



Integrating resilience into the housing element.

Resources to identify climate and seismic risks to existing and future housing; and responsive resilient policies for a housing element.

*Cohosted
by*

Association of Bay Area Governments
California Office of Planning & Research

Housing Element Webinar Series • July 27, 2021

WELCOME

The Housing Technical Assistance website has recordings of past bi-weekly webinars, meeting materials, and additional resources.

Link: <https://abag.ca.gov/our-work/housing/housing-technical-assistance-program/abag-regional-housing-technical-assistance>

AGENDA

1. Welcome and introductions
Somaya Abdelgany, ABAG
2. Presentations
 - Advancing housing and resilience goals
Erik de Kok, OPR
 - Lessons learned from California Wildfire Recovery
Cathy Kungu, HCD
 - Four steps to integrate resilience into the Housing Element
 - Step 1. Integrated Planning
Michael Germeraad, ABAG
 - Step 2. Existing Housing Exposure
Rachael Hartofelis, ABAG
 - Step 3. Siting Future Housing w/ Constraints
Somaya Abdelgany, ABAG
 - Step 4. Resilient Housing Policies
Carrie Simmons, ABAG
3. Breakout room activity
4. Next Steps

Housing and Climate Resilience Setting the Stage



Erik de Kok, OPR

Lessons learned from California Wildfire Recovery



Cathy Kungu, HCD



Technical Assistance
for Local Planning
HOUSING



Association of Bay Area Governments

Housing and Climate Resilience: Setting the Stage

Integrating Climate Adaptation/Resilience into Your
Housing Element, MTC/ABAG Webinar, 7/27/21

Presented by:

Erik de Kok, AICP

Deputy Director, Planning & Community Development



Challenges and Opportunities

- **Challenges:**

1. **6th RHNA and Housing Element Update Cycle:** growing complexity of factors, much bigger numbers now... how/where to allocate new housing?
2. **Climate change** is here, along with growing recognition of existing vulnerabilities and inequities, and injustices past & present. **Time to act is now!**
3. Problem of isolating planning & policy issues into **silos**

Challenges and Opportunities

- **Opportunities:**

1. **Multiple pathways** of meeting all of the statutory requirements that are related to or triggered by housing element (**see May webinar content**)
 - Climate Adaptation (SB 1035, SB 379)
 - Environmental Justice (SB 1000)
2. **Integration** of climate adaptation and, more broadly, equity and resilience across planning elements (vs. isolating only in the safety or EJ elements)
3. **Consider long-term costs** of placing new housing (or rebuilding) in areas with increasingly-severe hazards and growing risks.
4. How best to **preserve and make existing housing more resilient.**

State Planning Priorities

Government Code 65041.1:

“The **state planning priorities**, which are intended to **promote equity**, **strengthen the economy**, **protect the environment**, and **promote public health and safety** in the state, including in urban, suburban, and rural communities, shall be as follows:

(a) Promote infill development and equity by rehabilitating, maintaining, and improving existing infrastructure that supports infill development and appropriate reuse and redevelopment of previously developed, underutilized land that is presently served by transit, streets, water, sewer, and other essential services, particularly in underserved areas, and to preserving cultural and historic resources.”

State Planning Priorities (cont'd)

- (b) “Protect environmental and agricultural resources** by protecting, preserving, and enhancing the state’s most valuable natural resources, including
- working landscapes such as farm, range, and forest lands
 - natural lands such as wetlands, watersheds, wildlife habitats, and other wildlands
 - recreation lands such as parks, trails, greenbelts, and other open space, and
 - landscapes with locally unique features and areas identified by the state as deserving special protection.”

State Planning Priorities (cont'd)

- (c) **“Encourage efficient development patterns** by ensuring that any infrastructure associated with development, **other than infill development**, supports new development that does all of the following:
- Uses land efficiently.
 - Is built adjacent to existing developed areas to the extent consistent with the priorities specified pursuant to subdivision (b).
 - Is located in an area appropriately planned for growth.
 - Is served by adequate transportation and other essential utilities and services.
 - Minimizes ongoing costs to taxpayers.”



Questions?

Erik de Kok, AICP
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Lessons learned from California Wildfire Recovery Efforts

Resilient Housing Workshop
July 27, 2021





Agenda

- CA Wildfires and the Recovery Response Efforts
- Long Recovery and DR Funding Efforts
- Housing Plans and Recovery



California Department of Housing and Community Development

- **Mission:** Provides leadership, policies, and programs to preserve and expand safe and affordable housing opportunities and promote strong communities for all Californians.

- Grants and funding
- Mobile home registration
- Building standards
- Planning and community development
- Policy and research

		California Department of Housing and Community Development											
		Notice of Funding Availability Calendar											
		Calendar Year 2021											
		Estimated amounts											
NOFA Amounts are approximate and subject to change		\$521 Million			\$471 Million			\$474 Million			\$194 Million		
		Jan 21	Feb 21	Mar 21	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21	Oct 21	Nov 21	Dec 21
Operating Programs		NOFA Amounts in Millions											
AMR	Affordable Housing and Rental Assistance Program	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA
Veteran Housing and Homeless Prevention Act of 2014 (Prop 4)		NOFA Amounts in Millions											
VMP	Veteran Housing and Homeless Prevention Program	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA
HUD - Building Jobs and Housing Act (Dedicated Source)		NOFA Amounts in Millions											
FLRA	Permanent Local Housing Allocation Competitive Program	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA
	Permanent Local Housing Allocation Competitive Program	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA	NOFA

- Administrative agency for California’s Building Code. Regulatory body for Housing Elements and State Housing Policy Lead.
- Lead State Agency for Housing Recovery Support function under California Disaster Recovery Framework.

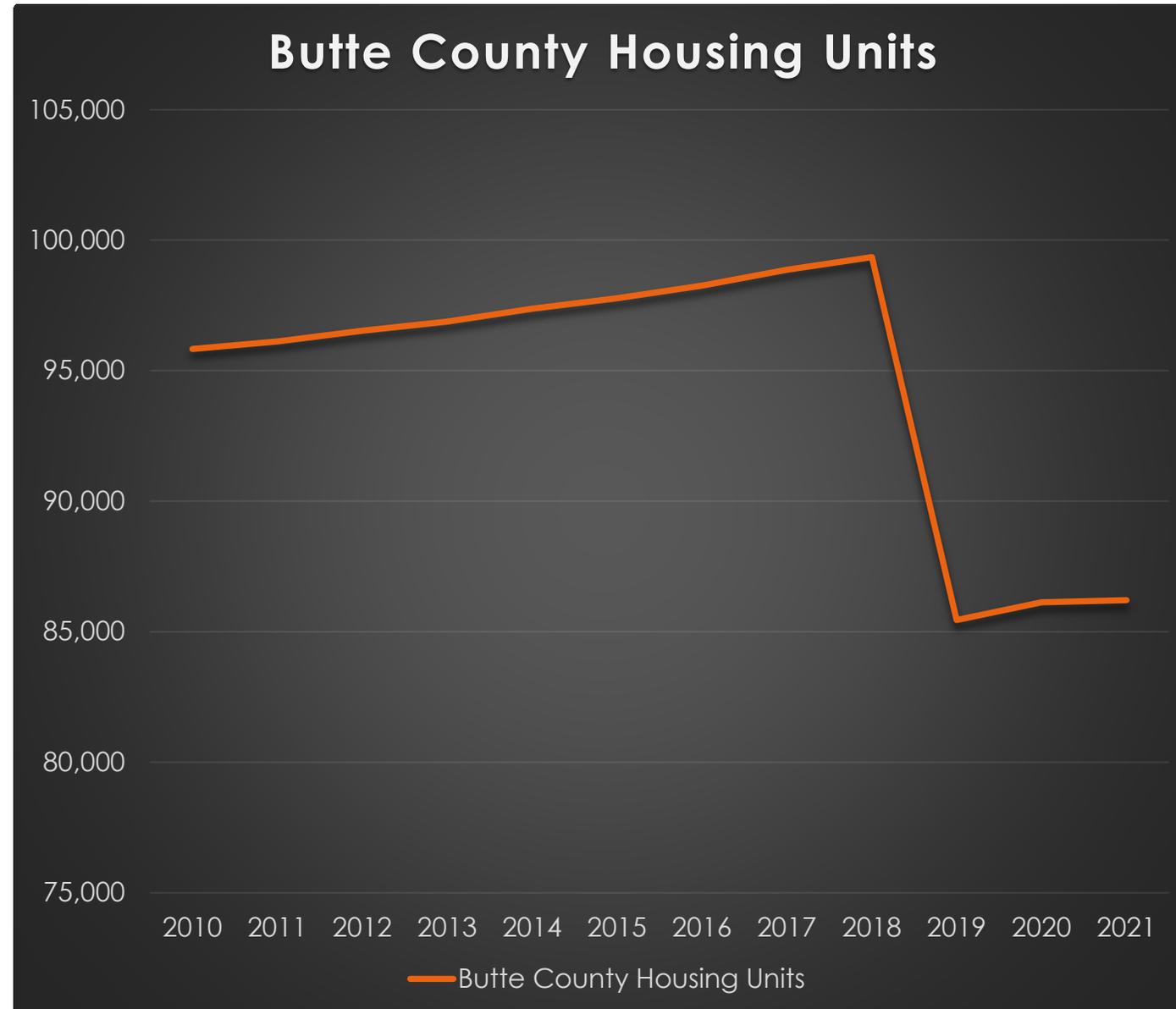
California Wildfires and the Recovery Response





