



# **FUTURE PROOFING AMERICA**

Roundtables on Community Disaster  
Resilience Zones and Alternative Risk  
Mitigation Investment

I- February 17 II - July 14 2023

Washington, D.C.

# REPRESENTATIVE ORGANIZATIONS (CONFIRMED)

## Industry Associations

- Urban Land Institute – Randall Lewis Center for Sustainability
- Reinsurance Association of America
- Insurance Information Institute
- American Property & Casualty Insurance Association
- Insurance Institute for Building and Home Safety
- International Code Council – Alliance for National and Community Resilience
- US Chamber of Commerce
- Build Strong America Coalition
- Inclusion-Diversity Emergency Management Association
- American Institute of Architects
- American Society of Civil Engineers

## Private Sector

- Gensler
- Marsh McLennan
- AON
- MunichRe
- Zurich North America
- PriceWaterhouseCoopers – Real Estate Practice
- BDO Public-Private Partnership Practice
- ARUP
- Milliman
- CoreLogic
- Jones Lang LaSalle
- Nuveen
- JBG Smith
- Skanska
- MetLife Investment Management
- Savills
- Tidal Basin
- Bullock and Haddow
- Babcock Ranch Development
- Lafayette Square Development
- Deloitte

## Philanthropic, Non-Profits

- Walmart Foundation
- GEOS Institute
- The Atlantic Council – Arsht Center
- Center for Impact Finance – University of New Hampshire/Federal Reserve
- University of Alabama Insurance Risk Center
- CERES Finance Accelerator

## Other Affiliations

- Fannie Mae
- Resilience Cities Network/Chief Resilience Officers
- RT Mitigation
- Resilience Innovation Hub/ROAR Partnership
- Resilience Statebook Insights
- Resilience Leadership Connect

# REPRESENTATIVE ORGANIZATIONS: INVITED RT II

## **Federal Executives (Whole of Government Resilience Leadership)**

- White House - Office of Management and Budget, National and Economic Security Offices, Council on Environmental Quality
- Department of Homeland Security - FEMA Resilience Programs, Mitigation Programs; S&T Directorate
- Department of Housing and Urban Development - Community Development Block Grants for Disaster Response, SafeHomes, Policy
- Department of Commerce - Economic Development Administration, National Oceanic and Atmospheric Administration, Minority Business Development Administration; National Institute of Standards and Technology
- Department of Defense - Secretary's Office of Sustainability and Resilience, Assistant Secretary for Facilities and Infrastructure (All Branches)
- Department of Agriculture - Rural Development, State and Local Engagement, Secretary's Office of Climate Resilience
- Department of Labor - Employment and Training Administration
- Department of Health and Human Services - Office of Health and Sustainability, Center for Disease Control, Families and Children

## **Federal Executives (Whole of Government Resilience Leadership)**

- Department of Energy - Energy Efficiency and Renewable Energy Division, Climate-Resilience Loan Office
- Department of Interior - Tribal Nation Directorate, Bureau of Reclamation
- Environmental Protection Agency
- Department of Transportation - Climate Resilience Program Office, State and Local Programs, Policy
- Fannie Mae
- Federal Reserve

## **Non-Federal Representatives**

- Gensler
- AON
- MunichRe
- FM Global
- Tidal Basin
- Bullock and Haddow
- RT Mitigation
- Statebook Insights and Leadership Connect
- Resilience Precovery Advisors

