovery collaboration*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
G-1: Use existing intergovernmental committees to convene jurisdictions and facilitate communication around disaster recovery collaboration	Regional	√		

Action Category					
Facilitation	*Education/ Information*	*Evaluation*	**Policy Development**	*Further Study/ Research*	*Program and Operation*

Utilizing an existing body such as the Joint Policy Committee (JPC) or Association of Bay Area Government (ABAG)'s Regional Planning Committee (RPC), create a regional forum for conversation and sharing, letting jurisdictions drive the content. The desired outcome would be more involved and informed stakeholders, consensus around major recovery decisions, and a coordinated regional policy platform.

Initial Implementation Tasks:

- Convene the Joint Policy Committee (JPC) and/or Regional Planning Committee (RPC) to discuss potential formation of disaster recovery forum
- Identify potential roles and organizing structure for forum
- Identify goals and objectives for forum
- Recruit "champion" within RPC or JPC to help gather stakeholders
- Coordinate with other similar initiatives, such as the JPC Climate Action and Energy Resilience Project

G-2: *Examine the feasibility of a regional disaster recovery framework*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
G-2: Examine the feasibility of a regional disaster recovery framework	Regional		√	

Action Category					
Facilitation	*Education/ Information*	*Evaluation*	**Policy Development**	**Further Study/ Research**	**Program and Operation**

Within a regional forum, a regional disaster recovery framework could allow jurisdictions to develop procedures for making decisions surrounding operations or processes as well as financial management issues that cross jurisdictional boundaries or are too cumbersome for one jurisdiction to manage alone. This framework may take the form of a written recovery plan, outlining procedures, roles, and tasks for all stakeholders involved, similar to FEMA's recently released *National Disaster Recovery Framework*.

Initial Implementation Tasks:

- Look at existing recovery plans and frameworks to establish best practices and ensure integration
- Work with regional recovery forum to establish a working group tasked with development of a recovery framework
- Establish stakeholder input process to solicit feedback from local jurisdictions

G-3: *Integrate resilience policy into existing current plans and practices*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
G-3: Integrate resilience policy into existing current plans and practices	Regional, local			√

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	*Further Study/ Research*	*Program and Operation*

Many elements that support resilience and recovery can be integrated into existing work, at the regional level and within jurisdictions. At a regional level, disaster resilience policy should be incorporated into ABAG's Sustainable Communities Strategy, the Joint Policy Committee's work on Climate Change, and other regional initiatives towards sustainability, economy, land use planning, and quality of life. Language and policy on recovery also can be integrated into existing county and city-level documents including General Plans and Emergency Operations Plans to formalize policy and procedures rather than requiring new initiatives.

Initial Implementation Tasks:

- Incorporate resilience discussions into the second iteration of the SCS
- Identify best practices for jurisdictions and develop a guide to assist in implementation

G-4: *Lead reconnaissance missions for local leaders, staff, and community stakeholders to areas undergoing disaster recovery*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
G-4: Lead reconnaissance missions for local leaders, staff, and community stakeholders to	Regional, local	√		

areas undergoing disaster recovery					
Action Category					
Facilitation	**Education/ Information**	**Evaluation**	*Policy Development*	*Further Study/ Research*	**Program and Operation**

Experiencing the aftermath of a disaster can be a strong motivator for elected officials and other leaders to assume new responsibilities and guide action in their jurisdictions, as well as learn new tools and skills for their own recovery process. The region could consider working with EERI to expand its reconnaissance teams to include local and community leaders and appropriate staff.

Initial Implementation Tasks:

- Identify potential funding sources
- Identify leaders to attend, such as ABAG's RPC members or other groups
- Establish a MOU with EERI to expand their program to include local stakeholders

G-5: *Establish and maintain a recovery clearinghouse to house resources for pre-disaster recovery planning and post-disaster recovery guidance*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
G-5: Establish and maintain a recovery clearinghouse function to house resources for pre-disaster recovery planning and post-disaster recovery guidance	Regional, local	√		

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	*Policy Development*	**Further Study/ Research**	**Program and Operation**

The region needs an informational clearinghouse to house and share case studies, best practices, model ordinances, checklists, and other forms of guidance to help stakeholders better understand the recovery process and to have easily accessible tools to enact relevant policy, before and after a disaster. Another role for the clearinghouse could be compiling an inventory of existing and newly created recovery-related Bay Area plans and assessing pre-and post-event mitigation and recovery investments to help leverage community improvements.

Initial Implementation Tasks:

- Identify a staff lead, with funding, to begin research and resource collection
- Examine platforms for sharing, including websites, Base Camp, and file-sharing systems

Housing

H-1: *Identify areas where mitigation and recovery resources are particularly important*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-1: ***Identify areas where mitigation and recovery resources are particularly important***	Regional, local	√		

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	*Policy Development*	**Further Study/ Research**	**Program and Operation**

By overlaying information on vulnerable housing type and vulnerable populations with hazard and Priority Development Areas policy makers can direct policies and allocate resources to strengthen housing, reduce individual losses, shorten housing reconstruction timelines, minimize economic disruption and promote long-term regional growth and economic goals.

Initial Implementation Tasks:

- Gather vulnerable population data to input into GIS
- Secure funding for ABAG staff time

H-2: *Explore interim housing solutions that encourage residents to invest in the Bay Area's recovery*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-2: Explore interim housing solutions that encourage residents to invest in the Bay Area's recovery	Regional, local			√

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	*Further Study/ Research*	**Program and Operation**

If possible, while homes are being repaired, residents should be enabled to remain in their home or neighborhood through shelter-in-place policies. When residents remain, local businesses are more likely to stay in business, and families are more likely to quickly return to the routine of school and work. Regional plans to provide neighborhood support centers can enable families to remain in place by providing centralized food and water distribution, access to generators and medicine, and other needed services and supplies. Neighborhood support centers facilitate maintenance of existing neighborhood support networks.

Initial Implementation Tasks:

- Identify best practices shelter-in-place policies and the development of neighborhood support centers
- Develop pre-disaster temporary sheltering plans and policies

H-3: *Use the SCS as a framework to directing resources for permanent replacement of housing*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-3: Use the SCS as a framework to directing resources for permanent replacement of housing	Regional, local			√

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	*Further Study/ Research*	**Program and Operation**

When housing needs to be reconstructed on a large scale, regional leaders can use the SCS framework and the identified areas for growth (PDAs) to guide post-earthquake planning and development. PDAs have plans for building that in some cases are ready to be executed and an earthquake can be an opportunity to implement these plans. This will have the dual benefit of stimulating recovery while achieving our regional vision.

Initial Implementation Tasks:

- Examine the feasibility of adopting the SCS as the regional housing recovery plan

H-4: *Address the problem of underinsured homeowners with more realistic hazard insurance availability*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-4: Address the problem of underinsured homeowners with more realistic hazard insurance availability.	Regional, local		√	

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	*Further Study/ Research*	**Program and Operation**

Policymakers can ensure that damaged homes are repaired and rebuilt more quickly by ensuring that more homeowners are covered by adequate hazard insurance coverage. Policymakers should work with the California Earthquake Authority to reduce both its annual premium and deductibles. Earthquake insurance policies for renters, however, are a good deal and their use should be more widely encouraged.

Initial Implementation Tasks:

- Establish contact with the California Earthquake Authority and engage in discussions

H-5: *Encourage accurate identification of soft-story buildings*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-5: Encourage accurate identification of soft-story buildings	Regional, local	√		

Action Category					
Facilitation	**Education/ Information**	**Evaluation**	**Policy Development**	*Further Study/ Research*	**Program and Operation**

Owner notification programs such as those taking place in Berkeley, Oakland, and Alameda are part of a broader societal trend recognizing the seismic vulnerabilities of soft-story buildings and placing liability on building owners. This exposure is something that owners will have to take into account when deciding how they will operate their buildings.[1] San Francisco, in 2012, embarked upon a ten-year mandatory evaluation and retrofit program for soft-story multi-family buildings.[2] While politically difficult, this mandatory program will likely serve the City's, the building owner's, and the residents' best interests in the long run.

Initial Implementation Tasks:

- Share regional best practices and lessons learned
- Begin drafting policy language based on existing ordinances that is easily adoptable by jurisdictions

H-6: *Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-6: Establish affordable financing mechanisms to facilitate seismic mitigation of multi-family residential properties vulnerable to damage in earthquakes	Regional, local		√	

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	*Policy Development*	*Further Study/ Research*	**Program and Operation**

We recommend that policymakers work together to find ways to utilize the PACE program for seismic retrofits and to lobby the federal government to provide the initial pot of money. In addition to PACE, a suite of policies and incentives can be adopted by cities wishing to encourage seismic retrofit. In addition, local governments

[1] Personal communication, Ken Moy, ABAG legal counsel
[2] Applies to three or more story, 5 or more unit soft-story wood frame residential buildings, phased in four categories based on geological hazard and use.

working together with lending institutions, insurance companies, and other government agencies before future earthquakes could design new coordinated lending processes.

Initial Implementation Tasks:

- Engage lobbyists and prepare a policy platform around PACE funds and upholding AB184
- Identify best practices and sources of funding for seismic retrofit funding
- Explore innovative public/private partnerships for funding sources

H-7: *Reduce personal and community losses by increasing resilient building and retrofit practices*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-7: Reduce personal and community losses by increasing resilient building and retrofit practices	Local	√		

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	*Further Study/ Research*	**Program and Operation**

Clear and comprehensive guidelines for the retrofit of all remaining single-family dwellings are needed. This lack of standard means that permits will be issued for voluntary seismic retrofits that may not be adequate. The California Earthquake Authority and FEMA are working to develop recommendations for future evaluation and retrofit codes and standards and local policy makers should encourage their effort.

Initial Implementation Tasks:

- Establish a technical team to research and develop standard guidelines for single-family retrofits
- Engage with the California Earthquake Authority and FEMA to coordinate efforts

H-8: *Improve the quality of non-engineered retrofits by developing a statewide retrofitting license for contractors, or providing contractor training*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-8: Improve the quality of non-engineered retrofits by developing a statewide retrofitting license for contractors, or providing contractor training	Regional		√	

Action Category					
Facilitation	*Education/ Information*	*Evaluation*	*Policy Development*	*Further Study/ Research*	**Program and Operation**

Similar to a plumbing or electrical license or the Home Improvement Certification category, a retrofitting license or certification would help ensure that contractors performing seismic retrofits are properly trained. Implementation would require action the by the California State License Board to develop some new regulations. Bay Area local governments may not be able to wait for state action to implement this policy. An interim step might be to establish a regional certification program for pre-disaster retrofit and post-disaster repair that would address the most vulnerable Bay Area building types.

Initial Implementation Tasks:

- Organize best management practices to inform state licensing
- Establish a regional certification program for pre-disaster retrofit and post-disaster repair, building on ABAG's previous efforts

H-9: *Increase the number of retrofitted homes by providing financial incentives for homeowners to retrofit*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
H-9: Increase the number of retrofitted homes by providing financial incentives for homeowners to retrofit	Regional, local		√	

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	*Policy Development*	*Further Study/ Research*	**Program and Operation**

Financial incentives not only make retrofitting more affordable, they can also improve the quality of retrofits by setting a minimum standard that retrofits must achieve in order to receive assistance, and create opportunities to educate communities about the prudence of seismic retrofitting. Regional agencies could consider including seismic improvements to the One Bay Area Grant Program which provides funding to support implementation of the Sustainable Communities Strategy. We recommend that policy makers also endorse the involvement of insurance industry in developing owner incentives for retrofitting structures.

Initial Implementation Tasks:

- Work with One Bay Area Grant managers to establish language for seismic improvements in grant qualifications
- Partner with the California Earthquake Authority to utilize their mitigation funding effectively
- Implement Recommended Action H-1 to identify high priority areas for mitigation funding

Infrastructure

I-1: *Establish regional baseline assessment and system performance standards to identify vulnerabilities and define interdependencies*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
I-1: Establish regional baseline assessment and system performance standards to identify vulnerabilities and define interdependencies	Regional		√	

Action Category					
Facilitation	*Education/ Information*	**Evaluation**	*Policy Development*	**Further Study/ Research**	*Program and Operation*

The region needs to establish common tools for evaluation and assessment, and build consensus around the type of analysis and how to present findings. One way to begin this is to establish common earthquake scenarios for evaluating systems so consequences can be compared and interdependencies are defined across the region. We need to, as a region, assess the existing state of infrastructure systems, much of which is aging, deteriorating, and functioning at capacities beyond their original design, which all increase vulnerability. Regional infrastructure stakeholders could conduct and share research on evaluations, best practices, and recommendations for effective and uniform analysis of vulnerabilities.

Initial Implementation Tasks:

- Research best practices for assessing infrastructure vulnerabilities and baseline conditions
- Establish a working group to identify standard earthquake scenarios and educate infrastructure providers on how to use the scenarios for assessment purposes
- Provide a platform for providers to share their own research and best practices

I-2: *Conduct a regional assessment of system interdependencies and the consequences of cascading failures*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
I-2: Conduct a regional assessment of system interdependencies and the consequences of cascading failures	Regional	√		

Action Category					
Facilitation	*Education/ Information*	**Evaluation**	*Policy Development*	**Further Study/ Research**	*Program and Operation*

Similar to San Francisco Lifelines Council's current lifeline qualitative review, the region should conduct a high-level assessment of Bay Area infrastructure systems to identify and assess critical interdependencies. The study could be based on a standardized earthquake scenario or scenarios (see above) and identify and assess lifeline systems by performance (similar to SPUR's performance categories) along with peer-reviewed approaches. Then communities can prioritize system improvements based on defined performance targets that suggest key mitigation actions.