2018 Camp Fire - Impacts

- The Camp Fire destroyed ~16% or 13,906 housing units in Butte County
 - 5,040 Manufactured Home Units
 - 3,451 Low-Income households
- Prior to the fire the average annual increase of housing units in the county was 440 units
- 2020 included the highest increase of housing units over the last 10 years (675 units)



Source: California Department of Finance, 2021 Population Housing Estimates



Disaster Response Funding

CDBG DR

Housing

Infrastructure

Economic
Revitalization

Planning/Local Gov't
Capacity Building

Multifamily

Single Family

Intended to address:

- Unmet needs in housing, infrastructure, and economic revitalization.
- Mitigation activities to prevent future events.

However

- DR provided only 12% and 14% of Unmet Recovery Needs for 2017 and 2018 wildfires
- Available 2-3 years after disaster



Fund Allocation Methodology

The CDBG-MIT **Mitigation Needs Assessment** relies on data from the:

- State Hazard Mitigation Plan
- Local Hazard Mitigation Plans
- Other county/municipal data from past disasters
- Cities and Counties impacted by disasters
- Consultations from state and local agencies that address and manage hazard mitigation and disaster-related emergencies
e.g., CAL FIRE, Cal OES, OPR, Sierra Nevada Conservancy



Long Term Housing Recovery

Multifamily Housing

- Built & occupied 3-5 years after disaster
- Infrastructure completed 1-2 years after disaster
- Funding/finance secured 2-3 years after disaster

Single Family Housing

- Built & occupied 2+ years after disaster
- Infrastructure completed 1-2 years after disaster
- Funding/finance secured 2+ years after disaster





Housing Plans and Recovery

Recommendations:

- Align plans to **maximize** the strengths of each other, while **still** allowing each individual plan to **serve their intended purpose**
- **Accelerate** and **incentivize** housing production by promoting **innovative** housing types (e.g., manufactured homes, tiny homes, park models) that **reduce development** costs.
- To lessen the need for emergency funding consider supporting rebuilding efforts for resiliency.





Housing Plans and Recovery

Recommendations:

- Get local housing/community development **and** emergency management teams to **jointly produce post-disaster housing recovery plans**
 - *Thought: Align or Integrate Planning Activities to assist Long-Term Recovery efforts*
- Help **identify gaps in resources and systems** needed for disaster recovery, especially for vulnerable populations
 - *Use Data from survivors, and tracking them over time unlocks more resources*
- Allow to **build back better and more housing units**
 - Envision how disaster-prone areas can be redeveloped, and where housing development can be increased. Address long standing Environmental Justice issues.



Thank you.

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QUESTIONS

Resilient Housing Element Tools and Resources

to understand housing risks and policy solutions

- What are these tools? How do these tools work together? Do these tools apply to my jurisdiction?
- What strategies are available to help reduce existing and future risk to my jurisdictions housing?

4 steps to integrate resilience into the housing element

Incorporating Environmental Justice and Safety into the Housing Element



Step 1.
Consider how your city plans to update other plans and elements.

Exposure Data Tables



Step 2.
Explore how exposed your existing housing is to hazards.

Housing Element Site Selection Tool (HESS)



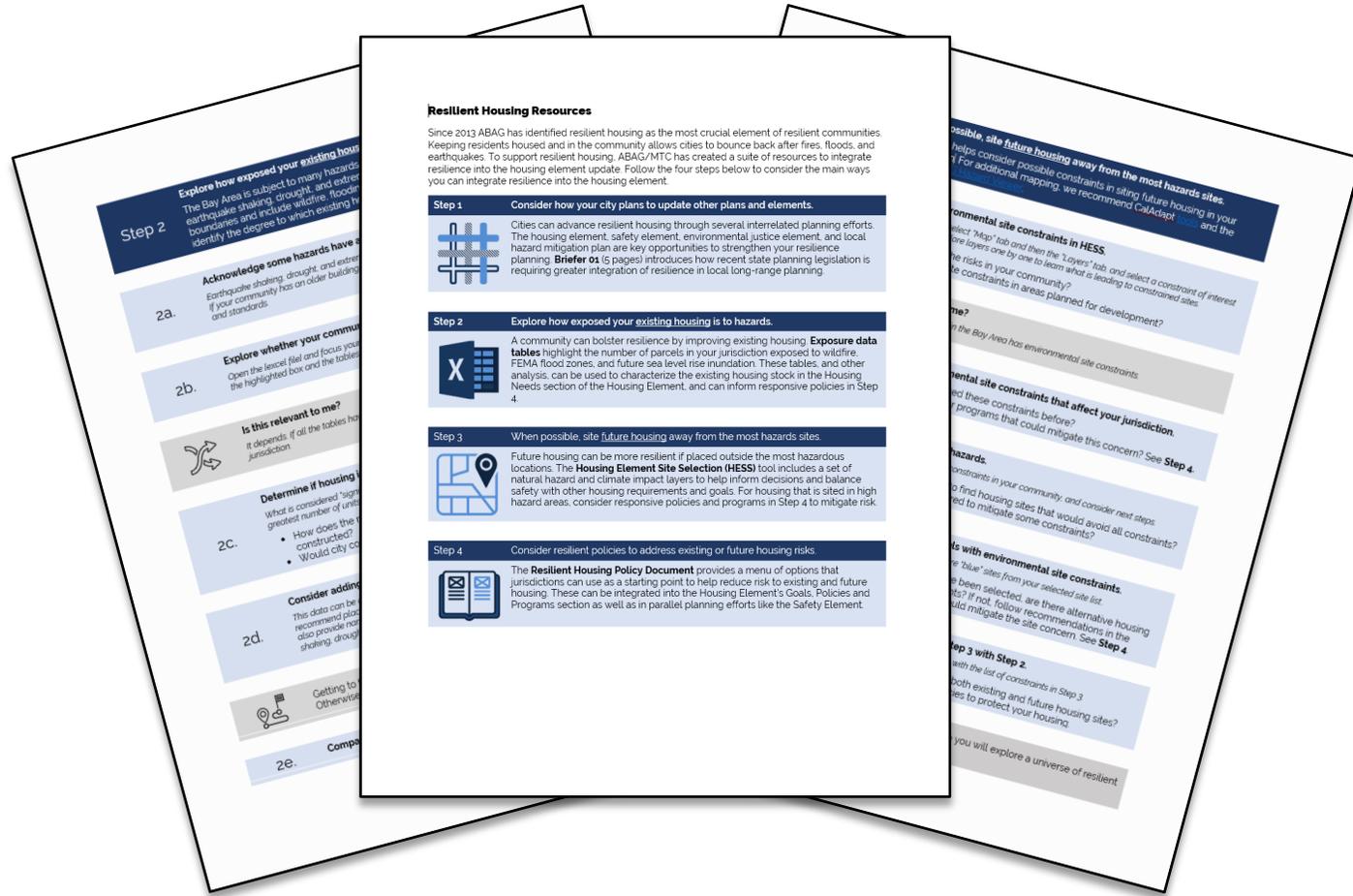
Step 3.
When possible, site future housing away from the most hazardous sites.