## **Industry Associations**

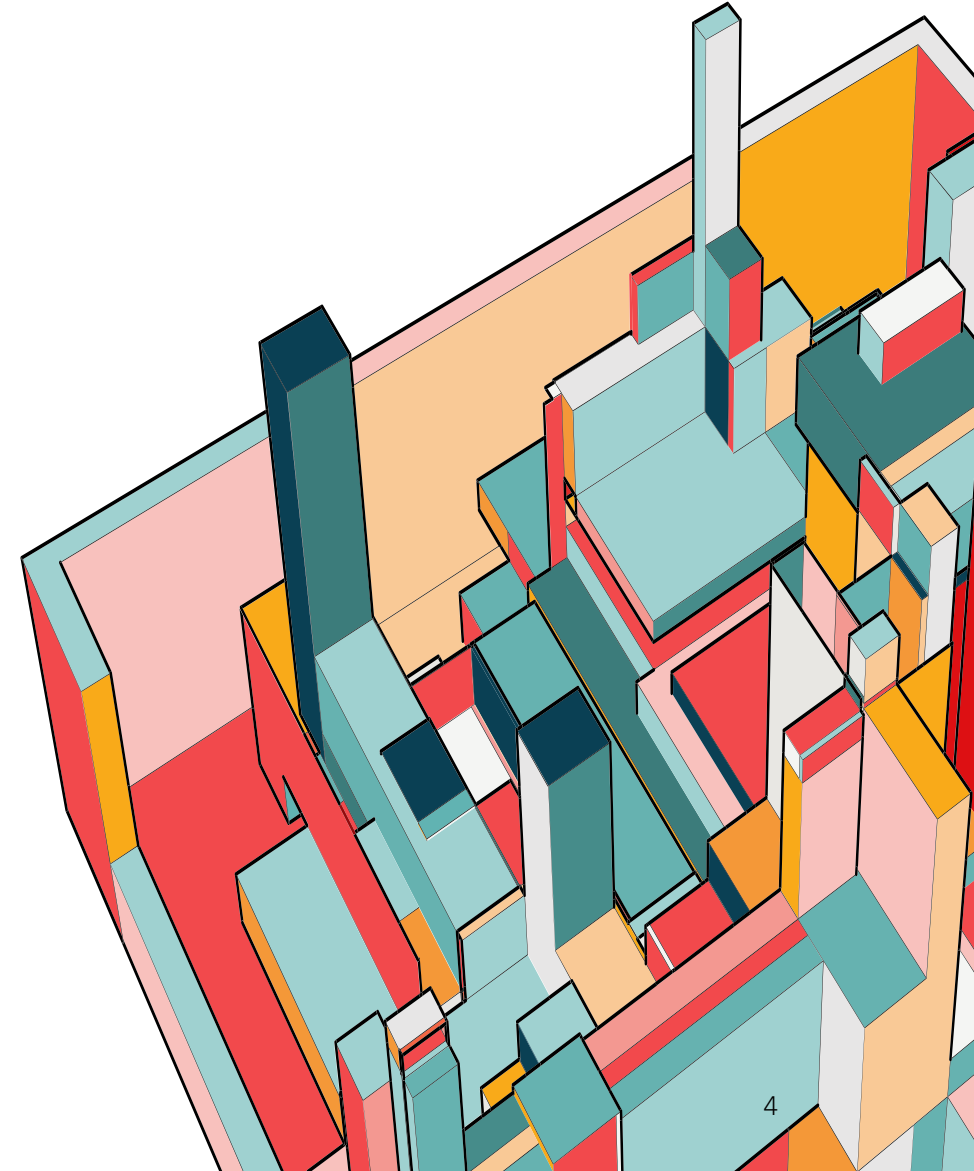
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- US Chamber of Commerce
- Inclusion-Diversity Emergency Management Association

## **Philanthropic, Non-Profits**

- Walmart Foundation
- The Atlantic Council - Arsht Center
- Robert Wood Johnson Foundation
- Caterpillar Foundation
- Kresge Foundation

# RT I AND II AGENDA

1. Establish a common baseline of understanding among disparate perspectives, expertise, roles for addressing disaster and social vulnerabilities through the new Community Disaster Resilience Zone Act
2. Identify AND prioritize specific actions, programs, resources, and investment scenarios for Private-Philanthropic Partnerships with and across Resilience Zones
3. Identify and prioritize Whole of Government opportunities for coordination, collaboration by overcoming barriers, limitations across and within Federal agencies; align for pilots and project demonstrations
4. Capture existing and emerging best practice for adapting, adopting at scale across multiple Resilience Zones - 10-12 Inaugural Cohort, then 60 initially, 1800 potentially
5. Form working groups and a framework road map to share with WH, FEMA, Congress and other strategic interests - leading to a national technical assistance strategy



# SUMMARY TAKE-AWAYS

## POST ROUNDTABLE REPORTING OUT

### KEY FINDINGS

- ❑ Need for an ongoing Roundtable to convene multiple but often siloed interests resulting in immediate action rather than studies, reports, one-off sessions
- ❑ Resources – financial, best practices, know-how, consensus – are readily available but fragmented
- ❑ National passion for changing the current landscape of Response-Recovery-Rebuild to Innovative Preparedness