Initial Implementation Tasks:

- Utilize ABAG's existing Lifelines Committee to oversee a system assessment
- Research best practices for interdependencies assessments
- Partner with San Francisco Lifelines Council to avoid duplicating efforts
- Develop scenario and work plan

I-3: *Evaluate the usefulness of creating performance targets to establish region-wide performance goals for all infrastructure systems*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
I-3: Evaluate the usefulness of creating performance targets to establish region-wide performance goals for all infrastructure systems	Regional			√

Action Category					
Facilitation	*Education/ Information*	**Evaluation**	**Policy Development**	**Further Study/ Research**	*Program and Operation*

San Francisco Planning and Urban Research (SPUR) has created categories of expected performance for lifelines within San Francisco, as well as goals and targets for recovery of infrastructure systems within 4 hours, 3 days, 30 days, and 4 months and beyond after a disaster. We could consider developing similar performance categories at a regional level using peer-reviewed evaluation methodology to provide clear expectations and goals for all utility providers, as well as provide a useful tool for evaluating the current state of systems and communicating this information with other providers.

Initial Implementation Tasks:

- Develop a technical team to examine SPUR and other existing performance categories for feasibility
- Conduct necessary research on the Bay Area's infrastructure systems to develop categories tailored to our specific Bay Area needs

I-4: *Identify strategies to reduce interdependencies and develop plans to assist with implementation*

Recommended Action	Level of	Short-	Medium-	Long-

	Implementation	Term	Term	Term
I-4: Identify strategies to reduce interdependencies and develop plans to assist with implementation	Regional			√

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	**Further Study/ Research**	*Program and Operation*

Concurrent with examining vulnerabilities and impacts, research could be conducted to identify cost-effective, feasible strategies to mitigate interdependencies, including system redundancy or backup, "islanding" vulnerable systems to limit their impacts and impacts to them, or creating smaller, self-contained "districts" of systems rather than one large, vulnerable system. This study should include identifying existing policies and regulations that impede or assist recovery as well as identifying what policies and regulations are need to propel infrastructure recovery.

Initial Implementation Tasks:

- Develop a technical research team composed of engineers and other mitigation experts
- Research existing policy and develop recommendations based on technical research

I-5: *Establish a senior leadership forum on infrastructure resilience issues to convene providers and stakeholders*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
I-5: Establish a senior leadership forum on infrastructure resilience issues to convene providers and stakeholders	Regional	√		

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	*Policy Development*	*Further Study/ Research*	*Program and Operation*

Infrastructure providers and regional communities need a forum in which to share and gain situational awareness, spark mitigation programs and create new or utilize existing decision-making and prioritization tools. Tapping a third-party, neutral convener can offer impartial perspectives in prioritizing policy and strategic actions as well as providing a central information hub. A committee team can engage other stakeholders for decision-making and program prioritization, including the broader community.

Initial Implementation Tasks:

- Identify existing groups that may be able to expand to take on this responsibility
- Establish goals and objectives for forum

Economy and Business

EB-1: *Encourage best practices that support business continuity and facilitate restoration of regional economies*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
EB-1: Encourage best practices that support business continuity and facilitate restoration of regional economies	Regional		√	

Action Category					
Facilitation	*Education/ Information*	*Evaluation*	*Policy Development*	**Further Study/ Research**	*Program and Operation*

Concrete knowledge on economic recovery is limited, particularly within the context of the Bay Area. We recommend partnering with research bodies such as the Bay Area Council, the California Seismic Safety Commission (CSSC) and research institutions such as UC Berkeley and Stanford to continue to conduct Bay Area-specific research and studies on specific actions that local governments or regional groups can take to expedite economic recovery. We recommend implementing findings from the CSSC and conducting a more thorough survey on existing best practices, both specific to the Bay Area and from other disasters within the US. We recommend research focused around our first two issues in particular - getting large businesses to stay in the region and keeping small businesses open.

Initial Implementation Tasks:

- Identify topics for further research
- Identify appropriate research teams or partnerships with research institutions to establish programs of study

EB-2: *Support pre-disaster economic development through existing regional best practices*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
EB-2: Support pre-disaster economic development through existing regional best practices	Regional, local	√		

Action Category					
Facilitation	**Education/ Information**	Evaluation	**Policy Development**	**Further Study/ Research**	Program and Operation

Several regionally-focused groups have conducted extensive research on how to best maintain and grow the Bay Area's economy. ABAG has conducted extensive economic research through its Plan Bay Area document, Jobs-Housing Connection Strategy, and is currently developing a Regional Prosperity Plan. ABAG is also developing a Regional Policy Background Paper on Economic Development which will include recommended actions for continued economic growth. The Bay Area Council's Economic Assessment report also outlines actions designed to strengthen today's economy, and a strong and nimble economy today will provide a basis for a strong regional economic recovery after an earthquake.

Initial Implementation Tasks:

- Prepare an implementation plan for current best practice recommendations, identifying appropriate stakeholders, fora, and funding sources for implementation projects

EB-3: *Implement the recommendations of the Resilience Initiative's Decision-Making, Housing, and Infrastructure Policy Papers*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
EB-3: Implement the recommendations of the Resilience Initiative's Housing, Infrastructure and Regional Decision-Making Issue Papers	Regional, local	√		

Action Category					
Facilitation	**Education/ Information**	**Evaluation**	**Policy Development**	**Further Study/ Research**	**Program and Operation**

Many of the key factors in economic recovery are closely linked to the issues laid out in the Initiative's issue papers on housing, infrastructure and regional decision-making. Strengthening these areas will bolster our overall economy and ability to recover quickly. These recommended actions also support issues identified in BAC report as necessary for a strong regional economy.

Initial Implementation Tasks:

- Identify short-term tasks in previous recommendations that most effectively support the regional economy and begin implementation

EB-4: *Explore innovative financial incentives to support disaster resilience initiatives for small business*

Recommended Action	Level of Implementation	Short-Term	Medium-Term	Long-Term
EB-4: Explore innovative financial incentives to support disaster resilience initiatives for small business	Regional, local		√	

Action Category					
Facilitation	**Education/ Information**	*Evaluation*	**Policy Development**	**Further Study/ Research**	*Program and Operation*

Pre-disaster funding directed toward hazard mitigation for small business is currently limited to conventional lending practices which generally are either not available or not cost-effective for small business owners. Additionally, earthquake or business interruption insurance can be prohibitively expensive for small businesses operating with a small profit margin. There is a need to engage Chambers of Commerce, Economic Development Departments, lending institutions, the insurance industry and federal agencies, such as the Economic Development Administration, the Historic Trust Main Street Program, in a discussion of potential strategies to support pre-disaster hazard mitigation incentives for small businesses. At the local level, Business Improvement Districts, revolving loan programs, or pool financing should be explored.

Initial Implementation Tasks:

- Identify private sector partners to begin conversations about incentives
- Explore best practices and case studies around financing incentives

MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Miriam Chion, Planning and Research Director

Subject: Plan Bay Area Implementation 2013-2017

Executive Summary

With the adoption of Plan Bay Area in summer 2013, ABAG will begin to guide regional efforts to advance plan from concept to implementation. Under state law, ABAG is responsible for coordinating regional implementation of the growth pattern established in the Plan (our region's Sustainable Community Strategy)—working in concert with MTC, local jurisdictions, CMAs, and other regional agencies to spur investment and development in PDAs. Implementation activities between 2013 and 2017 (when a second SCS will be adopted) can be organized into three categories: Coordination and Advocacy, Policy Analysis and Development, and Regional Planning Grants.

Coordination and Advocacy involves facilitating dialogue among local jurisdictions, counties, regional agencies, and state and federal agencies to support implementation of strategies for overcoming obstacles to development in PDAs.

Policy Analysis and Strategies will involve developing policies, strategies, and implementation actions that address regionally significant issues identified through the Plan Bay Area process, including housing affordability and production; open space, agriculture and conservation; economic development; complete communities; and resiliency. The RPC and Executive Board will be closely involved in this effort, reviewing and refining proposed strategies before they are advanced and implementation.

Regional Planning Grants will complement the County-level PDA planning grants by addressing complex implementation challenges in PDAs that have completed advanced planning and anticipate a significant amount of future growth. This will include an Advanced Infill/PDA Implementation program providing technical assistance, and PDA Innovative Partnership Grants to support collaboration across jurisdictions and agencies to improve infrastructure and services critical to creating successful PDAs.

Introduction

This memo outlines the Association of Bay Area Government's role and tasks in the implementation of Plan Bay Area, our region's Sustainable Communities Strategy (SCS). Over the next four years, ABAG working closely with MTC will coordinate with local jurisdictions, county Congestion Management Agencies, regional, state and federal agencies, and non-profit and private stakeholders to support the development and investment outlined in the SCS. The memo includes the following sections:

I. Context

II. Coordination and Advocacy

III. Policy Analysis and Development

IV. Regional Planning Grants

I. CONTEXT

State law designates the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) as adopters of the Sustainable Communities Strategy (SCS) for the nine-county Bay Area region. The SCS is required by Senate Bill 375 to establish a pattern of land use and transportation investment that will achieve a 15% per capita reduction in greenhouse gas emissions by 2035. ABAG and MTC staff worked collaboratively with local jurisdictions, Congestion Management Agencies and stakeholders to develop the Jobs-Housing Connection Strategy. The Strategy, which focuses 80% of new homes into locally-designated Priority Development Areas (PDAs) served by transit, meets the reduction target. Along with the Preferred Transportation Investment Strategy, the Jobs-Housing Connection Strategy was adopted in May 2012 as the Plan Bay Area preferred alternative. After completion of the environmental review, final adoption of the Plan is anticipated in June 2013.

The SCS Implementation builds upon the ongoing local and regional efforts towards development focused on PDAs and the preservation of open space and small towns over the last decade and a half. From the creation of the Transit for Livable Communities Program, through the creation of Transit Oriented Development Policies, to the FOCUS Program, ABAG and MTC have been prioritizing public investments to support housing production and job growth at PDAs.

ABAG's Role

ABAG's primary Plan Bay Area implementation responsibilities focus on housing, economic development and land use, including research, policy development and planning. ABAG is responsible for coordinating regional implementation of the growth pattern established in the SCS—working in concert with MTC, local jurisdictions, CMAs, and other regional agencies to spur investment and development in PDAs. ABAG also leverages longstanding relationships with private and non-profit sector stakeholders to address key regional economic, social and environmental tasks. These regional

coordination efforts will define a platform for advocacy at the state and federal levels. ABAG is also responsible for monitoring implementation of the SCS during the next four years, and for collaboratively developing a second SCS in 2017.

ABAG is also charged with managing the Regional Housing Needs Allocation (RHNA) process, which allocates State mandated housing requirements to jurisdictions in the Bay Area. RHNA pursues a fair distribution of housing planning responsibilities across jurisdictions. The allocation for the upcoming cycle, from 2014 to 2022, is expected to be adopted in July 2013. Consistent with State law, the geographic distribution of housing units in RHNA is linked to levels of growth in the SCS.

Planning and Funding

The Plan Bay Area Implementation builds upon several planning and funding efforts to support PDAs and PCAs. Since the inception of the FOCUS program in 2007, 160 PDAs and close to 200 PCAs have been adopted by the ABAG Executive Board. This process involved close collaboration between local planners and ABAG staff to identify areas with the greatest opportunity for sustainable development supported by local communities, and to identify the magnitude of new housing and job growth for each PDA in Plan Bay Area.

ABAG and MTC have administered a PDA planning grant program that has supported the development and adoption of 52 plans to create walkable, mixed-use communities within walking distance of transit. These plans accommodate the potential development of 40,000 new housing units, 60,000 new jobs and 24 million square feet of commercial space. The Transit Oriented Affordable Housing (TOAH) Fund has leveraged $40 million from foundations and private banks based on the $10 million MTC investment to expand housing options in PDAs.

Towards Plan Implementation, MTC recently adopted the One Bay Area Grant, which provides approximately $200 million for PDA capital investments and planning through CMAs; approximately $30 million on PDA planning grants to local jurisdictions from CMAs, MTC and ABAG; $10 million for PCA planning and capital investments, half of which will be matched by Coastal Conservancy and foundation resources; and another round of TOAH funding expected at around $40 million total. Other ongoing programs that support the Plan Bay Area Implementation include the construction of the Bay Trail, Water Trail, Green Infrastructure and Green Business programs.

II. COORDINATION AND ADVOCACY

ABAG plays a key role in facilitating a dialogue among local jurisdictions and identifying effective paths to address their challenges in supporting sustainable development. The Plan Bay Area implementation requires ABAG and MTC to work in close collaboration with local jurisdictions, counties, regional agencies, special districts, and the business and non-profit communities. Each of these parties plays a unique role in advancing the plan. ABAG and MTC also need to work with state and federal agencies to address major public investments and legislative initiatives.

Local Jurisdictions

A growth pattern capable of supporting the region's GHG emission targets and projected housing growth can only be implemented through local planning, zoning, and permitting. Moving forward, the implementation of existing plans and the adoption of new plans in the region's PDAs are critical to leveraging transportation investments, increasing housing options, and support complete communities. ABAG and MTC will continue to support local jurisdictions by focusing investment and resources into PDAs. In addition to building community support, efforts funded by the program have created the conditions for increased private investment through streamlining and other incentives

ABAG provides analysis, tools and resources to local jurisdictions to address issues of regional significance—challenges and opportunities that cross jurisdictional boundaries. ABAG and MTC will assist local jurisdictions in the implementation of the Plan by:

- Serving as day-to-day points of contact for jurisdictions with adopted plans regarding implementation issues
- Managing existing PDA planning grants to completion
- Providing interpretation and advice regarding SCS criteria and requirements, including those linked to RHNA
- Coordinating new PDA and PCA applications and applications for status changes (e.g. from a "potential" to a "planned" PDA)

Counties

Congestion Management Agencies, who are responsible for programming County transportation projects, are expanding their roles to address housing and land use planning. They are advancing the overarching regional objectives of Plan Bay Area through the development of the PDA Investment and Growth Strategies. The Strategies will provide criteria for the distribution of project funding from the One Bay Area Grant (OBAG) program—50-75% of which must be allocated to projects within PDAs. The Strategies are also expected to help guide new County-level PDA planning grant programs beginning in 2013. County-level PDA programs will help maintain and strengthen momentum for Plan implementation across the region.