Resilient Housing Policy Resource



Step 4.
Consider resilient policies to address existing or future housing risks.

The four steps are organized in an instruction manual that lays out how a jurisdiction can integrate content from the resources.



STEP 1

Understanding Resilience Requirements and Plan Integration + Alignment



Step 1.
Consider how your city plans to update other plans and elements.

**Topic of May 11
Workshop**

Exposure Data Tables



Step 2.
Explore how exposed your existing housing is to hazards.

Housing Element Site Selection Tool (HESS)



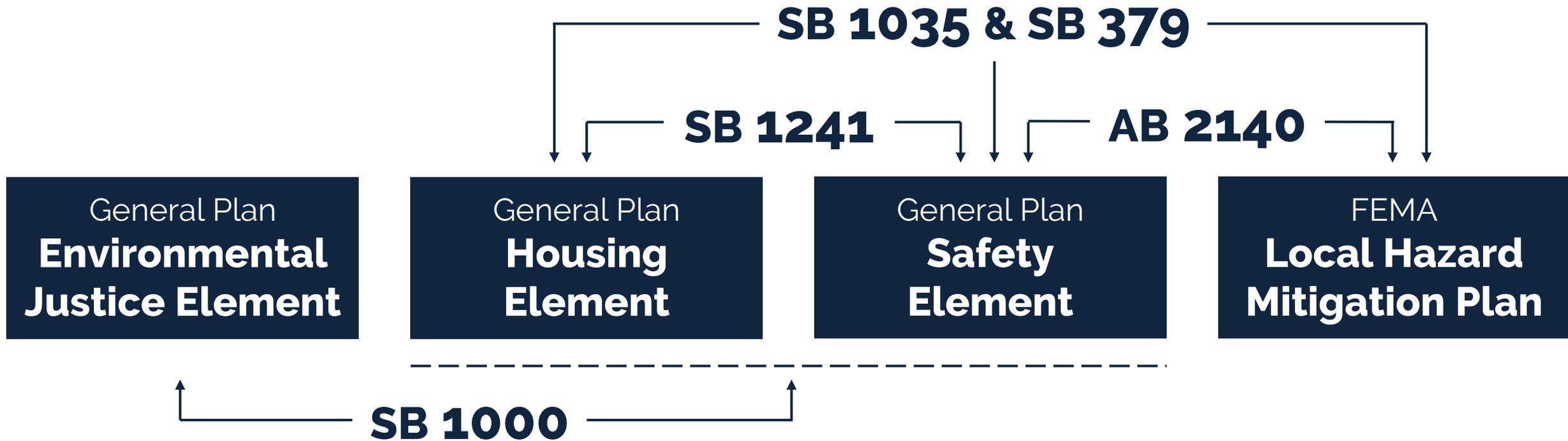
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Resilient Housing Policy Resource



Step 4.
Consider resilient policies to address existing or future housing risks.

State laws are creating linkages between key local planning documents



Synchronizing housing and safety element updates this cycle will set you up for the future.

Concurrent updates of the housing and safety elements is strategic. The suite of state laws discussed will force many cities to review both elements. For others a concurrent update, while not required, may be the most strategic option to line up 8-year update requirements of SB 1035 and SB 99.

Jurisdiction approaches will be varied. Many jurisdictions will be working through similar efforts; however, communities that address SB 1000 and SB 1241 will require additional steps in the process.

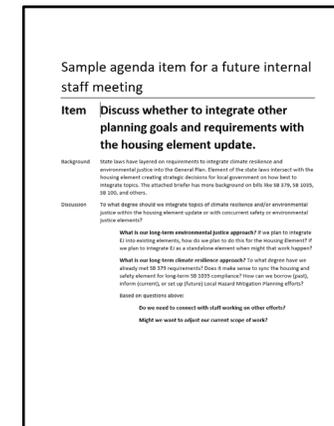
Good guides are available to help meet requirements and consider integrated planning approaches.

Integrated Planning Briefer

In addition to a summary of the content presented, it includes an **annotated bibliography of the five resources we found most helpful** in understanding update requirements and opportunities.

Sample Agenda for Internal Planning Meeting

Provides an outline to support an integrated planning conversation with your internal team. **Put this topic on your next agenda!**



STEP 2

Exposure Data Tables



Step 2.
Explore how exposed your existing housing is to hazards.

Understanding Resilience Requirements and Plan Integration + Alignment



Step 1.
Consider how your city plans to update other plans and elements.

Housing Element Site Selection Tool (HESS)



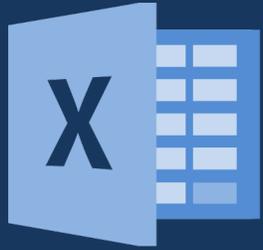
Step 3.
When possible, site future housing away from the most hazardous sites.

Resilient Housing Policy Resource



Step 4.
Consider resilient policies to address existing or future housing risks.

STEP 2



Introduction to the
Exposure Data Tables

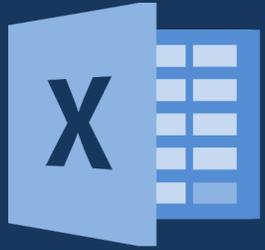
Explore how exposed your existing housing is to hazards.

Residential Parcel FEMA Flood Exposure

	100 Year Floodplain	500 Year Floodplain	Levee- Protected
Single Family	207 0%	2,919 4%	1 0%
Multifamily	83 0%	1,225 6%	0 0%

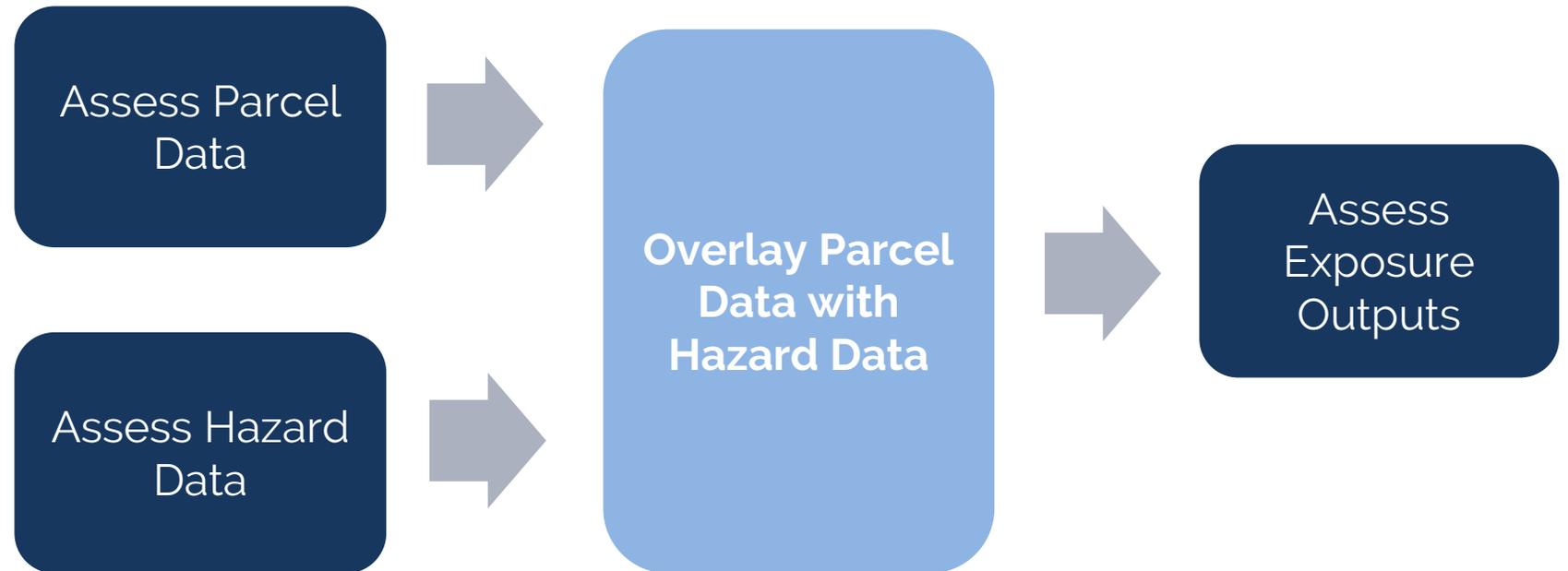
Data: FEMA (2019); ParcelAtlas (2020)

STEP 2



Methodology

Staff used the best available data for analysis. Data went through extensive quality control in all stages of the process.