### KEY RECOMMENDATIONS

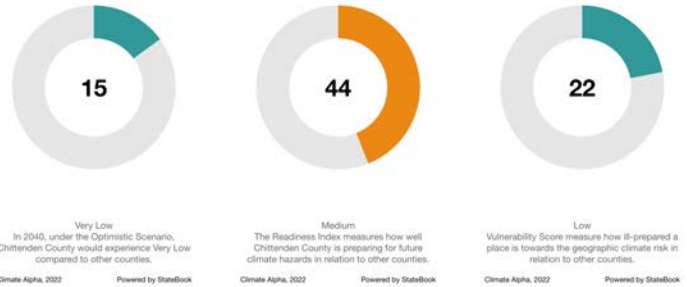
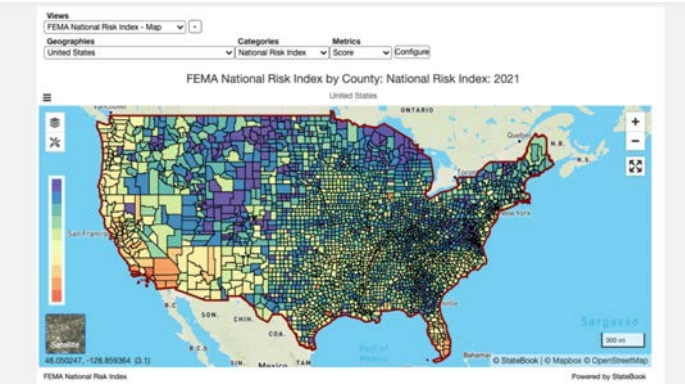
- ❑ Convene fast-paced working groups as follow-up to the inaugural Roundtable to design a new Framework, Road Map
- ❑ Align Insurance, Mortgage, Financing, Foundation Investment into new “products” and funding “platforms”
- ❑ Align Social Vulnerability, Capacity Building, Technical Assistance with Additional Resource Allocation for 2<sup>nd</sup>-3<sup>rd</sup> Level Cost-Benefits (Health-Wellbeing, Food-Nutrition, Job Training-Certification, etc.)

### SPECIFIC ACTIONS

- ❑ Debrief White House, Federal Agencies, Congressional Leaders so as to bridge public sector timelines and design efforts
- ❑ Identify immediate resources for supporting the Roundtable “agenda” and working groups
- ❑ Conduct follow-up one-on-ones with attendees and webinars for those unable to participate on 2-17-2023
- ❑ Launch Roundtable “teams” information sharing site



# WE START WITH THE FACTS: A DATA DRIVEN APPROACH FOR EACH DESIGNATED ZONE

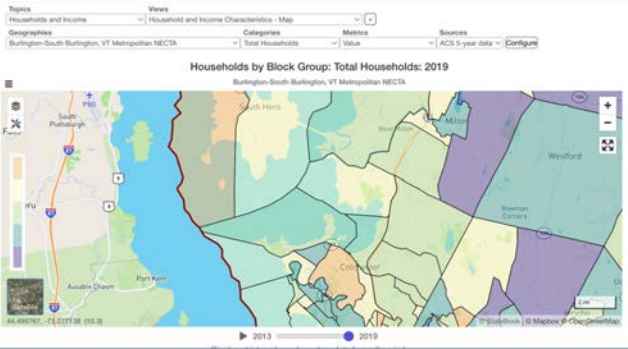


## In-depth Socio-Economic Analysis by Geography

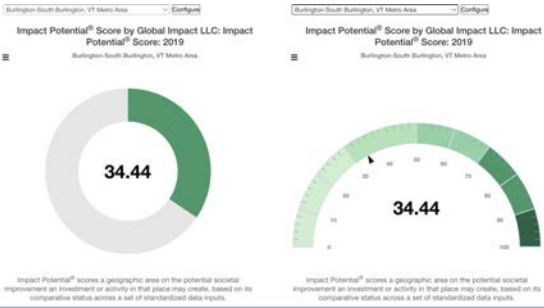
### Existing Data Providers:



## Disaster and Social Vulnerability "Mapping"



## Scenario Impacts Across Perils, Societal Challenges, "Interventions"





# COMMUNITY DISASTER RESILIENCE ZONES

Resilience Innovation Hub

Roundtable II – Whole of Government Alignment with Private-Philanthropic Partners

July 14, 2023



# FEMA

# COMMUNITY DISASTER RESILIENCE ZONES ACT OF 2022 (CDRZ)

The CDRZ Act of 2022 Requires FEMA to:

1. Maintain a natural hazard assessment program and update products based on public and input from other Federal agencies that show the risk of natural hazards through use of risk ratings
2. Designate at the census tract level ‘Community Disaster Resilience Zones’ based on relative Estimated Annual Losses due to natural hazard risk + Social Vulnerability + Community Resilience.

Public Law 117–255  
117th Congress

An Act

To require the President to develop and maintain products that show the risk of natural hazards across the United States, and for other purposes. Dec. 20, 2022  
[S. 3875]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

**SECTION 1. SHORT TITLE.**  
This Act may be cited as the “Community Disaster Resilience Zones Act of 2022”.

**SEC. 2. FINDINGS.**  
Section 101(b) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121(b)) is amended—  
(1) in paragraph (5), by striking “and” at the end;  
(2) in paragraph (6), by adding “; and” at the end; and  
(3) by adding at the end the following:  
“(7) identifying and improving the climate and natural hazard resilience of vulnerable communities.”.