These programs will be the responsibility of each County's CMAs, and will move administration of the bulk of the region's PDA planning funding from MTC and ABAG to the county level. Each CMA will present an Investment and Growth Strategy in May 2013 to the MTC Planning Committee and the ABAG Administrative Committee for comment, and will be engaged in continuous implementation.

ABAG and MTC will work closely with Congestion Management Agencies (CMA) to transfer the PDA planning grant program from the regional to County level, including interpretation of guidelines and provision of data. ABAG will provide initial assistance to CMAs to address issues requiring land use or

housing expertise. ABAG will continue to provide cross-jurisdiction coordination. It will facilitate discussion and information sharing among multiple jurisdictions or agencies regarding issues of mutual concern.

ABAG is facilitating the launch of the Growth Strategies by supporting CMAs in engagement of local jurisdictions, providing data gathering and policy analysis assistance, and offering additional one-on-one support to counties and jurisdictions as needed. In the short-term, ABAG is providing each CMA with Countywide reports that include PDA profiles, including current planning status, projected housing and jobs, and Housing Element certification status, and PDA "readiness" for development for each jurisdiction. ABAG is also developing county-level permitting reports for all jurisdictions on the 2007-2014 RHNA Cycle, including units permitted, affordability levels and units permitted in PDAs.

Regional Agencies

Consistent with the region's commitment to integrated planning, ABAG staff works closely with MTC to harness expertise on parking, pedestrian planning, transit, and other key issues. ABAG also works collaboratively with BAAQMD, BCDC, and special districts to ensure that policies related to air quality, sea level rise, water supply, and infrastructure capacity support Plan Bay Area.

ABAG continues to play an important role as a convener of the public, private, and non-profit sectors to develop partnerships for focusing investment and resources into PDAs. During 2012, ABAG and MTC created partnerships that garnered more than $5 million in federal and state grants to support regional planning efforts focused on economic development and Plan implementation. The region's approach to integrating planning across jurisdictional and professional boundaries is recognized as a national model.

State and Federal Agencies

Engagement with state and federal agencies involves acquiring new funding and advocating policies that will address issues of regional significance such as housing affordability, infill development strategies, local funding for energy efficient infrastructure or community resilience.

State agencies include the Strategic Growth Council, Housing and Community Development, Caltrans, HCD, CalFHA, OPR, CalEMA, CARB, and Natural Resource agencies. Federal Agencies include HUD, DOT, EPA and the Department of Energy.

Businesses, community organizations, and foundations

ABAG will work with MTC, building upon existing relationships, to engage with business and non-profit organizations This includes working to develop initiatives that support regional efforts and acquiring new funding sources. Key groups include business organizations, developers and potential investors in PDAs; housing, transit, open space and community organizations; and regional and national foundations concerned with the health and sustainability of the region.

III. POLICY ANALYSIS AND STRATEGIES

ABAG has been developing policies, strategies, and implementation activities to address regionally significant issues identified through the Plan Bay Area process. Building upon ongoing efforts, this task is organized into five areas: housing affordability and production; open space, agriculture and conservation; economic development; complete communities, and resiliency. Policy background papers for housing, open space, and economic development have been presented to the Regional Planning Committee and other stakeholders. Papers for complete communities and resiliency will be presented during the first half of 2013. In response to feedback, additional analysis and proposals will be brought to the RPC over the next year.

Housing affordability and production

- Analysis to support housing production strategies, policies and investments
    - *Reduction of the housing funding gap (to be developed by Winter 2014)*
    - *Local jurisdictions housing production and policy survey (completed for 6 of the 9 counties and presented to CMAs to assist development of PDA Implementation and Growth strategies)*
    - *Development feasibility analysis of 20 key PDAs (Under development)*
- Policy changes to increase new housing production including a replacement to redevelopment
- Capital and institutional investments in housing and neighborhood rehabilitation including improvements to schools, streets, sidewalks, sewers or other public infrastructure
- Development of a regional fund to expand housing production and rehab (i.e. Regional Affordable Housing Trust Fund)

Open space, agriculture, and conservation

- Analysis of relationships between the region's network of agricultural, habitat, and park lands
- Identification of challenges to conserving open space and habitat, and to sustaining an agricultural economy
- Update to Priority Conservation Area (PCA) program, including categorization of PCAs based upon role in the region's open space network (e.g. habitat; agriculture; urban parks)
- Continued expansion of Bay Trail

- Implementation of Water Trail program

Economic development

- Analysis of the spatial structure of the region, including existing and projected industry concentrations, distribution of future employment, and relationship of job locations to PDAs
- Identification of industries of opportunity that provide career ladder opportunities to low and moderate income workers and places of opportunity accessible to low income communities with current or projected clusters of these industries
- Development of region-wide and PDA-specific strategies for economic development, such as aligning workforce training with industries of opportunity and providing the social and physical infrastructure to enhance the competitiveness of regional and city centers competitive
- Prioritization and funding for local economic development pilot projects through the HUD grant
- Implementation of the recently launched Regional Energy Network, including coordination across jurisdictions and integration with Plan Bay Area

Complete communities

- Assessment of physical infrastructure services and amenities critical to healthy, livable communities
- Research into strategies for creating complete communities and development of policies tailored to Bay Area communities at different densities and scales of development
- Collaboration with special districts (e.g. infrastructure providers and park districts) and school districts to identify opportunities to leverage investments in PDAs

Resiliency

- Development of policies and strategies addressing regional preparation for the impact of natural disasters and multiple-hazards on: 1) Housing; 2) Infrastructure; and 3) Economy and Business; and 4) Governance and Decision-Making
- Development of housing resilience pilot project
- Coordination with BCDC and JPC overall climate change efforts and Sea Level Rise in particular

IV. REGIONAL PLANNING GRANTS

The regional planning grants to support local efforts are an essential component of Plan Bay Area implementation. These grants will allow the appropriate integration of tasks and organizations on the ground and the recognition of the specific needs and qualities of each neighborhood within the overarching regional goals. Three major efforts are considered: The HUD's Sustainable Communities Partnership Program, the PCA Pilot Program, and the Strategic PDA Investments.

HUD's Sustainable Communities Partnership Program

This is a three-year initiative funded by a $5 million grant from the U.S. Department of Housing and Urban Development (HUD) to the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). As part of HUD's Sustainable Communities Partnership Program, it aims to create stronger, more sustainable communities by integrating housing and jobs planning, fostering local innovation and building a clean energy economy.
This program will build on ongoing local and regional planning efforts to address the needs of people who face barriers to economic opportunities and who are least likely to participate in local and regional planning and decision-making processes. This program includes a broad representation of local jurisdictions staff and elected officials and stakeholders in the decision-making process.

1. ***Housing the Workforce Initiative**:* This initiative will create tools and resources to improve housing affordability near transit and stabilize low income neighborhoods. It provides approximately $1.2 million in grants to consortia of local jurisdictions, community and business organizations, and consultants. A first cycle of four small grants for a total of $250,000 were approved in January 2013.

2. ***Economic Prosperity Strategy**:* These grants are intended to expand the economic opportunities for low- and moderate-income workers. It provides $1 million in grants to consortia of local jurisdictions, community and business organizations, and consultants. The first grant to develop an overarching regional strategy for $450,000 was approved January 2013.

PCA Pilot Program

This grant provides $10 to support Priority Conservation Areas designated by local jurisdictions as part of the FOCUS program. The grants will be administered through two distinct programs:

1. A $5 million **North Bay Program** developed by the Congestion Management Agencies of Marin, Sonoma, Solano and Napa counties, building on their PCA planning and prioritization carried out to date. Project eligibility is limited by the eligibility of federal surface transportation funding; unless the CMA can exchange these funds or leverage new fund sources for their programs.

2. A $5 million **Peninsula, Southern, and Eastern Counties program** administered by the California Coastal Conservancy in partnership with ABAG and MTC. Funding from this program can support a wider range of activities and projects ranging from planning, pedestrian and bicycle facilities/infrastructure, habitat/environmental enhancements, and permanent protection. The program is expected to leverage up to $10 million in additional resources from the Conservancy and the Moore Foundation.

Strategic PDA Investments

Given the increasing maturity of the PDAs plans and the increasing role of CMAs in supporting the development of additional PDA plans, the regional planning grants are redefined to support PDAs investments and construction over the next four years. Based on input from local jurisdictions three major priorities are proposed for consideration:

1. ***Entitlement****:* Given the high level of resolution of selected PDA plans and established local commitment to housing investments and job growth, local grants will support the streamlining of the entitlement process to reduce the time and expense of project approval as well as to increase private investments. ABAG will coordinate with regional and state agencies to simplify regulations and reduce local implementation costs.

2. ***Infrastructure****:* Many of the infill development sites in PDAs require major infrastructure upgrades before any new investments take place, given the increase in density and age of the infrastructure. These grants will support the assessment of needs and identification of resources for infrastructure improvements.

3. ***Design***: The focused growth pattern of Plan Bay Area has implications for the scale of the neighborhood, the quality of public spaces and the character of the community. Limited resources have been available to support urban design, particularly in small communities. These resources will allow local jurisdictions to support the choices the community makes on the character of the neighborhood.

ABAG and MTC will administer two flexible programs that strengthen the investment potential of key PDAs, emphasizing the three priorities shown above. These include:

- ***Advanced Infill/PDA Implementation Program.*** ABAG and MTC The program will be led by a team from the regional agencies with experience addressing specific challenges—including knowledge of best practices and successful precedents from the Bay Area—as well as a group of on-call consultants and technical experts. The program will pool consultants/experts to assist local jurisdictions in the development of specific technical reports, policies, strategies, and local regulations supporting the development of PDAs and implementation of existing plans.

- ***PDA Innovative Partnership Grants.*** Given the complexity and scale of infill tasks required for Plan Bay Area implementation, partnerships across jurisdictions and agencies in the Bay Area have proven successful in advancing local plans. This grant will support coordination of tasks for greater efficiency in providing improvements to infrastructure and other services critical to overcoming obstacles to infill. It will also expand community support for infill development and creation of complete communities. Grants could fund 6-8 major pilot projects over three years

These programs will complement the County-level PDA planning grants by addressing complex implementation challenges in areas with advanced planning. These programs will be funded by $8 million from the $40 million of Resolution 4035 regional planning funds. Following a competitive application process, funds will be transferred directly transferred to local jurisdictions without the allocation of additional funding for regional staff. Matching funding can be provided from grants obtained by ABAG, jurisdiction staff time, and private sector and non-profit partners.

MEMO

Date: February 25, 2013
To: ABAG Administrative Committee
From: Miriam Chion, Director, Planning and Research
Subject: ABAG Legislative Priorities Around Affordable Housing

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ABAG and MTC are nearing completion of Plan Bay Area, an integrated land use and transportation plan required per California law, Senate Bill 375. With *Plan Bay Area*, the regional agencies are enhancing the linkages between land use planning and transportation investments to achieve the region's sustainability goals. A central goal of Plan Bay Area is to create enough workforce affordable housing to support forecast job growth.
To aid policy makers in setting legislative priorities around affordable housing, this memo addresses the following:

1. Why we need more affordable housing to support economic growth
2. Local/regional strategies discussed to date
3. Pending and potential legislation

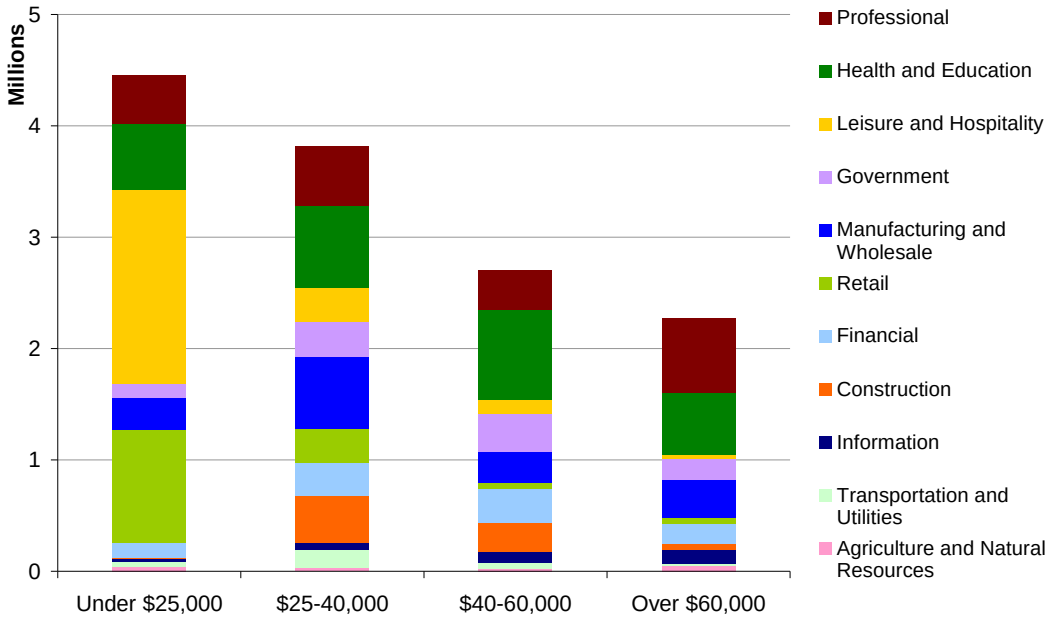
1. Why we need more affordable housing to support economic growth
The need for affordable housing in the Bay Area has been well documented. The Bay Area Council and Joint Venture Silicon Valley have both consistently identified a lack of affordable housing as a key constraint to regional economic growth.[i] Echoing extensive academic research by UC Berkeley and others, the Low Income Housing Coalition found that extremely low income households that rent represent the greatest affordable housing need.[ii] And ABAG's 2040 forecast of affordable housing need from projected job growth indicates that housing affordability could remain a serious barrier to economic growth. Absent enough affordable housing workers will be forced to commute further for jobs. This will not only increase traffic congestion and air pollution, but will impede economic growth if enough workers are not readily available to fill new jobs.
Residents of the Bay Area currently pay on average 37% of their incomes for housing, well beyond the 30% maximum amount identified by the federal Housing and Urban Development Department (HUD). But this average does not reveal the tremendous variation by occupation, wage, and location of Bay Area households, or the challenges they face in meeting their housing needs.