Hazards highlighted in the exposure tables have **unique regional boundaries**: wildfire, flooding, and sea level rise.

STEP 2a-b



Acknowledge some hazards have an impact on housing.

Explore whether your community also has hazards with defined boundaries.

Resilience Residential Parcel Exposure Data Tables

Bayville

For an overview of residential parcel hazard information:

< Enter jurisdiction name in green box. The lookup is case sensitive; capitalize the first letter.

For more detail on each hazard, please see other sheets.

Residential Parcel Fire Hazard Severity Exposure

	Very High	High*	Moderate*
Single Family	15,624 24%	N/A N/A	N/A N/A
Multifamily	1,222 6%	N/A N/A	N/A N/A

Data: CalFIRE (2009); ParcelAtlas (2020)

*CalFIRE does not publish high and moderate severity maps inside local jurisdiction boundaries. Parcels with borders that extend outside city limits may be captured by high and moderate zone mapping.

Residential Parcel FEMA Flood Exposure

	100 Year Floodplain	500 Year Floodplain	Levee- Protected
Single Family	207 0%	2,919 4%	1 0%
Multifamily	83 0%	1,225 6%	0 0%

Data: FEMA (2019); ParcelAtlas (2020)



Is this relevant to me? If all tables have zero values, then this resource may be less relevant to your jurisdiction.

STEP 2c-2d



Determine if housing in your community has significant exposure to a hazard.

Consider adding exposure data tables to your housing element.

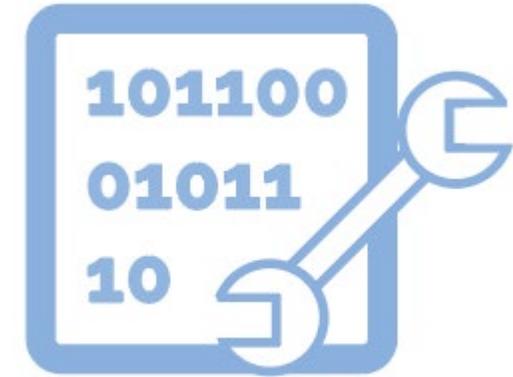
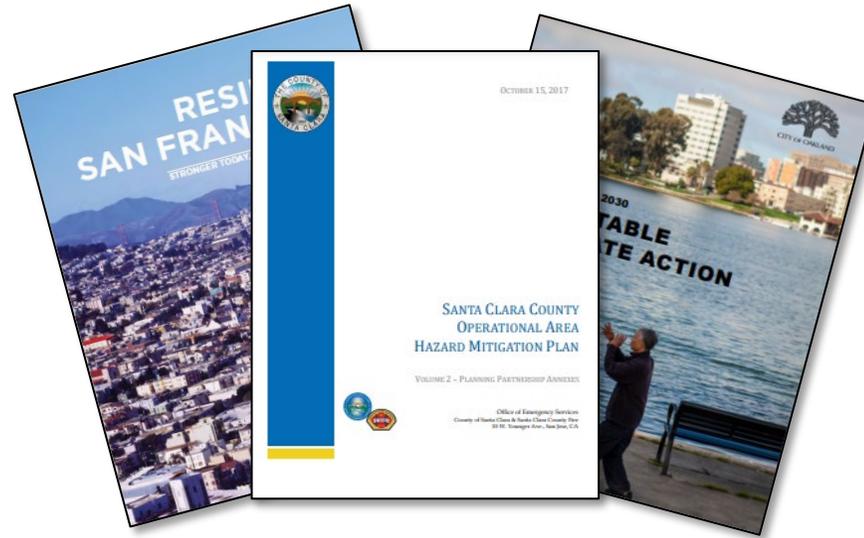
Start with the greatest number of units and ask the following questions:

- How does the number of exposed units compare to annual units permitted or constructed?
- Would city cohesion remain if this many units were displaced?

STEP 2e



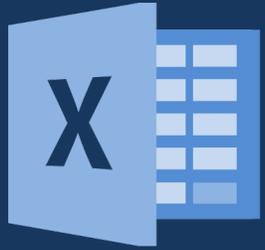
Compare this data with your own data sources and/or existing plans.



MTC/ABAG used ParcelAtlas data to run exposure analyses against.

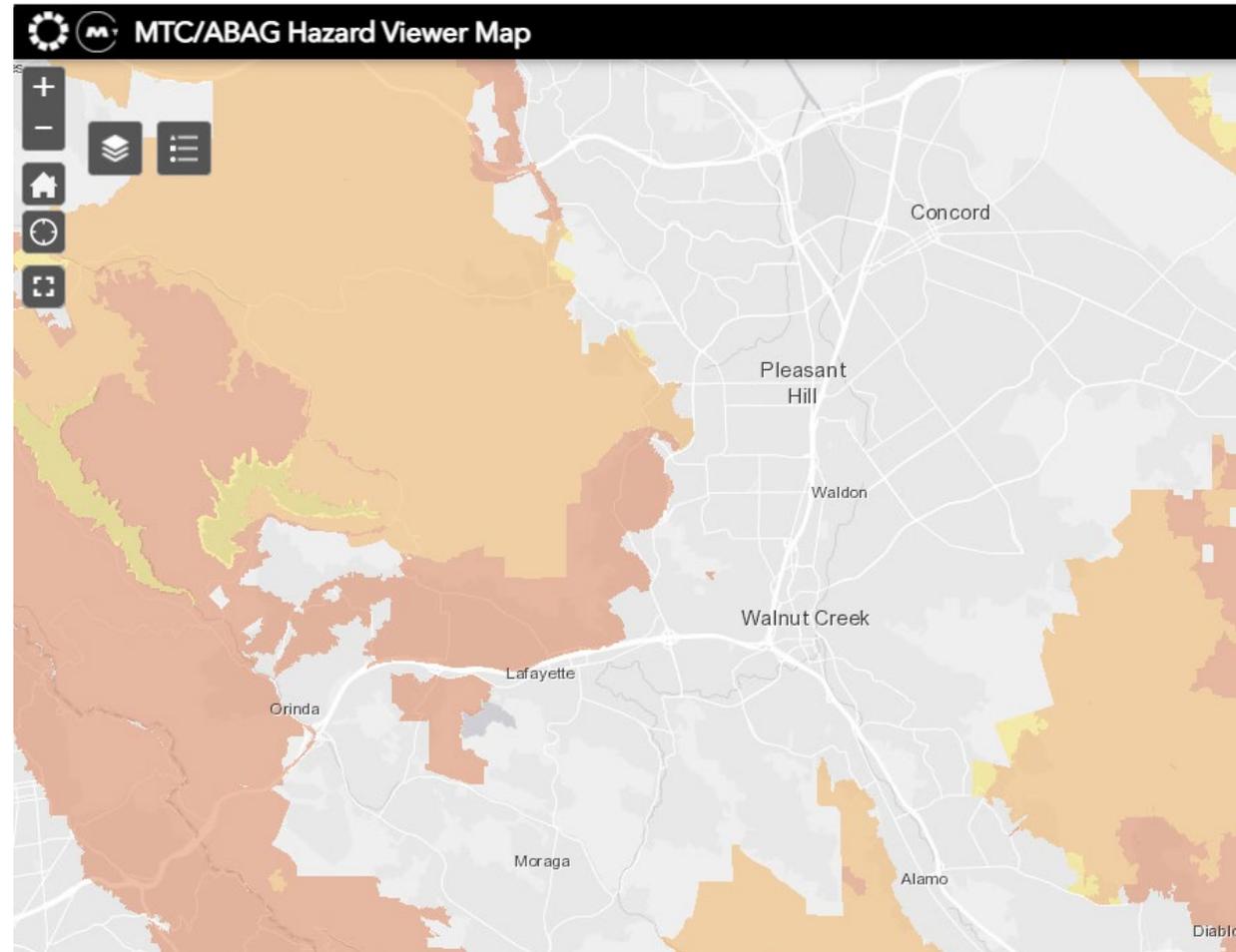
- Do the numbers appear accurate for your community?
- Do you have more accurate parcel or building data?
- Do your local plans have similar analysis that uses better local data?