**SEC. 3. NATURAL HAZARD RISK ASSESSMENT.**  
(a) IN GENERAL.—Title II of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5131 et seq.) is amended by adding at the end the following:  
“SEC. 206. NATURAL HAZARD RISK ASSESSMENT. 42 USC 5136.  
“(a) DEFINITIONS.—In this section:  
“(1) COMMUNITY DISASTER RESILIENCE ZONE.—The term ‘community disaster resilience zone’ means a census tract designated by the President under subsection (d)(1).  
“(2) ELIGIBLE ENTITY.—The term ‘eligible entity’ means—  
“(A) a State;  
“(B) an Indian tribal government; or  
“(C) a local government.  
“(b) PRODUCTS.—The President shall continue to maintain a natural hazard assessment program that develops and maintains products that—  
“(1) are available to the public; and  
“(2) define natural hazard risk across the United States.  
“(c) FEATURES.—The products maintained under subsection (b) shall, for lands within States and areas under the jurisdiction of Indian tribal governments—  
“(1) show the risk of natural hazards; and  
“(2) include ratings and data for—  
“(A) loss exposure, including population equivalence, buildings, and agriculture;  
“(B) social vulnerability;”.

Community Disaster Resilience Zones Act of 2022, President, 42 USC 5121 note.



FEMA



# OVERVIEW OF DESIGNATING THE COMMUNITY DISASTER RESILIENCE ZONES

- The law requires FEMA to revise the methodology and receive public input within 180 days and identify and designate zones 30 days thereafter.
  - Congress intended for FEMA to use the National Risk Index (NRI) to define the CDRZs at the Census Tract level
  - Must account for Social Vulnerability, Community Resilience, and Expected Annual Loss for Buildings, Population, and Agriculture
  - Designations based on the highest individual hazard risk ratings (must be Relatively High or Very High risk) and maintaining a geographic balance
- CDRZs will have a 5-year designation
- FEMA must review and update risk assessment product in coordination with Federal Partners and all NRI data and methods must be publicly available (RFI)
  - Other tools beyond just NRI can be used to help identify CDRZs



**FEMA**

# CDRZ IMPLEMENTATION VISION

## TARGETED COLLABORATION FOR

### COLLECTIVE IMPACT

- Zone Designation Value
  - Focus
  - Accountability
- New Resilience Capital Stack across Public, Private and Philanthropic Resources
  - Cross Sector Coordination Across Diverse Organizations
    - Public
    - Philanthropic & Private Non-Profits
    - Insurance & Corporate
- Systemic, Holistic Approach
- Centered in Equity



**FEMA**

# CDRZ TIMELINE

Spring 2023 – Summer 2023

Summer 2023

Spring 2024 – Fall 2024

TBD

*Phase 1 –  
Finalize Data Methodology  
through Interagency  
Coordination and Public Input*

*Phase 2 – Designation of CDR  
Zones*

*Phase 3 – Implement  
Public/Private support to CDR  
Zones*

*Phase 4 – Evaluation and  
Measuring Success*

## Phase Goals and Accomplishments:

- Phase 1: Receive public input through Request for Information (RFI) and work with interagency to finalize data methodology for CDRZ selection
  - RFI will give the public 60-days to submit comments (DUE July 25, 2023)
- Phase 2: Select and Designate Zones
- Phase 3: Coordinate with interagency, public and private sector on support for the designated zones
- Phase 4: Determine methods of evaluation and measurements of success



**FEMA**

# REQUEST FOR INFORMATION – DISCUSSION

## We are seeking information from the public on:

- Risk assessment methodology
- Method to designate CDRZ
- Frameworks for delivering services and technical assistance to designated zones

View the full RFI  
and submit your  
comments here →



Email us at:  
[FEMA-CDRZ-RFI@fema.dhs.gov](mailto:FEMA-CDRZ-RFI@fema.dhs.gov)

Leave a voicemail at:  
202-212-8007





# RESOURCES

- CDRZ Website
  - <https://www.fema.gov/flood-maps/products-tools/national-risk-index/community-disaster-resilience-zones>
- National Risk Index (NRI)
  - <https://www.fema.gov/nri>
- RFI (comments due July 25, 2023)
  - <https://www.federalregister.gov/documents/2023/05/26/2023-11268/community-disaster-resilience-zones-and-the-national-risk-index>

View the full  
RFI and submit  
your  
comments  
here!