Household income forecast
Looking at employment growth by sector reveals that a significant proportion of jobs pay only low to moderate wages. Even the two sectors in California and the Bay Area with the highest projected growth, Professional Services and Health and Education, which have relatively high

median wages, nevertheless have significant segments of the workforce in low paying occupations.

Figure 1 illustrates the wage mix among Bay Area industrial sectors. Professional Services has the highest share of occupations that earn more than $60,000 annually, while Health and Education has the highest share that earn $40,000 - $60,000 per year. Yet both sectors show substantial numbers of jobs at all wage levels. The Construction and Manufacturing and Wholesale sectors have significant numbers of jobs in middle-income occupations, while Leisure and Hospitality (which includes hotels) and Retail have higher shares of low-income jobs.

Figure 1. 2010 California Employment Distribution by Sector and Annual Income



Source: EDD and BLS, analysis by Karen Chapple, UC Berkeley, and ABAG.

Fewer than half the jobs in Professional Services require the higher levels of education that one might assume. Close to a quarter of the jobs in Professional Services are administrative support occupations, with an estimated average annual income of $33,000. Another quarter of Professional Services occupations involve construction, maintenance, transportation, cleaning, and security.

As shown in *Table 1*, in 2010 about 40 percent, or just over 1 million, of Bay Area households were classified as very-low and low-income according to the U.S. Census. *Table 1* also shows that the number of very-low and low-income households could increase from 40 percent in 2010 to 43 percent of households by 2040.

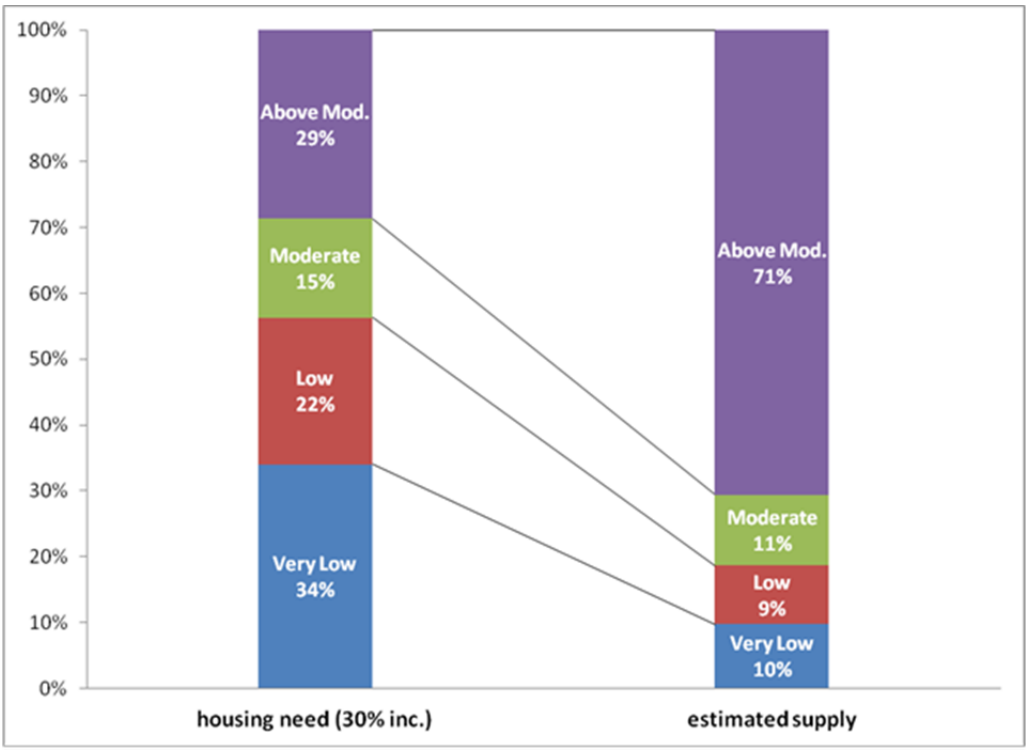
Table 1. Household Growth by Income Category, 2010-2040

Households	Very Low	Low	Moderate	Above Mod.	Total
Existing 2010	648,600	401,470	463,642	1,094,312	2,608,023
	25%	15%	18%	42%	100%
New 2010-2040	222,372	173,817	110,515	193,384	700,087
	32%	25%	16%	28%	100%
Total Households 2040	*870,972*	*575,287*	*574,156*	*1,287,695*	*3,308,110*
	26%	*17%*	*17%*	*39%*	*99% (due to rounding)*

Source: Karen Chapple and Jacob Wegmann, *Evaluating the Effects of Projected Job Growth on Housing Demand*, 2012

New housing constructed in the Bay Area is unlikely to match this housing need. Between 1999 and 2006, 71% of new housing was produced for above moderate income households. Preliminary estimates for 2007 to 2011 indicate a similar pattern. *Figure 2* shows what it would look like if 1999-2006 levels of housing production were to continue to 2040. Although the past decade was marked by tremendous market fluctuation, these trends suggest high levels of production in the above moderate category will continue into the future. If we project these trends to 2040, which assumes that a redevelopment replacement program is adopted along with an affordable housing funding measure similar to Proposition 1C**, unmet affordable housing need for very low and low income households is estimated at over 248,000 units.**

Figure 2. Housing by Income Category: 2040 need assuming 1999-2006 levels of production



By 2040 the Bay Area may produce 660,000 homes as projected by ABAG, but these homes may only be within reach of upper income households. This means that without measures that encourage more housing and subsidies for affordable housing, lower income households will seek housing through distant commutes, overcrowding, and more families living in substandard housing in areas of concentrated poverty. If *Plan Bay Area* is to achieve its goal to enhance the environment while expanding the economy in an equitable fashion, policy changes must be made.

2. Local/regional strategies discussed to date

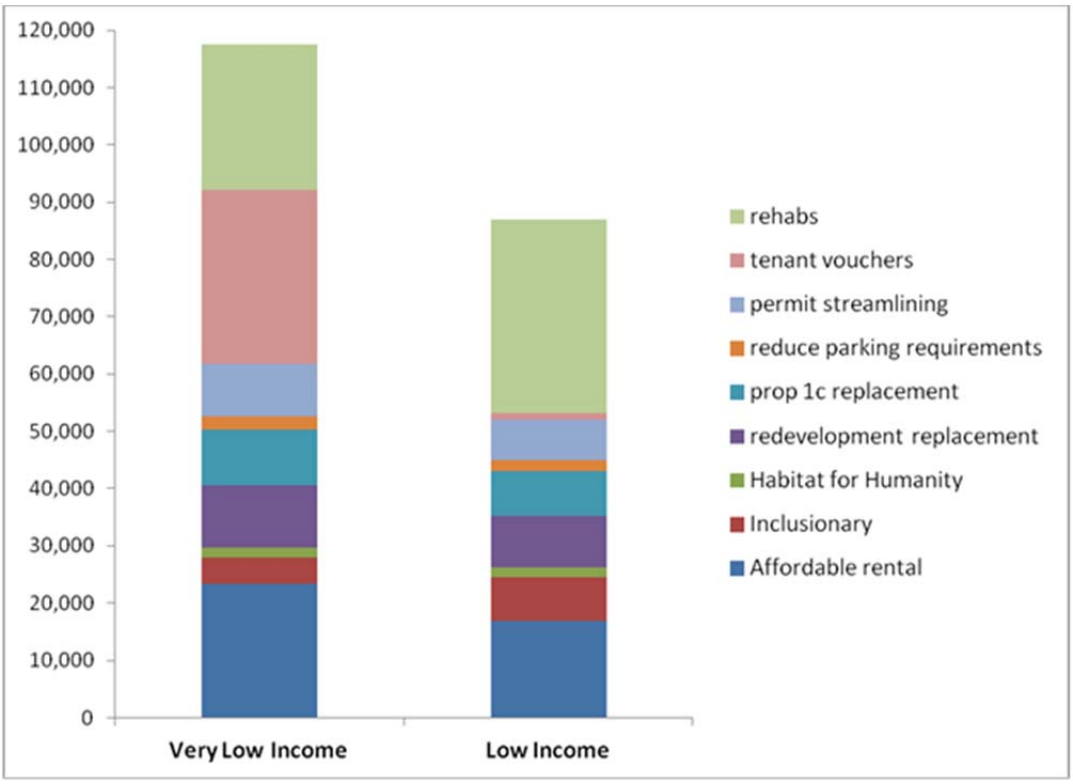
Because of these employment and wage trends, supplying enough affordable housing is expected to remain a challenge to regional growth in the future. As part of Plan Bay Area, an initial set of strategies to promote more affordable housing were discussed in the *Jobs-Housing Connection* land use strategy adopted by the joint MTC/ABAG Board in June 2012, and in the background policy report *Housing the Workforce* published October 2012. These strategies include:

- Creating a redevelopment replacement program
- Replacing Prop 1C and other sources of affordable housing funds
- Expanding the use of regional affordable housing trust funds to build new housing *and* rehabilitate and make permanently affordable the existing housing stock in neighborhoods near jobs with access to transit
- State and local regulatory reforms to support new housing production including changes to CEQA and local entitlement streamlining

As previously discussed however, households in the Bay Area currently spend an average of 37% of their income on housing, more than the 30% maximum amount suggested by HUD. Beyond constraints to housing production and acquisition, this is in part due to the strength of the Bay Area economy with its' unparalleled concentration of technology related companies, highly educated workforce, and beautiful natural environment. Because the regional economy is expected to continue this growth, albeit at a slower rate, it is unlikely that the average amount spent on housing will appreciably decline in the near future given these otherwise desirable qualities.

As shown in *Figure 3* below, if households are able to continue spending 37% of their income on housing as they do today, unmet housing need for very low and low income households **could be further reduced from 248,000 units to approximately 53,000 units.** Although young upwardly mobile households can afford to put more income into housing today because they expect higher incomes tomorrow, this would be a tremendous hardship for those with few opportunities for advancement.

Figure 3. The Bottom Line: estimated 2040 housing production for very low and low income households



3. Pending and potential legislation

What are the primary considerations for policymakers addressing affordable housing needs? First, more housing at all income levels supports overall housing affordability. Second, not providing enough affordable housing for tomorrow's workforce could compromise regional economic growth.

A number of potential initiatives are underway that could support affordable housing production including:

- SB 391 California Homes and Jobs Act (introduced February 20, 2013) puts a $75 recordation fee on real estate transactions excluding home sales. This fee could generate an estimated $500 million annually for affordable housing programs.

- A Bay Area Regional Quality of Life/Sustainable Communities Initiative has also been discussed that could go to the ballot in November 2014. This regional ballot measure would be similar in structure to Regional Measure 2 of 2004 that created a regional transit plan for the Bay Area. This measure could potentially generate funding for more affordable housing and other regional issues. The legislation is being conceived in two phases: the first bill would set up the regional authority to create a revenue and expenditure plan; the second bill would identify a specific expenditure and revenue

measure.

- Revenues from the state's new cap and trade auction are projected to reach $1-4 billion annually by 2015, representing a new and significant source of funding for affordable housing. In June, the California legislature will adopt a budget that includes the first set of investments from the cap-and-trade auction program with a portion possibly dedicated to develop and rehabilitate transit-oriented affordable housing.

For the 2013 legislative session, ABAG'S legislation and governmental organizations committee identified two overarching legislative priorities:

1. Supporting measures that reduce the voter threshold for infrastructure taxes and bonds statewide and locally; and
2. Seeking permanent funding for regional agencies and local governments to fulfill SB 375 obligations such as funding for planning, infrastructure, and services, housing element reform, and CEQA streamlining with greater entitlement efficiencies.

The following pages summarize pending state legislation that could realize these priorities and support affordable housing production and overall community development.