STEP 2f



Explore which neighborhoods in your jurisdiction are vulnerable using local hazard maps.

Consider using a map viewer to get a quick sense of where the hazards are in your jurisdiction.



Regional Map Viewers

- MTC/ABAG Hazard Viewer Map
- BCDC Adapting to Rising Tides Bay Shoreline Flood Explorer
- NOAA Coastal Flood Exposure Mapper

QUESTIONS

STEP 3

Housing Element Site Selection Tool (HESS)



Step 3.
When possible, site future housing away from the most hazardous sites.

Exposure Data Tables



Step 2.
Explore how exposed your existing housing is to hazards.

Understanding Resilience Requirements and Plan Integration + Alignment



Step 1.
Consider how your city plans to update other plans and elements.

Resilient Housing Policy Resource



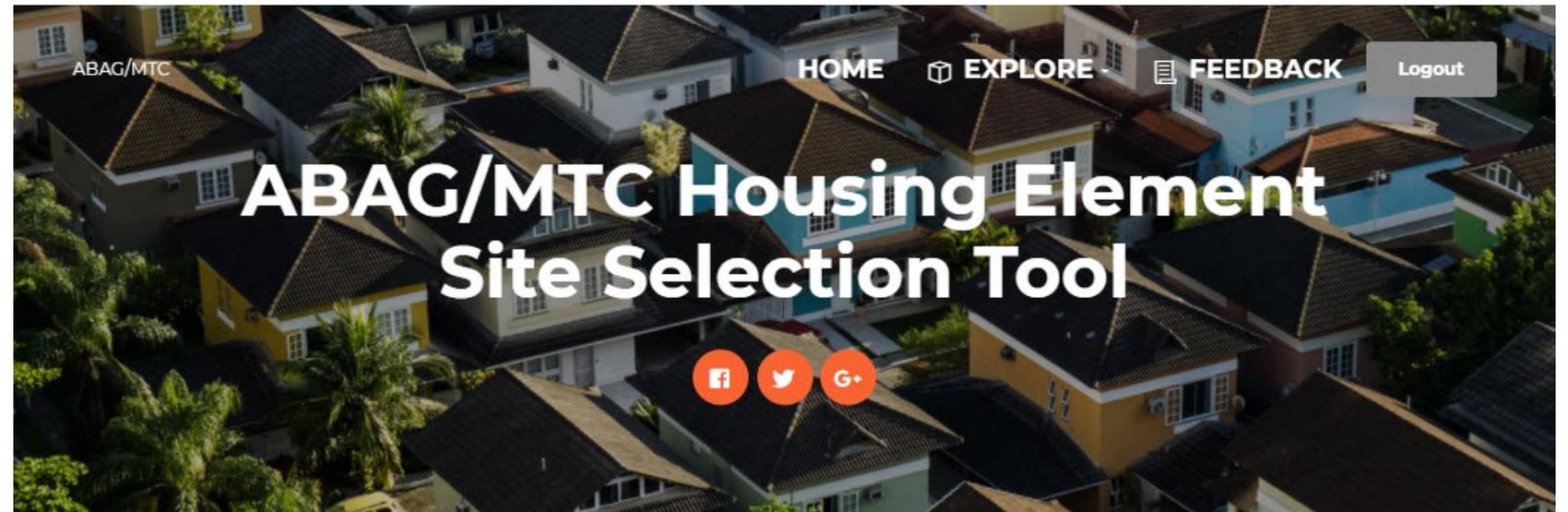
Step 4.
Consider resilient policies to address existing or future housing risks.

STEP 3



Introduction to the
Housing Element Site
Selection Tool

**When possible, site future housing
away from the most hazardous sites.**



STEP 3



Introduction to the
Housing Element Site
Selection Tool

There are a number of constraints to building future housing. Hazards and environmental constraints are included in the tool as restrictive overlays called **site constraints**. Site constraints included in the HESS tool are:

- **Wildfire**
- **Flooding**
- **Sea level rise**
- **Liquefaction**
- **Earthquake/Seismic zones**
- **Landslide risk**
- **Riparian areas**
- **Critical habitat**
- **California protected areas**

Additional mapping on local exposure is available from CalAdapt tools, and the MTC/ABAG Hazard Viewer.

STEP 3a-3b



Explore environmental site constraints in HESS.

Take note of site constraints that affect your jurisdiction.

ABAG/MTC HOME EXPLORE FEEDBACK Logout

Pre-Screened Sites Map

Light Streets Dark Outdoors Satellite Search

Tools Layers Info

Clear Actions/Filters

SITE FILTERS (1)

SITE USE

- Is Publicly Owned
- Is Vacant
- In Urban Service Area

Current Zoning

Existing Land Use

RHNA 4 RHNA 5

SITE CONSTRAINTS

- Sea Level Rise (36) Sea Level Rise (77)
- Landslide Earthquake/Seismic
- Liquefaction Riparian Area
- Floodplain Critical Habitat
- CA Protected Areas

Fire Risk

ACTIONS TO CONSIDER (0)

PRE-SCREENED SITES

- Adequate Sites (0)
- Potential Sites (0)
- Constrained Sites (13,920)
- My List (0)

Methodology



Is this relevant to me? Yes. Every Community in the Bay Area has environmental site constraints.

STEP 3c



Discuss your approach to hazards.

Have a conversation about the constraints in your community, and consider next steps.

- Is your jurisdiction able to find housing that would avoid constraints?
- Is your jurisdiction prepared to mitigate any constraints?
- ***What tradeoffs is your jurisdiction willing to make to protect its future housing?***

STEP 3c



Cross reference your site selection list with environmental site constraints.

ABAG/MTC

Tools Layers Info

Logout

Search

Site Actions Site Info Site Use Site Constraints Planning

NATURAL HAZARDS

Fire Risk: NO

Landslide: NO

Earthquake/Seismic: YES

Liquefaction: NO

Sea Level Rise (36): NO

Sea Level Rise (77): NO

Floodplain: NO

PROTECTED AREAS

Critical Habitat: NO

Riparian Area: NO

CA Protected Area: NO

Close

PRE-SCREENED SITES

- Adequate Sites (1)
- Potential Sites (37,744)
- Constrained Sites (18,241)
- My List (22)

Methodology

For the sites that have been selected, are there **alternative housing sites** away from “red” constraints?

STEP 3d



Cross reference your findings from Step 3 with Step 2.

Do the same site constraints affect both existing residences and future housing sites?



Proceed to  **Step 4** for potential policies to protect your housing.

QUESTIONS

STEP 4

Resilient Housing Policy Resource



Step 4.
Consider resilient policies to address existing or future housing risks.

Housing Element Site Selection Tool (HESS)



Step 3.
When possible, site future housing away from the most hazardous sites.