**FEMA**

# Data Driven Approaches to Building Resilience Infrastructure



- **Federal, State and Local Gov't.**
  - **Whole-of-Gov't Approach**
  - **Provides a Common Framework**
- **Corporations and Businesses**
  - **Public-Private Partnerships**
  - **Resilience Focused Investment**
  - **Philanthropic Giving**
- **Philanthropic Foundations**
  - **Coordinated Focus**

# IDENTIFY AND DESIGNATE VULNERABLE COMMUNITIES



**RAA**

- **For Communities Most in Need and Most at Risk of Natural Disaster(s)**
- **Using and Enhancing FEMA's National Risk Index (NRI), Assess at Census Tract-Level:**
  - **Existing NRI Data, Scores, and Ratings**
    - ✓ **Loss Exposure**
    - ✓ **Social Vulnerability**
    - ✓ **Community Resilience**
    - ✓ **Population and Housing Demographics**
    - ✓ **Agricultural Loss Impact**
  - **Incorporate additional socio-economic data from the Census Bureau and RAPT**

# **PUBLIC AND PRIVATE FUNDING FOR RESILIENCE PROJECTS**



- **Provide menu of funding options for resilience projects**
- **Structure Tax and Funding Incentives**
  - **Direct pay bonds (subset of Build America Bonds)**
  - **Private activity bonds**
  - **Transferrable tax credits**
    - **Community-level projects**
    - **Individual homeowner retrofits**
  - **Corporate and individual charitable contribution tax credits (vs. tax deductions)**
- **Reduce Required Matching Funds for FEMA's Building Resilience Infrastructure and Communities (BRIC) Program and Provide Financial & Tech Assistance**
- **Prioritize and Set Aside HUD, USDA, and Other Federal Program Funding**



State

AZ

District

(None)

Tract Congressional Districts

(All)

County Name

Maricopa

Census Tract FIPS Code

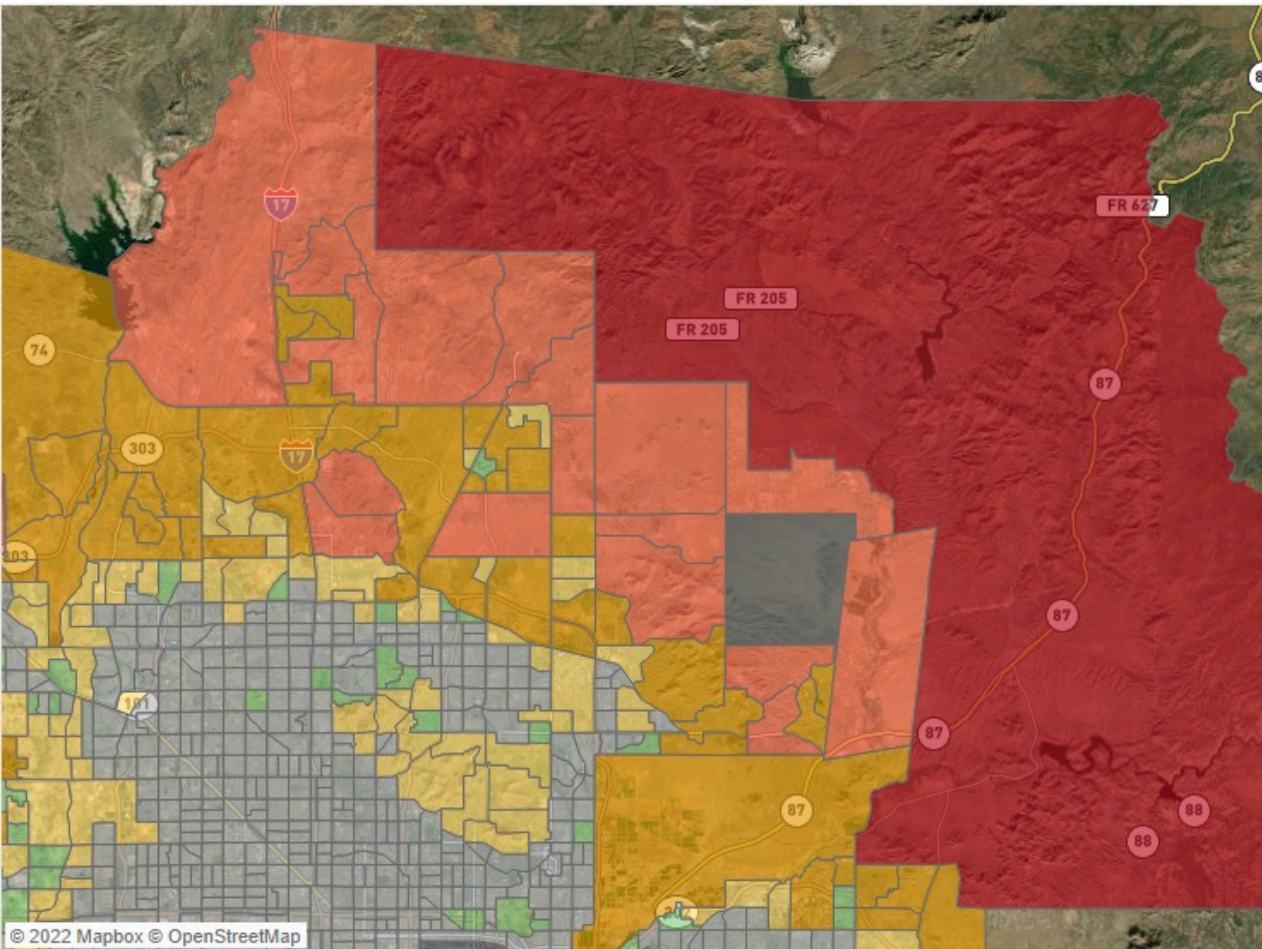
(All)