LEGISLATION
2013 State Legislative Session
Legislation & Governmental Organization Committee

January 17, 2013

Bill Author	Subject	Status	Recommendation	Exec. Board Position	Legislation Summary
SB 1 **Steinberg**	**Sustainable Communities Investment Authority**	**SEN Referred to Committee on Government and Finance and then to Transportation and Housing Com.**	ABAG Staff: Support	**Watch**	This bill would authorize certain public entities (a city, county, city and county, or a special district) of a Sustainable Communities Investment Area to form a Sustainable Communities Investment Authority (authority) to carry out the Community Redevelopment Law. The bill would require the authority to adopt a Sustainable Communities Investment Plan for a Sustainable Communities Investment Area and authorize the authority to include in that plan a provision for the receipt of tax increment funds provided that certain economic development and planning requirements are met. (*bill says that a "Sustainable Communities Investment Area shall include the following: 1)Transit priority project areas; 2) Areas that are small walkable communities…")* The bill would authorize the legislative body of a city or county forming an authority to dedicate any portion of its net available revenue, as defined, to the authority through its Sustainable Communities Investment Plan. The bill would establish prequalification requirements for entities that will receive more than $1,000,000 from the Sustainable Communities Investment Authority and would require the Department of Industrial Relations to monitor and enforce compliance with prevailing wage requirements for specified projects within a Sustainable Communities Investment Area. The bill would deposit moneys received by the department from developer charges related to the costs

January 17, 2013

Bill Author	Subject	Status	Recommendation	Exec. Board Position	Legislation Summary
					of monitoring and enforcement in the State Public Works Enforcement Fund. By depositing a new source of revenue in the State Public Works Enforcement Fund, a continuously appropriated special fund, the bill would make an appropriation.
SB 33 **Wolk**	**Infrastructure Financing Districts: Voter Approval—Repeal**	**SEN Committee on Government and Finance**	ABAG Staff: Support League of CA Cities: Support	**Support**	*A measure to update Infrastructure Financing District law, making it a more useful tool for helping cities maintain, repair, and rebuild critical infrastructure and create economic development:* This bill would revise and recast the provisions governing infrastructure financing districts. The bill would eliminate the requirement of voter approval for creation of the district and for bond issuance, and would authorize the legislative body to create the district subject to specified procedures. The bill would instead authorize a newly created public financing authority, consisting of 5 members, 3 of whom are members of the city council or board of supervisors that established the district, and 2 of whom are members of the public, to adopt the infrastructure financing plan, subject to approval by the legislative body, and issue bonds by majority vote of the authority by resolution. The bill would authorize a public financing authority to enter into joint powers agreements with affected taxing entities with regard to nontaxing authority or powers only. The bill would authorize a district to finance specified actions and projects, and prohibit the district from providing financial assistance to a vehicle

LEGISLATION
2013 State Legislative Session
Legislation & Governmental Organization Committee

January 17, 2013

Bill Author	Subject	Status	Recommendation	Exec. Board Position	Legislation Summary
					dealer or big box retailer. The bill would create a public accountability committee to review the actions of the public financing authority. This bill would specify that the date on which the district would cease to exist would not be more than 40 years from the date on which the public financing authority adopted the resolution adopting the infrastructure financing plan. The bill would also impose additional reporting requirements after the adoption of an infrastructure financing plan.
SCA 9 Corbett	**Local Government: Economic Development—Special Taxes – Voter Approval**	**SEN Introduced to Rules Com for assignment—to print.**	ABAG Staff: Support	**Watch**	This measure would provide that the imposition, extension, or increase of a special tax by a local government for the purpose of providing funding for community and economic development projects requires the approval of 55% of it voters voting on the proposition. *(resolution to propose constitutional amendment for vote by people of California)*
SCA 4 Liu	**Local Government: Transportation Projects: Special Taxes – Voter Approval**	**SEN**	ABAG Staff: Support League of CA Cities: Watch MTC: support (with possible amendment)	**Support**	This measure would provide that the imposition, extension, or increase of a special tax by a local government for the purpose of providing funding for local transportation projects requires the approval of 55% of it voter voting on the proposition. *(resolution to propose constitutional amendment for vote by people of California)*

LEGISLATION
2013 State Legislative Session
Legislation & Governmental Organization Committee

January 17, 2013

Bill Author	Subject	Status	Recommendation	Exec. Board Position	Legislation Summary
SCA 8 **Corbett**	**Transportation Projects: Special Taxes – Voter Approval**	**SEN**	ABAG Staff: Support League of CA Cities: Watch	**Support**	This measure would provide that the imposition, extension, or increase of a special tax by a local government for the purpose of providing funding for transportation projects requires the approval of 55% of its voters voting on the proposition. *(resolution to propose constitutional amendment for vote by people of California)*

[i] Silicon Valley Index 2012, Joint Venture Silicon Valley, 2012. http://www.jointventure.org/images/stories/pdf/2012index.pdf
[ii] "Out of Reach," National Low Income Housing Coalition, 2012. http://nlihc.org/sites/default/files/oor/2012-OOR.pdf

MEMO

DATE: February 22, 2013

TO: ABAG Administrative Committee

FROM: Ezra Rapport, Executive Director

RE: Plan Bay Area Messaging

Key Messages

As Plan Bay Area advances toward adoption and public workshops approach, ABAG board members and staff are likely to engage in increased discussion about the plan with community members and other stakeholders. A key to moving the plan forward is developing a set of consistent but flexible messages to articulate the purpose, approach, and benefits of this plan. To help facilitate discussion, this memo suggests a handful of "messages" as starting points. This builds upon considerable work over the course of the SCS by the ABAG and MTC communications teams, as well as public feedback to date. The background resource material for outreach included as an attachment should provide an additional resource regarding messaging.

1. *Tackles problems that require regional solutions*: housing; air quality; traffic; jobs, economic development; open space preservation
2. *Plans for a vibrant and healthy region to our children and grandchildren*: better air quality; fewer greenhouse gas emissions; more housing options; better infrastructure; better access to jobs; access to open space and recreation
3. *Helps create healthy communities:* people walk more and live near shops, transit and local parks—these are the kinds of neighborhoods the plan will help create
4. *Makes us a more competitive region:* an adopted plan helps us attract private sector investment and compete for federal and state funding
5. *Provides more housing and transportation choices*: greater variety of multi-family and single family housing in places with transit access, better walking conditions, and local services
6. *Preserves open spaces and natural resources*: by developing in existing downtowns, main streets and neighborhoods, we don't need to develop on open spaces or in places that over utilize our water supply, energy resources, and road capacity
7. *More efficient use of taxes through smart investments:* makes the most of existing infrastructure; uses a performance-based (not interest-group based) approach to transportation investments; coordinates location of future housing and jobs with major transportation investments

8. *Created by local jurisdictions, not the top down agency*: Priority Development Areas were created by local governments; ABAG and MTC are made up of your locally-elected officials; land use and transportation strategies linked to local input and priorities; different kinds of investments and development are envisioned for different parts of the region

Spring 2013 SCS Engagement and Outreach

Over the past several months, MTC and ABAG staff have been analyzing housing, employment and transportation components of Plan Bay Area and readying a draft document for release in March. That action will spur elected official briefings and a third and final round of public meetings, polling and community engagement that are scheduled to take place before and after the release of the draft document.

There will be a total of four separate types of meetings conducted between now and the final adoption of the SCS this summer.

1. Elected Official Briefings
2. County wide workshops – Open House/Formal Hearing
3. Focus group meetings hosted by CBOs
4. Hearings on the draft EIR

1. Elected Official Briefings

Pursuant to SB 375, there should be at least two information meetings in each county (depending on population) within the region on the SCS for the purpose of presenting the draft SCS to elected officials and solicit and consider their input and recommendations. The elected official briefings will take place before or during CMA meetings. The schedule of the meetings is as follows:

Schedule of Elected Offical Briefings

Sonoma County: April 8th, 2:30 p.m.
Sonoma County Transportation Authority
Meeting Site: 2550 Ventura Avenue, Santa Rosa
Contact: Janet Spilman, Deputy Director, Planning and Public Outreach, 707/565-5373; jspilman@sctainfo.org

Solano County: April 10th, 6 p.m.
Solano Transportation Authority
Meeting Site: Solano County Government Center, 675 Texas Street, 6th Floor, Room 6004, Fairfield (Membership 7 city Mayors and County Supervisor)
Contact: Bob Macaulay, Director of Planning, 707-424-6006; rmacaulay@sta-snci.com

San Mateo County: April 11th @ 6:30 p.m.
San Mateo CMA/ C/CAG
Meeting Site: 1250 San Carlos Avenue, San Carlos
Contact: Sandy Wong, Executive Director, 650/599-1406 ; slwong@smcgov.org

Contra Costa County: April 17th, 6 p.m.
Contra Costa Transportation Authority
Meeting Site: 2999 Oak Road, Suite 110, Walnut Creek
Contact: Martin Englemann, Deputy Executive Director, Planning, 925/256-4729; email:

Napa County: April 17th, 1:30 p.m.
Napa County Transportation and Planning Agency
Meeting Site: 625 Burnell Street, Napa (new address)
Contact: Danielle Sinclair-Schmitz, Environmental Analyst/Coordinator, 707/259-5968; dsinclair@nctpa.net

San Francisco: April 23, 11 a.m.
San Francisco County Transportation Authority
Meeting Site: 100 Van Ness Ave., 26th Floor, San Francisco
Contact: Tilly Chang, Deputy Director for Planning, 415-522-4832 and Liz Brisson, 415/522-4838

Alameda County: April 25, 2:30 pm (on agenda @3:15)
Alameda County Transportation Commission
Meeting Site: 1333 Broadway, Suite 200, Oakland
Contact: Beth Walukas, Manager of Planning, Deputy Director, 510/ 3502326; bwalukas@accma.ca.gov

Marin County: April 25, Briefing/comment at pre-meeting 5-6:30 (7:00 pm board mtg)
Transportation Authority of Marin (TAM)
Meeting Site: 750 Lindaro Street, Suite 200, San Rafael
Contact: Linda Jackson, Planning Manager, 415/226-0825; ljackson@tam.ca.gov

Santa Clara: May 2, 5:30 p.m.
Santa Clara Valley Transportation Authority
Meeting Site: 3331 North First Street, Building B1, San Jose
Contact: John Sighamony, Senior Planner, VTA, 408/321-5767; e-mail john.sighamony@vta.org

2. County wide workshops – Open House/Formal Hearing

The spring 2013, public meetings, polling and community engagement will be the third series of outreach efforts. We are combining the third workshop and the formal hearing on the draft SCS in one event. This final round will satisfy the outreach requirements of SB 375. On December 14, 2012, this joint Open House/Formal Hearing format was recommended to the MTC Planning Committee and ABAG Administrative Committee for consideration and approval.

Schedule for Open House/Formal Hearings

April 8th
Sonoma County
Napa County

April 11th
San Francisco County

April 22nd
Solano County
Contra Costa County

April 29th
Marin County

April 30th
San Mateo County

May 1st
Alameda County (tentative)
Santa Clara County (tentative)

3. Focus group meetings hosted by CBOs

MTC entered into agreements with a group of CBOs at the beginning of the public participation process to engage communities of concern in the development of the SCS. They will hold focus groups in the communities they serve on the following dates:

- South Hayward Parrish, Hayward, February 7, 2013, 7:00 to 9:00 pm
- Housing Leadership Council and Peninsula Conflict Resolution Center, Redwood Shores, March 6, 2013, 6:60 to 8:30 pm
- Dixon Family Services, Dixon, March 7, 2013, 12:30 to 2:30 pm
- KBBF, Santa Rosa, March 12, 2013, 6:00 to 8:00 pm
- Richmond Main Street, Richmond, March 14, 2013, time TBD
- San Jose Downtown Association, San Jose, March 19, 2013, 2:00 to 4:00 pm
- Grassroots Leadership Network of Marin, Marine Jose, March 21, 2013, 12:00 to 2:00 pm
- Chinatown CDC, March 26, 2013, San Francisco, time TBD

The following CBO meetings are yet to be scheduled:
VIVO (Santa Clara County)
POWER (San Francisco)
One Spanish-language CBO workshop will also be held – date/location TBD

4. Hearings on the draft EIR

There will be a total of three hearings on the draft EIR around the region to present the findings and respond to questions regarding the draft document. The schedule is as follows:

Schedule for draft EIR Hearings

Marin
Tuesday, April 16 at 10 a.m.
Embassy Suites Hotel
Novato/Larkspur Room
101 McInnis Parkway, San Rafael

Alameda
Tuesday, April 16 at 7 p.m.
MetroCenter Auditorium
101 8th Street, Oakland

Santa Clara
Wednesday, April 17 at 1 p.m.
MLK, Jr. Library
Room 225/229
150 E. San Fernando Street, San Jose

Plan Bay Area - Overall Milestones

March 22	Release of Draft Plan Bay Area (begin 55-day comment period)
March 29	Release of Draft Plan Bay Area Environmental Impact Report (begin 45-day comment period)
April – May	Various comment opportunities
May 16	Close of Comment Period (Draft Plan, DEIR)
Late May	Present summary of comments
Late June	Adoption of Draft Plan, DEIR and conformity analysis, either at separate ABAG and MTC meetings or a joint meeting

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MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Ezra Rapport, Executive Director

Subject: Plan Bay Area Environmental Impact Report (EIR) Update

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In May 2012, the ABAG Executive Board and the MTC adopted the Jobs-Housing Connection Strategy as the preferred alternative (or "Project") for Plan Bay Area. This is being analyzed through an Environmental Impact Report (EIR), as required by the California Environmental Quality Act (CEQA). Consistent with CEQA, the EIR will assess potential environmental impacts of the Project. This analysis is a program EIR, which considers broad regional impacts of the Project, rather than smaller scale individual projects (e.g. a single transit expansion project or individual housing development). This is a combined EIR that will be jointly prepared and certified by ABAG and MTC. A Draft EIR is expected to be released in March 2013, followed by public hearings in April. Certification is expected in summer 2013, accompanying the adoption of Plan Bay Area. This memo describes the Project in greater detail, the alternatives assessed through the EIR, and the potential benefits of the EIR for some projects in locations with strong transit service.

Plan Bay Area Project

The Project focuses more than 80% of new housing and 66% of new jobs in locally elected Priority Development Areas, and focuses the majority of transportation investment on "fix it first" projects that improve existing transit services and roadways while also funding a variety of new transit projects and a network of Regional Express Lanes. The Project draws upon input from local jurisdictions with respect to existing and future land use policies. In addition to local input, the Project's distribution of growth takes into consideration proximity to major transit investments, the potential to reduce low-income commuting, and capacity to reduce Vehicle Miles Travelled, as well as economic and demographic trends. In an analysis prior to its adoption, the Project achieved a 17% reduction in per capita Greenhouse Gas Emissions from mobile sources, surpassing the 15% reduction target set by the State Air Resources Board (ARB) for the region.

EIR Alternatives

As required by CEQA, the EIR is assessing a No Project alternative and several additional alternatives. The alternatives are intended to attain most of the basic objectives of the Project (e.g. achieve the region's GHG emissions target), but avoid or lessen any of significant impacts associated with the project. The alternatives are described below.

No Project Alternative
The No Project alternative addresses what would be reasonably expected to occur if Plan Bay Area were not adopted. This is based upon continuation of existing land use policies (i.e. as defined in general plans and zoning), the 2010 transportation network as well as transportation projects that were funded, or had environmental clearance and were scheduled for funding, by May 2011.