Exposure Data Tables



Step 2.
Explore how exposed your existing housing is to hazards.

Understanding Resilience Requirements and Plan Integration + Alignment



Step 1.
Consider how your city plans to update other plans and elements.

Resources Created

Annotated Bibliography

Full Policy Spreadsheet

Resilient Housing Policy document

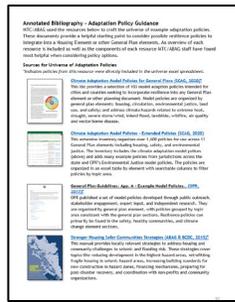
Methodology

Collected and curated existing model policy resources.

Inventoried, characterized, and organized policies from resources

Identified housing relevant policies and merged like policies.

Product



Summarized list of sources and key highlights



Spreadsheet of 250+ resilient policies



Organized set of 60 resilient housing policies

STEP 4



Development of the Resilient Housing Policy document

Resilient policies are organized by components of risk

$$\text{Risk} = \frac{\text{Exposure} \times \text{Sensitivity} \times \text{Consequence}}{\text{Adaptive Capacity}}$$

Reduce Risk

Reduce Exposure		Reduce Sensitivity	Reduce Consequences		Increase Adaptive Capacity		
Avoid	Protect	Accommodate	Life & Safety	Property	Government Process	Complete and Updated Data	Community Education & Engagement
12 policies	3 policies	14 policies	6 policies	11 policies	2 policies	4 policies	8 policies

60 total policies

STEP 4a



Introduction to the
Resilient Housing Policy
document

*Housing risk reduction can be achieved by reducing **exposure, sensitivity** and/or **consequence** and by increasing **adaptive capacity**.*

Include companion policies and programs described in the *Equity Considerations* to balance tradeoffs

EQ-1. Ensure ample opportunity to place enough affordable housing outside of hazardous areas.

EQ-3 Maintain housing affordability and housing security with climate change adaptation regulations.

STEP 4b-d



Equity Considerations

Equity should be considered during policy development and tradeoffs should be balanced with housing and resilience goals.

Consider the following

Are you able to site new housing outside of a hazardous area?

If **yes**, consider the **Avoid** policies.

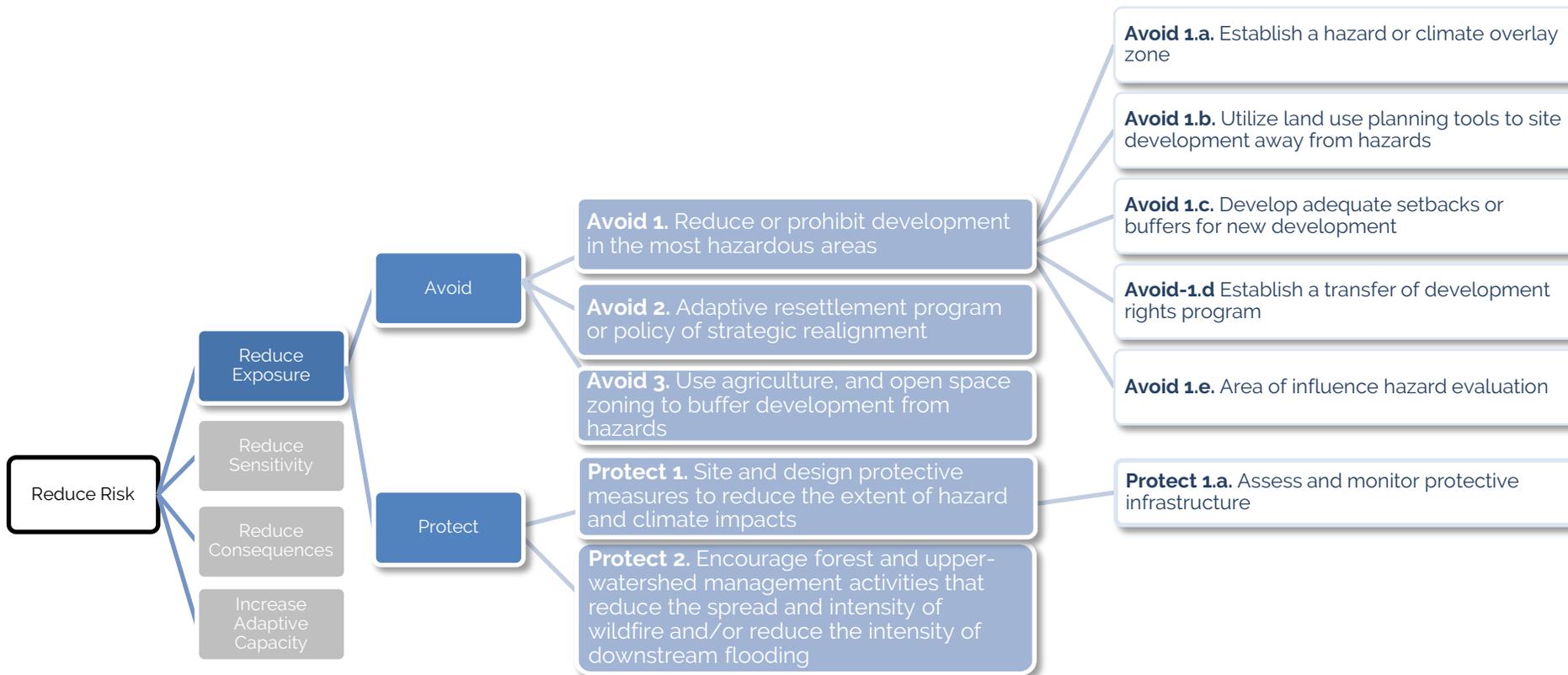
If **no**, consider **Protect** policies, or Accommodate policies (next page).

STEP 4b



Determine if exposure policies can limit the likelihood of damage.

*Exposure is the **presence** of people, infrastructure, natural systems, and economic, cultural, and social resources **located in areas** that are subject to harm*



Consider the following

Will you be siting new housing or have existing housing located in a hazardous area?

If **yes**, consider the *Protect* policies mentioned previously, or these **Accommodate** policies