Hazard

Wildfire

Source: FEMA's National Risk Index [www.fema.gov/nri](http://www.fema.gov/nri)

### Map - Wildfire



Not Applicable

Very Low

Relatively Low

Relatively Moderate

Relatively High

Very High

### Census Tract Social Vulnerability - Wildfire



Hazard	Expected Annual Loss Population Equivalence	Expected Annual Loss Agricultural Value	Expected Annual Loss Building Value	Expected Annual Loss Total
Wildfire	2,170	13	12,283,305	12,285,488
Earthquake	792,591		11,242,985	12,035,576
Riverine Flooding	2,637,275	125,848	1,941,728	4,704,852
Strong Wind	405,924	31	3,890,806	4,296,761
Heat Wave	2,682,616	1,528,263	1	4,210,879
Hail	4,974	177	4,164,027	4,169,178
Tornado	770,492	1,144	676,612	1,448,248
Lightning	952,842		91,459	1,044,301
Hurricane	95,048	2,975	102,060	200,083
Landslide	5,516		10,129	15,645
Winter Weather	3,606	0	56	3,662
Drought		63		63
Cold Wave	0	0	0	0
Volcanic				
Tsunami				
Ice Storm				
Coastal Flooding				
Avalanche				
<b>Grand Total</b>	<b>8,353,054</b>	<b>1,658,515</b>	<b>34,403,168</b>	<b>44,414,737</b>



State

PA

District

(None)

Tract Congressional Districts

(All)