Transit Priority Focus Alternative
This alternative combines the Project transportation network with a development pattern focused in locations with the highest levels of transit service. This development pattern is similar to the Project, but places a greater emphasis on concentrating new housing and growth in areas particularly well served by transit than on ensuring that this growth takes place in PDAs. In many cases, these areas overlap with PDAs, but in some cases do not. This approach to future land use assumes that zoning capacity will be increased in many transit-rich areas, and that fees may be used to help focus development in these locations.

Enhanced Network of Communities Alternative
The Enhanced Network of Communities alternative includes a modified version of the Project transportation network and a future growth pattern consistent with current local land use plans. The transportation strategy in this alternative redirects about $6 billion in discretionary funding to increase transit service, based upon the findings of the Transit Sustainability Project recently completed by MTC. This alternative does not reflect the full implementation of the Regional Express Lanes network.

Environment, Equity and Jobs Alternative
This alternative focuses a greater share of affordable housing in job-rich communities, and redirects $6 billion in discretionary funding to increase local transit service while also reducing implementation of the Regional Express Lanes network. This alternative anticipates that local land use policies would be changed and fees may be created to accommodate a higher level of housing production in many job-rich communities.

Potential CEQA Streamlining
An additional feature of the Plan Bay Area EIR is its potential to reduce the amount of future environmental analysis required for some projects with strong transit access. Consistent with SB375, the adopted Plan may provide the basis for streamlined environmental review of future "transit priority projects." Transit Priority Projects (TPP) must meet the following criteria:

- Contain at least 50% residential use at floor area ratio of at least 0.75
- Achieve a minimum density of at least 20 dwelling units/acre
- Be within ½ mile of a transit stop or corridor that provides service at least every 15 minutes during peak hours

Projects that meet these criteria may be eligible for different levels of CEQA streamlining:

- *Full CEQA Exemption*. Projects that meet TPP requirements as well as a host of environmental criteria and additional land use criteria may be fully exempted from CEQA analysis by a legislative body following a public hearing. These additional criteria help ensure that the project is not in an environmentally sensitive area and meets aggressive energy and water conservation targets. The criteria also limit the size of projects to 8 acres and require that developers provide

affordable housing and/or public open space.

- *Partial CEQA Streamlining.* Transit Priority Projects that do not meet criteria for CEQA exemption may be required to complete a full EIR or an initial study, but not analyze growth inducing impacts, impacts on the regional transportation network, impacts on mobile-source greenhouse gas emissions, or reduced density alternatives as part of this EIR.

For a more detailed discussion of these exemptions, see SB375[1] or the State Officer of Planning and Research's SB375 project flow charts.[2]

[1] Link:
http://www.google.com/url?sa=t&rct=j&q=senate%20bill%20375%20text&source=web&cd=2&ved=0CDkQFjAB&url=http%3A%2F%2Fwww.leginfo.ca.gov%2Fpub%2F07-08%2Fbill%2Fsen%2Fsb_0351-0400%2Fsb_375_bill_20080930_chaptered.pdf&ei=O4keUZbzHIm7iwKbwYDIBw&usg=AFQjCNHPGK7u2t68YRsqdtOhslE4WQL0aQ&bvm=bv.42553238,d.cGE

[2] Link:
http://www.google.com/url?sa=t&rct=j&q=sustainable%20communities%20environmental%20assessment%20sb375&source=web&cd=1&cad=rja&ved=0CDIQFjAA&url=http%3A%2F%2Fopr.ca.gov%2Fdocs%2FSB375-Intro-Charts.pdf&ei=HokeUabyBIeligK28IGABQ&usg=AFQjCNHEv28UumMlp7_VstM50A27HWRAvQ

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MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Miriam Chion, Director, Planning and Research

Subject: ABAG Achievements and Challenges: 2008-2012

In 2008, ABAG developed a Strategic Plan with a set of objectives and strategies to guide agency activities. The 2013 retreat provides an opportunity to reflect on our progress toward meeting these objectives during the past 4-5 years, as well as new objectives that have emerged in the interim years. Attached to this memo are the 2008 Strategic Plan and the Executive Performance Plan for Fiscal Year 2011-2012, which highlights key accomplishments during the past year. To help guide discussion, in the sections below this memo highlights progress toward the 2008 objectives and identifies new objectives that have emerged during the past four years.

2008 Strategic Plan Objectives

ABAG has generally had success in addressing the objectives included in the 2008 Strategic Plan, with a number of opportunities for improvement. These are discussed below for each of the objectives.

- *Establish long-term financial stability*
  After experiencing a deficit in 2010, ABAG has significantly improved its financial stability. This has included obtaining a line of credit that reduces risk of inadequate cashflow, implementing a $50,000 per year undesignated reserve contribution, and negotiating an agreement with MTC to secure funding for the planning and research team through 2017. This agreement reflects the ongoing commitment to partnership between the agencies, particularly around the integration of land use and transportation planning.

- *Increase housing supply at all levels*
  While the financial crisis of 2008 halted many planned housing developments, ABAG has helped set the stage for greater diversity of housing during the recovery period and beyond through the Jobs-Housing Connection land use strategy and 2014-2022 RHNA. The region's integrated approach to long-range land use planning and has added access to employment and transit to the traditional RHNA factors, creating a more robust approach to achieving affordability.

- *Improve mobility through coordination of land use, transportation and planning decisions*
  Through Plan Bay Area, ABAG has strengthened coordination with MTC at the staff and board level. ABAG and MTC staff has worked collaboratively to develop, review, and refine work

products, policies, and funding proposals. In addition to producing a joint land use and transportation plan through Plan Bay Area, the agencies have worked to obtain a $5 million grant from HUD to sponsor a regional prosperity plan

- *Conserve resources, promote sustainability, and improve environmental quality*
  ABAG has continued to provide leadership in sustainability through the successful green business and Bay Trail programs, as well as the recently launched Regional Energy Network (REN) and the longstanding Estuary Partnership. The Plan Bay Area land use strategy also contributes to regional sustainability by limiting development outside of existing communities to less than one percent. In addition, the ABAG planning team has helped design and will help implement a $10 million pilot program to support conservation efforts in the region's Priority Conservation Areas (PCAs)

- *Maintain and enhance a disaster-resistant region*
  Through the Resilience Initiative, ABAG has broadened the regional discussion about disaster preparedness and recovery, planning for multiple hazards, and enhancing coordination across jurisdictional boundaries.

- *Improve public understanding of ABAG*
  Despite a number of successful outreach efforts, the agency continues to face challenges to improving public understanding and perception that require creative approaches. The tenor of media coverage of ABAG can improve, as well as the ability of the public to access information from our website and other media.

New Objectives

A number of new objectives have emerged since the 2008 Strategic Plan, reflecting new challenges and opportunities that have emerged through the Sustainable Communities Strategy process and the evolution of other ABAG programs. These can be further shaped during the retreat. Some of these include:

- *Enhance capacity for forecasting and demographic analysis*
  This involves building in-house expertise to create and validate regional projections, developing fiscal models that perform cost-benefit analyses of regional land use strategies, and identifying best practice land use forecasting/modeling techniques. Progress has been made toward this objective through the development and use of UrbanSim to generate land use alternatives for the Plan Bay Area EIR, and through the recent hiring of a Principal Planner with recognized expertise in real estate and economic development.

- *Participate in statewide policy reform discussions*
  To support SCS implementation, ABAG has an important role to play in state policy reform discussions. Plan Bay Area begins this process by introducing a set of legislative priorities,

including the creation of a replacement to redevelopment, to help guide participation in these discussions.

- *Strengthen partnerships with regional agencies.*
  In addition to continuing coordination with MTC, ABAG can strengthen our relationships with BAAQMD, BCDC, special districts and other regional agencies to support SCS implementation and enhance our capacity to advance the goals of member jurisdictions. An important part of this is participation in the JPC.

- *Focus staff efforts and expertise on key SCS implementation issues*
  With the adoption of Plan Bay Area, ABAG staff can focus on issues critical to plan implementation. This involves both focusing staff time and building additional staff expertise to assist jurisdictions. Key implementation areas identified through analysis and local input include housing, economic development, complete communities, open space and conservation, and resiliency. Policy Background papers addressing the first three topics have been presented to the RPC; papers addressing the last two will be presented in the coming months. Feedback from these papers will help inform the policies included in Plan Bay Area and the priorities for implementation activities moving forward.

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Association of Bay Area Governments

STRATEGIC PLAN

2008

Association of Bay Area Governments

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Association of Bay Area Governments

ABAG Mission Statement

ABAG is committed to enhancing the quality of life in the San Francisco Bay Area by leading the region in advocacy, collaboration, and excellence in planning, research, and member services.

Association of Bay Area Governments

Improve public understanding of ABAG

- Realize public and media recognition and understanding of ABAG's mission, work, and achievements.

  - Strategy: Develop and implement a communication strategy to reach public and private stakeholders and media outlets.

    - Identify various public and private stakeholders.
    - Conduct focus groups to measure understanding of ABAG and its scope of work and help define more effective outreach.
    - Set up editorial board meetings around the region to increase ABAG visibility and focus on ABAG issues and projects.
    - Write periodic OpEds and letters to the editor for local and regional newspapers.
    - Review ABAG publications to evaluate effectiveness and update distribution strategies.
    - Use website for more comprehensive coverage of ABAG events, publications, and initiatives.
    - Increase marketing of ABAG forums and conferences and expand outreach of ABAG specialized training for more visibility.
    - Work with project manager on issue-related public service announcements to be distributed to local cable stations.

- Improve elected official and ABAG-member local government understanding.
  - Strategy: Raise awareness among elected officials about ABAG services and programs.
    - Schedule periodic ABAG regional presentations or special packet distribution with city councils and boards of Supervisors.
    - Host county brown bag lunch after elections for newly elected officials providing an orientation to ABAG programs, services, and resources.
- Establish a speakers bureau.
  - Strategy: Identify ABAG staff, board and committee members who are available to represent ABAG throughout the region.
    - Create a cadre of local government officials and staff to serve as Ambassadors of ABAG at local and regional events.
    - Increase presence at local events, e.g. conference of mayors, forums, conferences, town hall meetings, etc.
    - Identify and participate in regional conferences and local summits to display ABAG programs and projects.
    - Include ABAG regional information/presentation into county/local citizen academies.

- Establish measurable outcomes to evaluate results of public outreach.
  - Strategy: Quantify outreach and extent of impact.
    - Establish log-in system to track presentations, displays, media coverage, and audience reached (type and number).
    - Conduct a follow-up e-survey of ABAG members with queries on ABAG programs and ABAG visibility—asking questions about ABAG services, programs and projects they know about and/or used during the previous six months for the first time or heard more about.
    - Distribution method: use of e-mail/fax and/or Service Matters—and/or use web-link for survey.
    - Timeline: six months/annually after launch of public outreach.

Establish long-term financial stability

- Identify reliable, predictable funding
  - Strategy: Negotiate with MTC to increase pass-through from federal and state funding sources.
  - Strategy: Work with MTC to obtain additional funding for planning efforts related to PDAs and TOD.
  - Strategy: Seek funding from Coastal Conservancy for PCAs.
  - Strategy: Identify permanent financing opportunities for regional planning, e.g., Vehicle License Fees, etc.
  - Strategy: Seek funding from the BAAQMD to enhance planning efforts related to global warming and climate change.
- Increase service program revenues to support core mission.
  - Strategy: Expand marketing of FAN (conduit bond financing program).
  - Strategy: Increase client base for PLAN and ABAG POWER.
  - Strategy: Expand program scope into areas such as solar energy and other energy efficiency programs.

- Identify reasonable risk enterprise ventures to support ABAG's core mission.
  - Strategy: Expand online training and market services worldwide.
  - Strategy: Work with CALCOG to secure state funding from Propositions 84 and 1C for regional planning programs.
  - Strategy: Advocate at state level for permanent Blueprint funding.

Attract, develop, and retain high quality employees

- Instill high staff morale and job satisfaction.
  - Strategy: Conduct an internal scan (survey) and focus groups of employees to identify areas for improvement.
  - Strategy: Prepare, with employee involvement, an internal organization development plan.
  - Strategy: Implement the plan as feasible.
- Provide salaries and benefits that are competitive in the marketplace.
  - Strategy: The extent to which this objective is achievable is highly dependent on the goal of achieving consistent and reliable funding for the agency.
  - Strategy: There is, however, some opportunity for increased commitment to this objective via increased rates in grants and proposals.

- Ensure vigorous recruitment effort.
  - Strategy: Developing and retaining existing employees is the best possible recruitment strategy. Therefore, for this objective, as well as the previous, it's critical to prepare and implement an internal organization development plan as outlined above.
  - Strategy: Utilize multiple methods and venues for dissemination of job announcements.
  - Strategy: Interview a broad range of candidates, utilizing telephone/videoconferencing options if helpful.
  - Strategy: Expand outreach to ethnic professional organizations and graduate schools to recruit minority candidates.

Increase housing supply at all income levels

- Foster the development of affordable, livable, mixed use neighborhoods in the Bay Area.
  - Strategy: Develop a regional land bank to provide for increased housing densities in the future, particularly in areas with existing or planned transit.
  - Strategy: Promote higher density development in transit-served locations.
  - Strategy: Link FOCUS Priority Development Area incentives to the provision of affordable housing.
- Work with state to reform Regional Housing Need Allocation.
  - Strategy: Promote adoption of sub-regional approach to RHNA.
  - Strategy: Create a regional affordable housing strategy.
  - Strategy: Collaborate with other regions toward the revision of RHNA toward a regional housing allocation that is more incentive-based.

- Expand regional-level resources related to housing development.
  - Strategy: Create a regional Housing Development Corporation to provide for increased development of affordable housing in the Bay Area.
  - Strategy: Develop a regional linkage fee to fund affordable housing production.
  - Strategy: Establish a regional housing land trust.