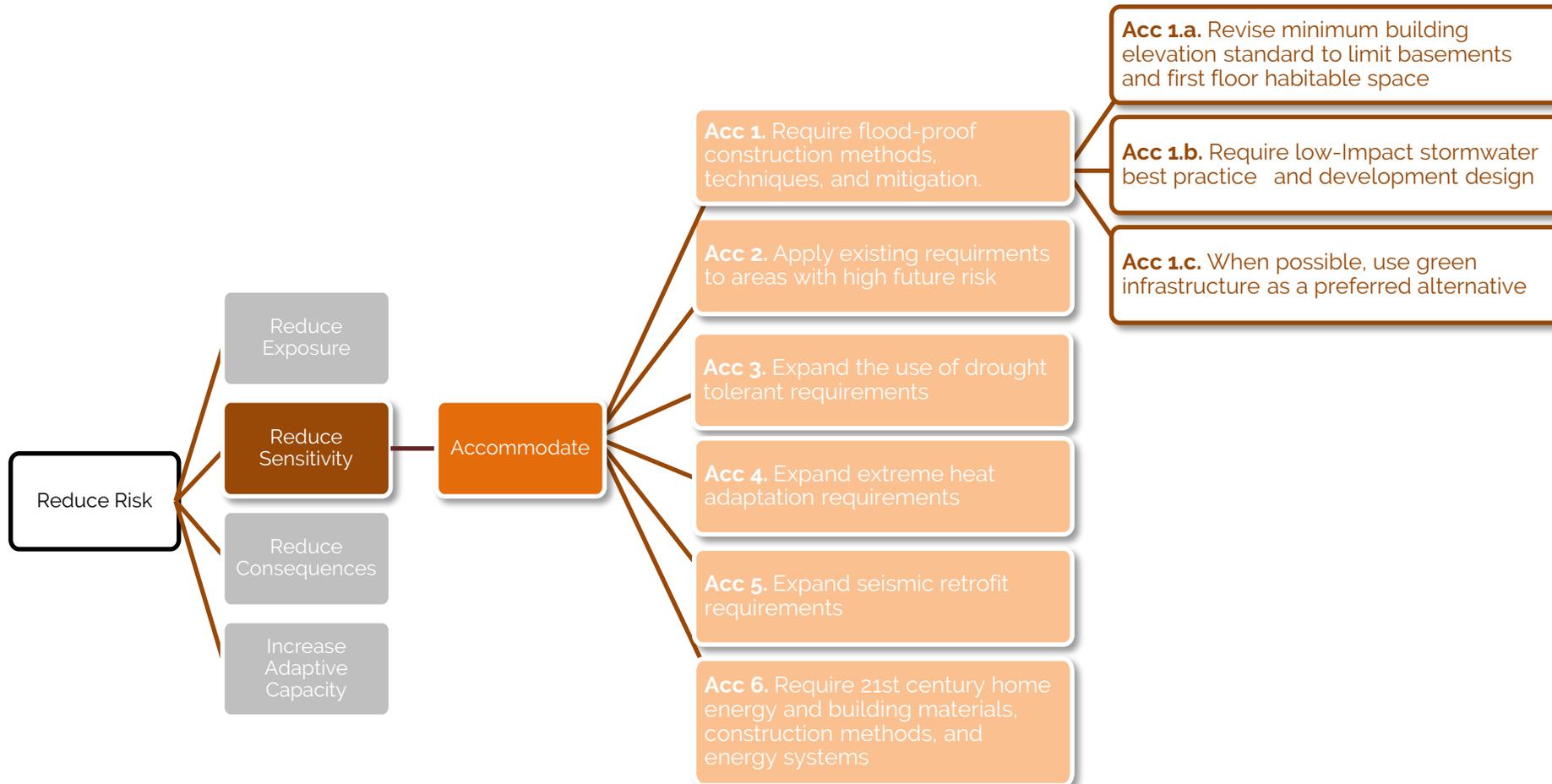
Consider policies that reduce sensitivity to **other hazards** that may not have a defined geographic boundary, like seismic shaking, drought, and extreme heat

STEP 4b



Determine if sensitivity policies can limit the likelihood of damage.

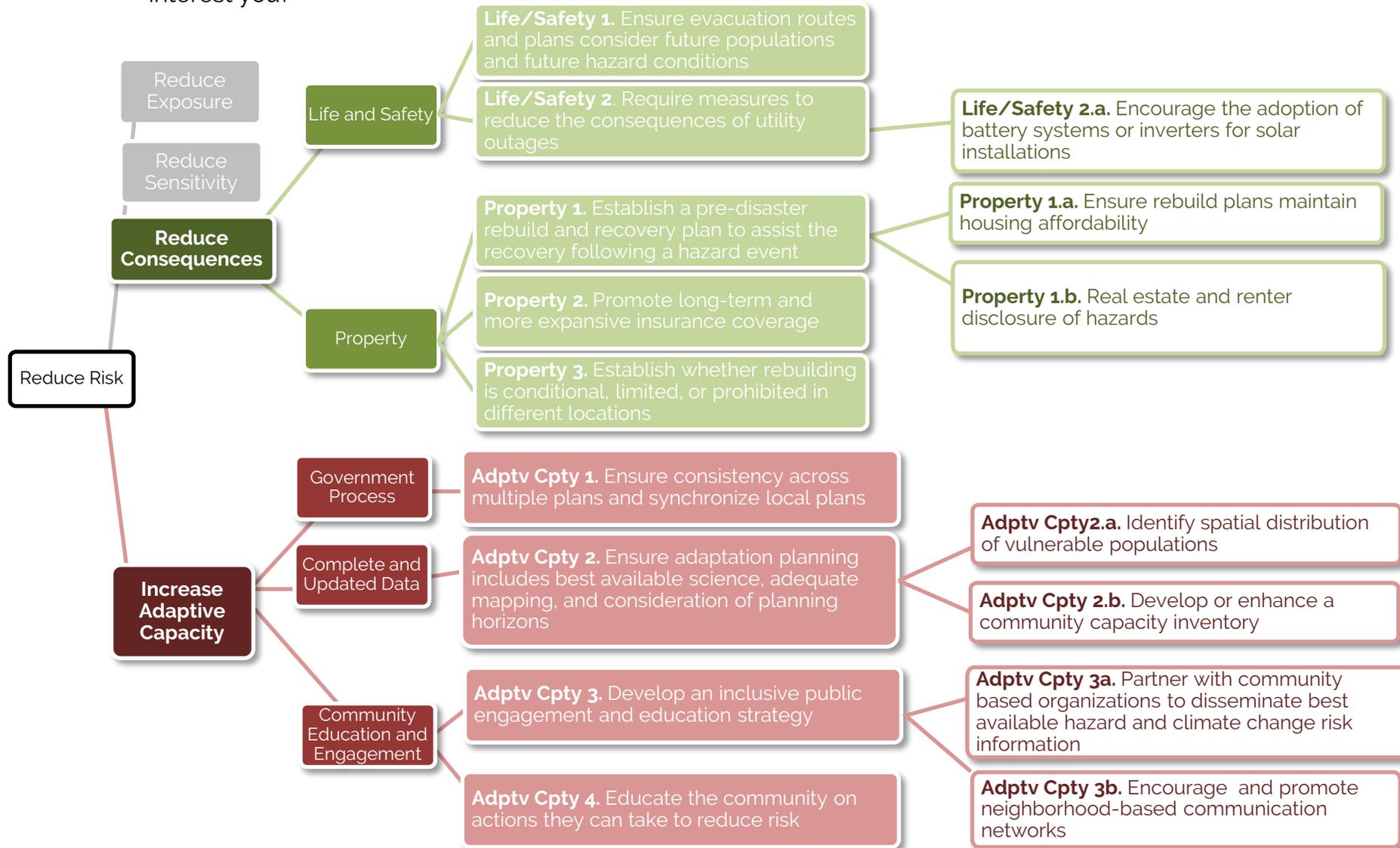
*Sensitivity the **degree** to which a community, development, individual and other associated systems would be **affected** by changing climate conditions or an acute shock event.*



Explore policies that can reduce **consequences** when impacts occur or that increase **adaptive capacity** that enable a community to bounce back faster and better.

Are there significant risks to residents or property that are not well addressed by previous policies?

Does your community already have strategies in place to increase adaptive capacity, do any of the policies interest you?



STEP 4C



Explore policies that can **reduce consequences** when impacts occur or that **increase adaptive capacity** that enable a community to bounce back faster and better.

Tailor policies to your jurisdictions unique vulnerabilities or communities needs

Example

Life/Safety 2.

Encourage measures to reduce the consequences of extreme heat ~~climate or seismic events~~ on residents

Encourage, educate, or require lifesaving and safety equipment or devices to prepare residents for the various impacts directly or indirectly resulting from extreme heat events. Extreme heat events ~~may include wildfire, storms, heat waves or earthquake~~ ~~which~~ could result in power outages, loss of connectivity, loss in medical equipment, heat illnesses, ~~worsened air quality~~ ~~resulting from smoke~~, loss of shelter, etc. Encourage homes to have advanced building envelopes which can keep residents at safe temperatures for longer, reducing risks for residents when heating or cooling systems are offline during a power outage.

STEP 4d



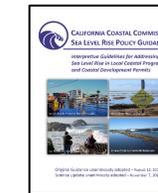
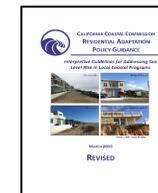
Customize desired policies to address your communities' specific hazards or unique situation.