County Name

Philadelphia

Census Tract FIPS Code

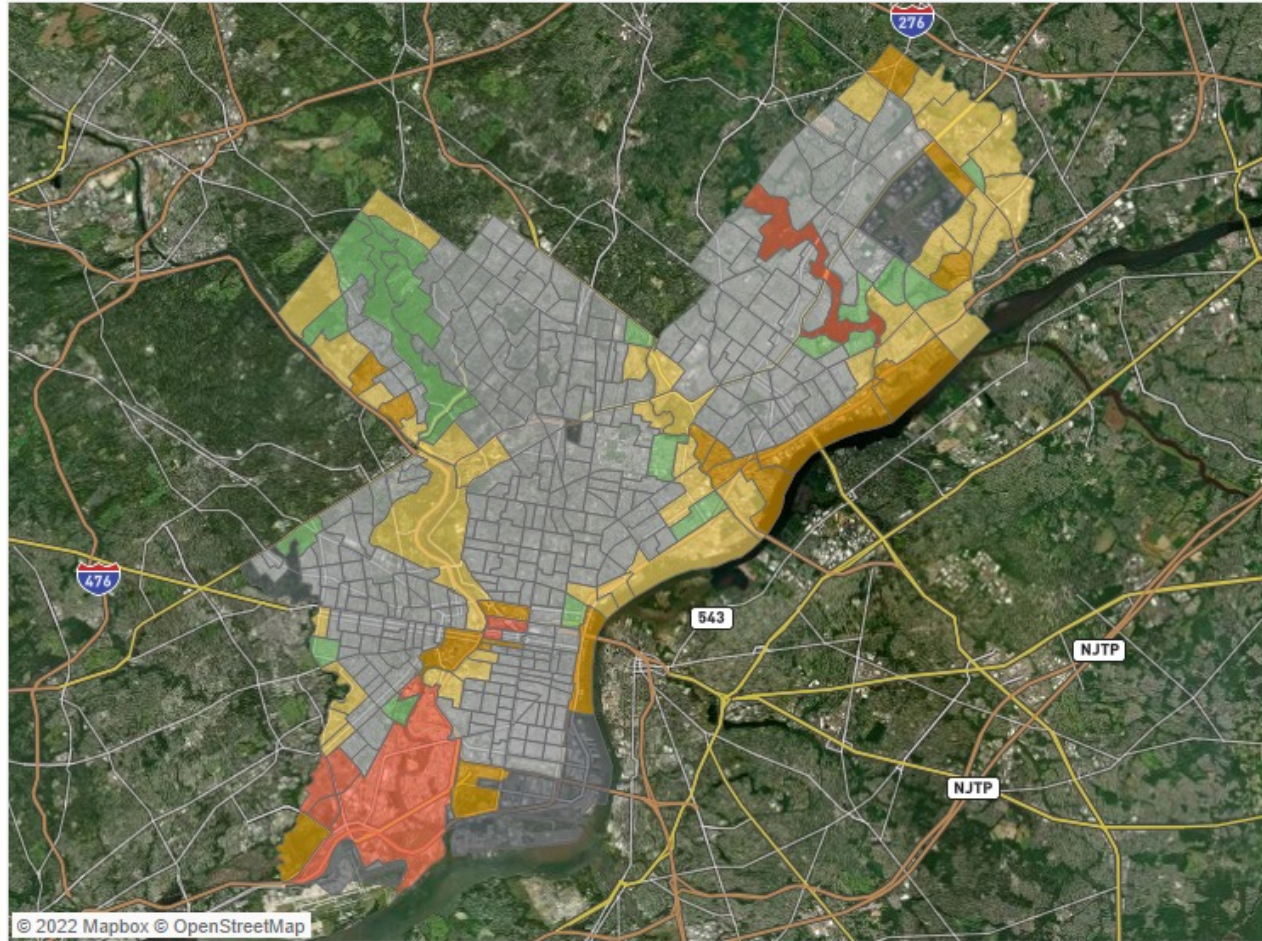
(All)

Hazard

Source: FEMA's National Risk Index [www.fema.gov/nri](http://www.fema.gov/nri)

Riverine Flooding

Map - Riverine Flooding



Not Applicable

Very Low

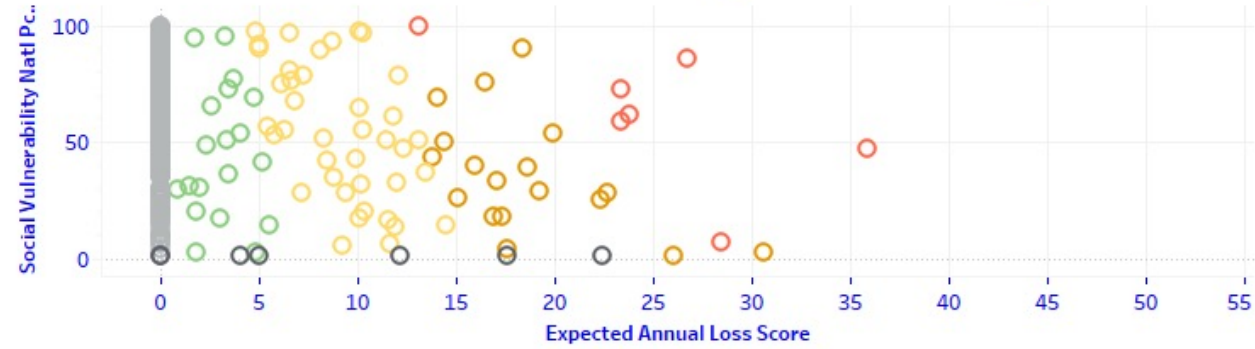
Relatively Low

Relatively Moderate

Relatively High

Very High

Census Tract Social Vulnerability - Riverine Flooding



Hazard	Expected Annual Loss Population Equivalence	Expected Annual Loss Agricultural Value	Expected Annual Loss Building Value	Expected Annual Loss Total
Heat Wave	21,139,005	120	73	21,139,198
Tornado	7,270,889	3	3,518,106	10,788,998
Coastal Flooding	91,619		8,090,241	8,181,860
Riverine Flooding	1,606,231	0	1,897,854	3,504,086
Lightning	2,728,651		5,970	2,734,621
Earthquake	124,222		2,583,867	2,708,089
Strong Wind	1,371,784	1	399,708	1,771,492
Winter Weather	1,436,325	0	172,205	1,608,530
Ice Storm	566,116		87,853	653,970
Hail	1,569	195	181,292	183,055
Landslide	10,082		19,445	29,527
Hurricane	27,402	573	785	28,760
Drought		8,409		8,409
Wildfire	37	0	2,846	2,884
Cold Wave	0	0	0	0
Volcanic				
Tsunami				
Avalanche				
<b>Grand Total</b>	<b>36,373,932</b>	<b>9,302</b>	<b>16,960,244</b>	<b>53,343,477</b>