Improve mobility through coordination of land use, transportation, and planning decisions

- Foster a regional growth pattern that creates complete communities with ready, close, and safe access to employment, shopping, amenities and services and where transit is in place, well coordinated and available.
  - Strategy: Continue to advance the multi-agency FOCUS Initiative led by the Association of Bay Area Governments.
  - Strategy: Secure adequate infrastructure funding for Priority Development Areas.
  - Strategy: Support industrial land preservation where needed, and support local jurisdictions in their efforts to identify ways for housing, commercial uses, and goods movement activities to co-exist as good neighbors.

- Strategy: Advance recognition among transit agencies and congestion management agencies that Priority Development Areas encompass potential areas for focusing growth around transit hubs and transit arterials corridors and they serve as opportunity areas for targeted regional investments.
- Strategy: Coordinate county-level outreach efforts pertaining to land use and transportation issues in the region with the Metropolitan Transportation Commission.

Conserve resources, promote sustainability, and improve environmental quality

- Reduce the Bay Area's greenhouse gas emissions.
  - Strategy: Implement regional climate change program with partner agencies.
  - Strategy: Advance development of Priority Development Areas as complete communities to reduce vehicle miles traveled.
  - Strategy: Promote policies and programs that address climate change impacts.
- Protect, conserve, and restore critical habitats, working landscapes, recreational areas and networks, and other regionally significant resource areas.
  - Strategy: Enhance the level of coordination between ABAG's conservation-related programs and departments including Land Use Planning, Land and Water Studies, and the San Francisco Estuary Project.

- Strategy: Identify additional funding entities for the preservation of Priority Conservation Areas.
- Strategy: Work with regional partners to secure increased conservation resources from the state for the Bay Area.

■ Incorporate long-term public health impacts into land use planning.

- Strategy: Secure urban park-related funding for Priority Development Areas.
- Strategy: Collaborate with local governments and partner regional agencies relative to mitigating public health risks within and proximate to Priority Development Areas.
- Strategy: Link FOCUS Priority Development Areas to planning that provides for the creation of pedestrian, bicycle and transit-oriented complete communities.

■ Consider water quality and quantity in land use planning.

- Strategy: Collaborate with other regional agencies to encourage the region's water agencies to integrate the region's water resources planning with land use, air quality, and transportation.
- Strategy: Provide planning assistance that advances the incorporation of urban greening related to streetscapes and parks and green buildings in Priority Development Areas.

- Strategy: Support cities and counties with technical assistance pertaining to best practices to reduce water use, limit storm-water runoff and develop in a way that protects the bay, estuary, ocean and the region's watersheds.

Maintain and enhance a disaster-resistant region by reducing potential loss of life, property damage, and environmental degradation from natural and man-made disasters, while accelerating economic recovery from such disasters

- Improve and maintain Bay Area infrastructure, including transportation and utility facilities and networks.
  - Strategy: Support and encourage efforts of transportation and lifeline agencies to develop and finance seismic retrofits and other disaster mitigation.
  - Strategy: Support and encourage research on measures to further strengthen these systems so that they are less vulnerable to damage in disasters.
  - Strategy: Encourage communication between State OES, FEMA, and utilities related to disasters occurring outside of the Bay Area that can affect service delivery in the region.

- Strategy: Develop procedures for performing a comprehensive watershed analysis to look at the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.
- Strategy: 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 (particularly at the regional level) for the development of flood control projects that have high benefit-cost ratios [due to risk reduction and water supply].
- Strategy: Work cooperatively with local governments, water agencies, flood control districts, Caltrans, and local transportation agencies to determine appropriate performance criteria for watershed analysis.
- Strategy: Work for better cooperation among the patchwork of agencies managing flood control issues.
- Strategy: Work on planning and risk assessment activities aimed at prioritizing projects and programs to prevent loss of life, flood damage, and other catastrophic losses related to levee and dam failures, as well as for programs aimed at local self-reliance in the event of sustained loss of infrastructure due to such failures.
- Strategy: Provide materials to the public related to family and personal planning for problems after disasters such as power outages, traffic or road closures, reductions in water supply, and contamination of that supply.

- Raise awareness of local officials about the need to maintain resistant facilities, networks and systems after disasters.
  - Strategy: Work to ensure that the cities and counties in the region know and work with the five Metropolitan Medical Response System (MMRS) cities serving the region (Fremont, Oakland, Sacramento, San Jose, and San Francisco).
  - Strategy: Work to encourage cities and counties to look at the full range of medical systems in their disaster and mitigation planning (and thus include not only hospitals, but also pharmacies, medical offices, and other health care services).
  - Strategy: Monitor the efforts to plan for pandemic response.
- Advocate for the need to have safe and disaster-resistant housing that is architecturally diverse and serves a variety of household sizes and incomes.
  - Strategy: Work with cities and counties to adopt voluntary retrofit standards for older homes that include prescriptive plan sets and construction details for foundation bolting and bracing of outside walls of crawl spaces (“cripple” walls).
  - Strategy: Provide classes and training materials to local government building inspectors, private retrofit contractors, and private home inspectors on retrofitting of single-family homes.

- Strategy: Provide retrofit information and workshops for homeowners.
- Strategy: Work to educate condominium and apartment owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives.
- Strategy: Inventory existing or suspected soft-story residential structures [starting with the areas near the Hayward fault].
- Strategy: Explore and monitor development of local ordinances or State regulations to require or encourage owners of soft-story structures to strengthen them.
- Strategy: Provide information to residents of the Bay Area on interactive hazard maps using ABAG's web site.
- Strategy: Conduct workshops and/or provide other culturally appropriate 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.
- Strategy: Use disaster anniversaries to remind the public on safety and security mitigation activities.

- Advocate for safe, disaster-resilient, and architecturally diverse downtown commercial areas, business and industrial complexes, and office buildings.
  - Strategy: Work to educate building owners, local government staff, engineers, and contractors on soft-story retrofit procedures and incentives.
  - Strategy: Inventory non-ductile concrete, tilt-up concrete, and other privately-owned structurally suspicious buildings.
  - Strategy: Provide information to Bay Area businesses and their employees on interactive hazard maps using ABAG's web site.
  - Strategy: Conduct workshops and/or provide culturally appropriate outreach encouraging 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.
  - Strategy: Provide outreach to Bay Area businesses on business continuity planning and earthquake hazard mitigation by using (and improving) the information on ABAG's web site at http://quake.abag.ca.gov/business.

- Work with Bay Area city and county governments, and community services agencies, to identify and develop a plan for essential services during and immediately following disasters, as well as critical functions during recovery, that need to be resistant to disasters.
  - Strategy: Prepare a Recovery Plan that outlines a framework and process for pre-event planning for post-event community recovery that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.
  - Strategy: Develop a business continuity plan for ABAG that includes backup storage of vital records, such as essential medical records and financial information, and that establishes a goal for resumption of ABAG services that varies from function to function.
  - Strategy: Promote information sharing among overlapping and neighboring local governments, including cities, counties, and special districts, as well as utilities.
  - Strategy: Encourage staff to participate in efforts by professional organizations to mitigate earthquake and landslide disaster losses.
  - Strategy: Conduct and/or promote attendance of elected officials at local or regional hazard conferences and workshops.

- Strategy: Cooperate with researchers working on government-funded projects to refine information on hazards.
- Strategy: Work with the cities, counties, and special districts in the Bay Area to encourage them to adopt the multi-jurisdictional Local Hazard Mitigation Plan and to assist them in integrating it into their overall planning process.
- Strategy: Improve the risk assessment and loss estimation work in the Local Hazard Mitigation Plan related to earthquakes and weather-related disasters and begin the process of updating that plan.

■ Education—Safe and disaster-resistant school, education, and childcare-related facilities are critical to the safety of our children, as well as to the quality of life of Bay Area families.

- Strategy: Work with and support efforts by schools to reach families through culturally appropriate educational materials on hazards, mitigation, and preparedness, particularly after disasters and at the beginning of the school year.

- Encourage disaster resistance efforts that further environmental sustainability, reduce pollution, strengthen agriculture resiliency, and avoid hazardous material releases in the Bay Area.
  - Strategy: Encourage regulatory agencies to work collaboratively with safety professionals to develop creative mitigation strategies that effectively balance environmental and safety needs to meet critical wildfire, flood, and earthquake safety levels.
  - Strategy: Develop and implement a comprehensive program for watershed maintenance, optimizing forest health with water yield to balance water supply, flooding, fire, and erosion concerns.
  - Strategy: Monitor the science associated with global warming to be able to act promptly when data become available to warrant special design and engineering of government-owned facilities located in low-lying areas, such as wastewater treatment plants, ports, and airports. In particular, stay informed on emerging scientific information dealing with rising sea levels, especially on additional actions that local governments can take to mitigate this hazard.

- Promote and encourage land uses that recognize hazardous areas and discourages development in such areas.
  - Strategy: Encourage efforts by the California Geological Survey to complete the earthquake-induced landslide and liquefaction mapping for the Bay Area to ensure that new development in these hazard areas is appropriately constructed.
  - Strategy: Encourage local governments to incorporate FEMA guidelines and suggested activities for managing land use in flood hazard areas into their plans.
  - Strategy: In an effort to promote smart growth and sustainability, as well as revitalize urban areas, prioritize retrofit of infrastructure that serves urban areas over constructing new infrastructure to serve outlying areas.

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EXECUTIVE PERFORMANCE PLAN, CALENDAR YEAR 2013

INTRODUCTORY STATEMENT

The primary function of the Executive Director is the vision-driven strategic positioning and leadership of the organization. The Executive Director is accountable for overall organizational operations and performance, convenes and leads the management team, and serves as the principle leader, representative, and spokesperson to the greater community and clients. The following Goals and Objectives provide further definition of the roles and performance expectations of the Executive Director that will drive activities to support the Strategic Plan for 2013. The objectives are set forth by time frame: Short (S); Medium (M), and Long Term (L).

ABAG STRATEGIC GOALS

1. **Develop ABAG core competency regarding all land use issues associated with Smart/Compact Growth. (L)**
   a. Adopt the Sustainable Community Strategy (SCS). (S)
   b. Develop ABAG SCS Implementation Program in collaboration with local government, CMAs, and MTC. (M)
   c. Monitor and assess local government nominated Priority Development Areas (PDAs) Growth and Investment Strategies. (L)
      (1) Produce economic analysis of the SCS for local government, the region, and the State. (M)
      (2) Engage with local government to assist in performing Complete Community assessment of PDAs. (M)
      (3) Identify needed physical and social infrastructure investments required for strategic PDAs to develop. (L)
      (4) Promote and publicize PDAs to developers and other potential partners. (M)
      (5) Define Entitlement Efficiency and facilitate increased transparency and adoption of best practices to attract private investment to PDAs. (M)
   d. Adopt the Regional Housing Need Allocation (RHNA) methodology consistent with the adopted SCS. (S)
   e. Publish Plan Bay Area Policy Development White Papers, e.g., on housing, economic development, open space, complete communities. (M)
   f. Develop a strategy for Plan Bay Area Public Engagement, Information, and Publication. (S)

2. **Create economic forecasting and demographic analytical competency.**
   a. Build in-house unit to create and validate regional projections. (L)
   b. Develop fiscal models that will demonstrate the cost benefit analysis of regional land use strategies. (M)
   c. Identify best practice land use forecasting/modeling techniques. (L)

3. **Deepen partnerships with regional agencies through the integrated and collaborative planning process of the JPC. Work for consensus with the Joint Policy Committee (JPC) for an expanded regional role. Provide leadership in creating a work plan that addresses regional economic development, climate action, and integrated resiliency planning. (L)**
   a. Work with the BAAQMD on simplifying air quality risk reduction plans in Priority Development Areas (PDAs). Convene multiparty meetings to discuss land use policies to replace CEQA requirements (M)
   b. Work with San Francisco Bay Conservation and Development Commission (BCDC) on a sea level rise adaptation strategy in the current SCS and convene and support subregional and local adaptation planning efforts. Participate in a scan of activity throughout the region by special districts and local governments. (M)
   c. Incorporate resiliency planning for earthquakes into (b) above, so that sea level rise, liquefaction, and earthquake preparedness are integrated in the regional adaptation plan with next steps sufficiently defined to create a work program.

4. **Begin meeting with State agencies to facilitate implementation of the Sustainable Communities Strategies. These agencies include Housing and Community Development, Housing Finance (CalHFA), Office of Planning and Research, Strategic Growth Council, Governor's Legislative staff, Senate Pro Tem's Legislative staff. (M)**

CORE JOB RESPONSIBILITIES

Goal 1: Provide effective leadership for the organization.

Objectives/Action Steps:

1. Provide a visible and active role in overall organizational operations and performance.
2. Convene and lead the management team.

3. Ensure the Senior Leadership team works well together to achieve the short and long term goals.
4. Evaluate and monitor organizational structure to ensure it continues to support strategy.
5. Attract, retain, and develop talent to support the organization's mission and vision for both short and long-term effectiveness.
6. Ensure internal structure, staffing, and business are aligned and operating effectively.

Goal 2: Act as steward for the ABAG Board of Directors. Establish relationships and facilitate processes that ensure the success of the Board's collective intent and activities.

Objectives/Action Steps:

1. Conduct Board business meetings, providing information to Board members by five (5) working days prior to the Board meeting. Include opportunities for the Board and staff to engage in meaningful dialogue.
2. Structure an Administrative Committee retreat in early 2013 to focus on areas identified by Board and staff that would improve ABAG's level of success, the Board process, or Board and Executive effectiveness.
3. Ensure complete agenda items are presented to the Board, including a staff report that covers background, recommendation, and costs.

ORGANIZATIONAL STRUCTURE

The organizational structure is built to realize the vision and values of ABAG. We strive to foster responsible participation, capacity for quality, and working relationships that yield mutual respect by creating a work environment where (1) people experience dignity, purpose, professional growth, and respect; (2) the focus is on "how" we do our job by living our values and helping to build our community both internally and externally; and (3) the ABAG mission, vision, principles, and values are lived out in the context of doing our business.