Full Policy Spreadsheet

Category	Climate Hazard	Tier 1	Tier 2	Tier 3	Policy Language	Source	Source County	Source City
Risk Reduction	Multiple hazard	Exposure	Avoid - Natural Areas and Open Space	Avoid-3	Protect Natural Areas. Identify map and establish land use designations and development standards that protect areas of significant habitat, biodiversity, carbon-sequestration, ecological integrity and those areas with high natural resilience to climate change to reduce loss of critical habitat, increase biodiversity, mitigate climate change effects and protect ecological resources.	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Sea Level Rise	Exposure	Protect - Reducing the Extent of Hazards	Protect-1b	Avoid shoreline protection for new development Require CIPs for new development in hazardous locations to include as a condition of approval a waiver of rights to future shoreline protection that would substantially alter natural landforms or cause other adverse coastal resource impacts.	California Coastal Commission Sea Level Rise Adaptation Policy Guidance		
Risk Reduction	Sea Level Rise	Exposure	Avoid - Natural Areas and Open Space	Avoid-3	Limit new development in areas adjacent to wetlands, ESHA, and other coastal habitats Prohibit the construction of new development in areas that are adjacent to wetlands, ESHA, Protect existing open space adjacent to the coast Plan for future coastal recreational space and parkland by protecting open space adjacent to coastal habitats so that beaches and other habitats can migrate or so that there is open space available as parkland or other areas are lost.	California Coastal Commission Sea Level Rise Adaptation Policy Guidance		
Risk Reduction	Sea Level Rise	Exposure	Avoid - Natural Areas and Open Space	Avoid-3	Ensure No-net-loss of Floodplain Storage. Ensure no-net-loss of floodplain storage through development restrictions and/or mitigation through adoption or modification of the community's floodplain management ordinance. Floodplains have the ability to mitigate downstream damage due to the potential risks of increased inland flooding and more intense storm/precipitation events.	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Multiple hazard	Exposure	Avoid - Natural Areas and Open Space	Avoid-3.a	Reduce Barriers to Use Williamson Act. Streamline provisions within the Community's zoning ordinance, including fees and internal routing for application approvals, to reduce barriers to use of the Williamson Act for preservation of agricultural lands and/or open space.	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Multiple hazard	Exposure	Avoid - Natural Areas and Open Space	Avoid-3.a	Encourage the Use of Williamson Act in the Zoning Ordinance. Adapt provisions within the Community's zoning ordinance to encourage the use of the Williamson Act for preservation of agricultural lands and/or open space. The Williamson Act encourages the preservation of land for open space, forestry and agricultural operations through an assessment and reassessment of the property. This can aid in carbon sequestration, protection of food supply, inland floodplain protection, or sensitive habitats to offset costs and provide additional land to mitigate climate change impacts.	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Seismic Multiple hazard/climate impact	Sensitivity	Accommodate - Seismic	Acc - 1e	Require geotechnical investigations by certified engineering geologist or other qualified professionals for all grading and construction projects subject to geologic hazards, including fault rupture, severe ground shaking, liquefaction, landslides, and collapsible or expansive soils.	OPRI Element Avoiding and Mitigating Natural Disasters		Rialto
Risk Reduction	Multiple hazard	Sensitivity	Accommodate - General	Acc - 1	Retire existing buildings using low maintenance, durable building materials and high-efficiency energy systems and appliances.	OPRI Appendix A: Air Quality		Citrus Heights
Risk Reduction	Multiple hazard	Sensitivity	Accommodate - General	Acc - 1	Encourage Use of Innovative Exterior Building Materials. Modify the community's zoning ordinance and/or design guidelines to encourage the use of innovative exterior building materials that have low-carbon footprints and/or have a positive impact on reducing air pollution and/or greenhouse gas emissions, reduce solar gain, and are Develop a program to support housing retrofits. Develop a program to provide low or no-interest loans, grants or other financial incentives to encourage homeowners and property owners that serve low- and/or moderate-income households, to retrofit housing for climate change. These retrofits should include, but not be limited to, insulation, interior materials that reduce solar gain, ceiling fans, air exchangers and whole house air filtration, and weatherization measures (i.e., sealing, weather stripping, window replacement, etc.). These retrofits can reduce heat gain, reliance on air conditioning, and improve indoor ambient air quality. These measures can protect residents from high heat days and exacerbation of respiratory illness due to poor air quality. Furthermore, these measures can reduce peak electrical demand and greenhouse gas emissions from the use of	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Multiple hazard/climate impact	Consequences - Life/Safety	Consequences - Life/Safety	Life/Safety - 1a	Encourage the Adoption of Battery Systems for Solar Installations. Encourage the adoption of battery systems for solar installations and require installation as Maintain Housing Affordability with Climate Change Adaptation Regulations. Consider the costs of mandates and increased standards for climate change adaptation regulations and those standards and regulations on housing affordability. These standards and regulations may include building hardening, building materials standards, landscaping, and siting. Policies should balance the need for climate adaptation with the negative impact of decreasing housing affordability for vulnerable populations. The jurisdiction should provide incentives, reduced density bonuses, or more inclusive zoning requirements	SCAG's Climate Adaptation Model Policies for General Plans (2020)		
Risk Reduction	Multiple hazard/climate impact	Consequences - Property	Property - 4	Property - 4	Educate Homeowners and Landowners on How to Reduce Fire Risk. Work with local fire officials to incorporate social media and education programs into the Community Wildfire Protection Plan to seek to educate homeowners and landowners on how to reduce fire risk to structures and landscaping as wildfire risk continues to increase due to	SCAG's Climate Adaptation Model Policies for General Plans (2020)		

250+ resilient policies in spreadsheet

Annotated Bibliography



STEP 4e-f



Take a deeper dive into the full policy universe by exploring the Excel Policy Universe to see additional variations of the broader policy language found in the briefer.

Explore Annotated Bibliography for the source of the policy for additional background or context for the policy.

State | Office of Planning and Research, Coastal Commission

Regional | ABAG & BCDC, Bay Area jurisdictions

Other | Southern California Association of Governments, USDN

QUESTIONS

Breakout Exercise

We have a short exercise to practice using each of the tools described.



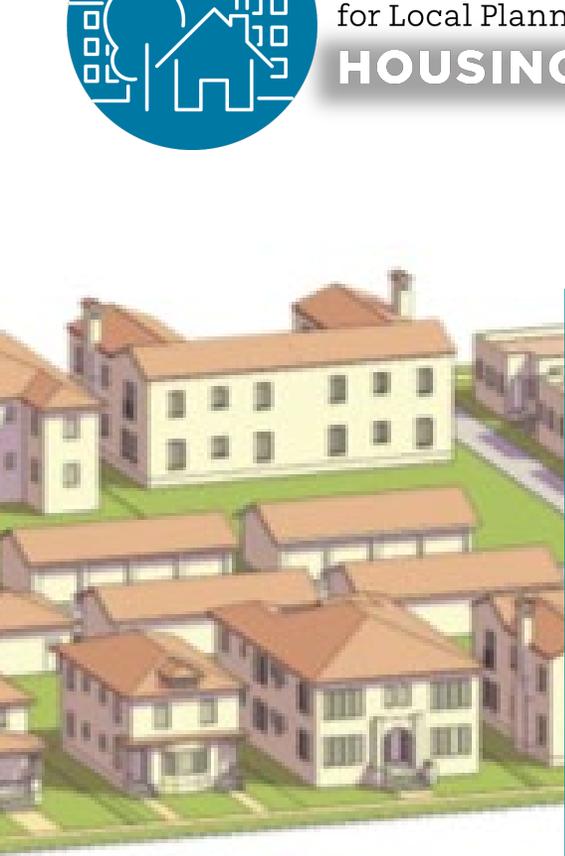
Technical Assistance
for Local Planning

HOUSING

Wildfire Cohort

Meetings will cover wildfire and planning topics: vegetation management, defensible space, home hardening, evacuation, and housing policy implementation in the WUI.

Tentative First Meeting – September 9, 3:00pm



Missing Middle Housing Working Group

Meetings will cover topics like the market for missing middle housing, ways to support missing middle housing, and the connection between RHNA and missing middle housing.

Tentative First Meeting – August 26, 3:00pm

DUPLEX

TRIPLEX &
FOURPLEX

COURTYARD BUNGALOW
APARTMENT COURT

MISSING MIDDLE HOUSING –

Thank You.

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