Goal: Strengthen ABAG's culture by continuing initiatives such as staff coaching, mentoring, and other workforce development activities, and by holding meetings for all ABAG employees to strengthen commitment and understanding of our vision and values. The Executive Director will model effective leadership competencies in all activities.

Objectives/Action Steps:

1. Model effective leadership competencies.
2. Continue the development of leadership in all levels in the organization.
3. Allocate funds for enterprise-wide training, leadership development, and tuition reimbursement.
4. Participate with Senior Leadership in team building and organizational learning.
5. Hire a permanent Deputy Executive Director to lead regional policy advocacy and assist in overall administration of ABAG.
6. Hire a permanent Planning Director to lead the Planning and Research Department towards implementation of the SCS.
7. Hire a permanent staff manager to lead an Economics Unit within Planning and Research to integrate economic leadership into the Planning and Research department and develop internal economic capacity to replace outside consultants.
8. Complete reorganization of PLAN unit to ensure more integrated and efficient supervision of municipal claims within the claims management unit.
9. Reorganize Communications unit to become more integrated with ABAG land use policies and provide better community outreach.
10. Reorganize Human Resources function among several departments, and publish administrative guidelines and personnel policies. Develop more resources for the staff through out sourcing various functions.

FINANCIAL SUCCESS

The achievement of balancing grant revenues with organizational expenditures is the primary measure used for this accountability. Financial goals are related to more efficient use of resources, more effective monitoring of budget variances, effective project management, greater financial knowledge/capacity, and reducing accounts receivables.

Goal: Achieve competitive grant applications, cost containment, and reductions where appropriate.

Objectives/Action Steps:

1. Achieve budget projections and cost containment.
2. Adhere to a budget that ensures minimum standards of public accountability. The budget needs to be complete and readable.

3. Ensure financial management and tracking systems are in place.
4. Attempt to increase undesignated reserve fund balance by $50,000 per year.
5. Improve the financial independence and budgetary stability of ABAG.

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MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Ezra Rapport, Executive Director

Subject: Joint Policy Committee – Recent Coordination Efforts

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This memo highlights ABAG's collaboration with partner regional agencies through the Joint Policy Committee to address climate change and the relationship between air quality and infill development. Discussion and next steps for each effort is provided below.

1. <u>ABAG's Involvement with Regional Climate Change Strategies</u>

In September 2012, JPC approved a preliminary work plan for ABAG, MTC and BCDC staff to develop a regional sea level rise adaptation strategy. This 10-year work plan includes three work tasks but allows interpretation for specific projects and strategies for collaboration. With the goal of leveraging current and funded work tasks within the agencies, the group has identified preliminary projects for collaboration that fulfill the tasks outlined in the work plan. ABAG's Earthquake and Hazards Program has been involved in planning conversations for several months with JPC's Climate Strategist, BCDC, and San Francisco Estuary Partnership around how to coordinate on climate change and climate adaptation projects in the Bay Area.

Staff has developed a preliminary outline for a potential project for collaboration, tentatively titled *"Resilient Shorelines."* ABAG and BCDC are leading this collaborative planning and implementation process to develop a comprehensive regional shoreline resilience strategy that addresses climate change as well as earthquakes, with the assistance of MTC and BAAQMD. The Resilient Shorelines project will engage counties, cities, and special districts; non-governmental organizations; the business, equity and environmental communities; regional, federal and state agencies; and the public in a collaborative effort to answer two fundamental questions:

- How will sea level rise, storm events, and liquefaction from a major earthquake along the shoreline of the bay affect the future of Bay Area communities, infrastructure, ecosystems and the economy?

- What approaches can we pursue, both locally and regionally, to address these challenges, reduce and manage risks, and build resilience?

This project requires additional development and additional funding. The timeframe for this project is uncertain but staff will be developing the scope of work and pursuing funding over the next several months.

In addition, staff has identified other potential collaboration projects that rely on current funding and can be implemented in the short-term. These include:

- Integrating ABAG's Airport System Recovery Study and Infrastructure Interdependencies Assessment work into the ART Project work in Alameda County, specifically around the Oakland Airport Focus Area
- Implement the tasks in the Strategic Growth Council Grant related to sea level rise and storm events, such as conducing a region-wide assessment of PDAs vulnerable to climate change impacts

Additionally, the regional agencies are currently pursuing multiple projects that intersect under some common themes, such as equity, governance, the economy, and the environment. While the specific hazards of concern may not align, staff is sharing best practices around these common themes to guide individual agency projects. Staff is also sharing best practices for project planning and work process, as these tend to be similar for evaluating and developing strategies for multiple hazards.

2. <u>Proposed Guidance Regarding Air Quality and Infill Development</u>

While there are many benefits to the infill- and transit-oriented development pattern outlined in the Bay Area's draft Sustainable Communities Strategy (SCS), one challenge that must be addressed is the potential for increased exposure to air pollutants in some of the areas identified for growth. Certain locations in the region, such as near busy freeways, rail yards, ports and refineries, experience localized high levels of air pollutants, such as diesel particulates. Such localized exposure can cause or contribute to health risks to nearby residents.

As part of the ongoing efforts related to the SCS, regional agency staff is working to develop strategies and tools to assist cities and counties in making health-protective land use decisions. The goals are to:

- Support the SCS goal of increasing infill development;
- Avoid locating residential development and other sensitive land uses in areas with high levels of diesel exhaust or other air quality concerns;

- Develop policies and programs for local decision-makers and staff that are understandable, feasible and effective.

Regional agency staff has engaged a small group of local planning directors to discuss policies and programs that could be incorporated into local general plans, specific plans, ordinances, and other local land use planning processes. The goal is to provide land use guidance that is not overly technical that would emphasize implementation of best practices to avoid unhealthy exposures, rather than focusing on analysis of the potential problems.

Staff is exploring a set of tiered land use recommendations. First, within set distances (e.g., 500 feet) of certain air pollution sources (e.g., high volume freeways, ports, rail yards, etc.), we would recommend implementation of best practices to minimize exposure. Examples include high efficiency filters in HVAC systems, tree planting, site design and building design, etc. Within the set distances, we would recommend implementation of best practices for all new residential development and other land uses that would be used by people particularly susceptible to the effects of air pollution (e.g., children, seniors, etc.). Second, we would identify any areas within these set distances where emissions and exposures are particularly high, which would require further analysis and, possibly, additional mitigation. Air District staff would provide data and assist with these local air quality assessments as needed.

The local planning directors with whom staff has discussed this have supported this conceptual approach. Regional agency staff will discuss this approach with additional local planning officials and other stakeholders, such as developers, environmental and community advocates, and public health officials. The work product will consist of a set of Air Quality and Infill Development Guidelines that could inform, and be implemented through, various regional and local programs, including:

- Policy discussion and recommendations at the regional level appropriate for inclusion in the SCS;
- Local air quality analysis in the SCS DEIR for transit priority project areas;
- Land use guidance and recommended mitigation measures for local plans and programs;
- Criteria for PDA Planning Grants and One Bay Area Grants to require local implementation of such guidance and mitigations.

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MEMO

Date: February 25, 2013

To: ABAG Administrative Committee

From: Ezra Rapport, Executive Director

Subject: SB 792

Attached is Mark DeSaulnier's latest JPC legislative draft, SB 792. Senator DeSaulnier would like the JPC agencies to develop a regional organization plan which would include a reduction in the cost of overhead to operate and manage the agencies through consolidation of administrative functions, adoption of community outreach policies, and a review of the consistency of the policies, plans and regulations associated with SB 375. The bill also calls for the establishment of an advisory committee on the region's economic competitiveness.

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LEGISLATIVE COUNSEL'S DIGEST

Bill No. 792

as introduced, DeSaulnier.

General Subject: Regional entities: Bay Area.

Existing law creates the Metropolitan Transportation Commission, the Bay Area Toll Authority, the Bay Area Air Quality Management District, and the San Francisco Bay Conservation and Development Commission, with various powers and duties relative to all or a portion of the 9-county San Francisco Bay Area region with respect to transportation, air quality, and environmental planning, as specified. Another regional entity, the Association of Bay Area Governments, is created as a joint powers agency comprised of cities and counties under existing law with regional planning responsibilities. Existing law provides for a joint policy committee of certain regional entities in this 9-county area to collaborate on regional coordination. Existing law requires regional transportation planning agencies, as part of the regional transportation plan in urban areas, to develop a sustainable communities strategy pursuant to Senate

Bill 375 of the 2007–08 Regular Session coordinating transportation, land use, and air quality planning, with specified objectives.

This bill would require the joint policy committee to prepare a regional organization plan for the affected regional entities. The organization plan would include a plan for consolidating certain functions that are common to the regional entities and reducing overhead costs. The bill would require the joint policy committee to hold at least one public hearing in each county of the region and to adopt a final plan by June 30, 2015. The bill would also require the joint policy committee to develop and adopt public community outreach programs and to maintain an Internet Web site. The bill would require the joint policy committee to conduct a review of the policies and plans, and associated regulations, of each regional entity, including an assessment of the consistency of the policies, plans, and regulations among the regional entities with the requirements of Senate Bill 375 of the 2007–08 Regular Session. The bill would provide that the joint policy committee shall be responsible for ensuring that the sustainable communities strategy for the region integrates transportation, land use, and air quality management consistent with that legislation. The bill would also require the joint policy committee to appoint an advisory committee on economic competitiveness with specified members from the business community to adopt goals and policies related to the inclusion of economic development opportunities in the plans of the regional entities. By imposing new duties on the joint policy committee, the bill would impose a state-mandated local program.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: yes.

AUTHOR'S COPY

An act to add Sections 66537, 66537.1, 66537.2, 66537.3, 66537.4, 66537.5, and 66537.6 to the Government Code, relating to planning.

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THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 66537 is added to the Government Code, to read:

66537. For purposes of Sections 66537.1 to 66537.5, inclusive, the following definitions shall apply:

(a) "Region" means the area encompassed by the Counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

(b) "Regional entities" means the Metropolitan Transportation Commission, including any joint exercise of powers agencies that include the commission as a member agency; the Bay Area Toll Authority; the Bay Area Air Quality Management District; the San Francisco Bay Conservation and Development Commission; and the Association of Bay Area Governments.

SEC. 2. Section 66537.1 is added to the Government Code, to read:

66537.1. (a) The joint policy committee shall prepare a regional organization plan. The joint policy committee shall adopt goals and policies to govern the preparation of the plan. Among the goals shall be a statement as to the expected reduction in the cost of overhead and in the operation and management of the regional entities. All cost saving shall be directed to the joint policy committee's general fund. In addition, goals shall be adopted for integrating the regional planning requirements for the regional plans of each regional entity into a comprehensive regional plan.

(b) The regional organization plan shall include a plan for consolidating the functions that are common to the regional entities, including, but not limited to, personnel and human resources, budget and financial services, electronic data and communications systems, legal services, contracting and procurement of goods and

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services, public information and outreach services, intergovernmental relations, transportation, land use, economic, and related forecasting models, and other related activities. Consideration shall be given to ensuring that there are common personnel classifications where appropriate among the regional entities, and the consolidation of other functions or activities, as deemed feasible, that will further the mission of the joint policy committee and will reduce redundancy. The plan shall be updated as determined by the joint policy committee.

who?

(c) On or before December 31, 2014, the staff shall submit to the joint policy committee a draft regional organization plan. The joint policy committee shall hold at least one public hearing in each county of the region to receive public comment. A final plan shall thereafter be adopted for implementation on or before June 30, 2015.

SEC. 3. Section 66537.2 is added to the Government Code, to read:

66537.2. The joint policy committee shall develop and adopt public and community outreach policies to govern the scheduling of joint policy committee meetings, the meetings of regional entities, the meetings of standing committees, and meetings of ad hoc or other temporary committees. In developing the policies, the joint policy committee shall ensure that outreach programs will utilize all available communication technologies, including webcasting and social media, print, radio, and television. The joint policy committee shall also establish policies for the holding workshops of the joint policy committee and the regional entities in the cities and counties of the region. The joint policy committee shall provide an opportunity for the public to comment on the draft and the final recommended policies. The policies shall be adopted on or before October 31, 2014.

SEC. 4. Section 66537.3 is added to the Government Code, to read:

66537.3. The joint policy committee shall maintain an Internet Web site containing relevant information pertaining to the joint policy committee's activities.

SEC. 5. Section 66537.4 is added to the Government Code, to read:

66537.4. The joint policy committee shall be subject to the Ralph M. Brown Act (Chapter 9 (commencing with Section 54950) of Part 1 of Division 2 of Title 5).

SEC. 6. Section 66537.5 is added to the Government Code, to read:

66537.5. (a) Beginning on January 1, 2014, the joint policy committee shall review the policies and plans, and associated regulations, of each regional entity. The review shall include an assessment of the consistency of the policies, plans, and regulations among the regional entities with the requirements of Senate Bill 375 of the 2007–08 Regular Session. The joint policy committee shall issue a consistency report describing the findings of this review. The joint policy committee shall hold public and community hearings in accordance with its public outreach policies regarding the draft consistency findings. The findings of the consistency review shall be used in fulfilling the joint policy committee's regional planning responsibilities.

(b) The joint policy committee shall be responsible for ensuring that the sustainable communities strategy for the region integrates transportation, land use, and air quality management consistent with the requirements of Senate Bill 375 of the 2007–08 Regular Session.

SEC. 7. Section 66537.6 is added to the Government Code, to read:

66537.6. (a) The joint policy committee shall appoint an advisory committee on economic competitiveness with members from the business community, including

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representatives of small businesses, technology and manufacturing sectors, community colleges, public and private universities, labor, local governments, and other organizations involved with the private economy.

(b) The joint policy committee, in consultation with the advisory committee, shall adopt goals and policies related to the inclusion of economic development opportunities in the plans of the regional entities. The goals and policies shall also promote amenities that are special to the region and contribute to the region's quality of life.

SEC. 8. If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

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