Relatively Moderate

Relatively High

Very High

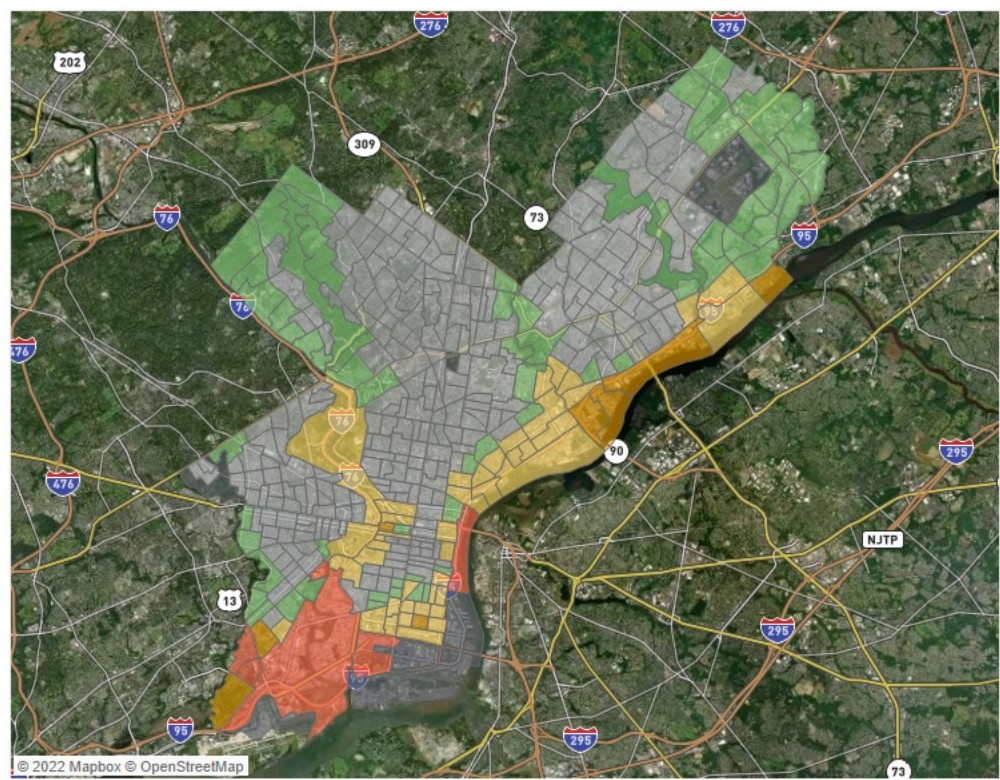


Hazard: (Multiple values)

Hazard: Coastal Flooding

Source: FEMA's National Risk Index [www.fema.gov/nri](http://www.fema.gov/nri)

### Map - Coastal Flooding

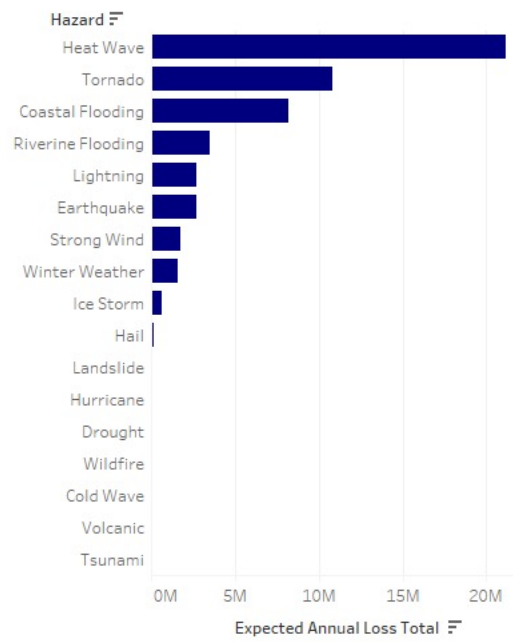


Legend: Insufficient Data (Grey), No Rating (Dark Grey), Not Applicable (Light Grey), Very Low (Green), Relatively Low (Yellow), Relatively Moderate (Orange), Relatively High (Red), Very High (Dark Red)

### Census Tract Social Vulnerability - Coastal Flooding



### Total Expected Annual Loss



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### Count of Policies

### Risk Rating 2.0 Implementation Analysis

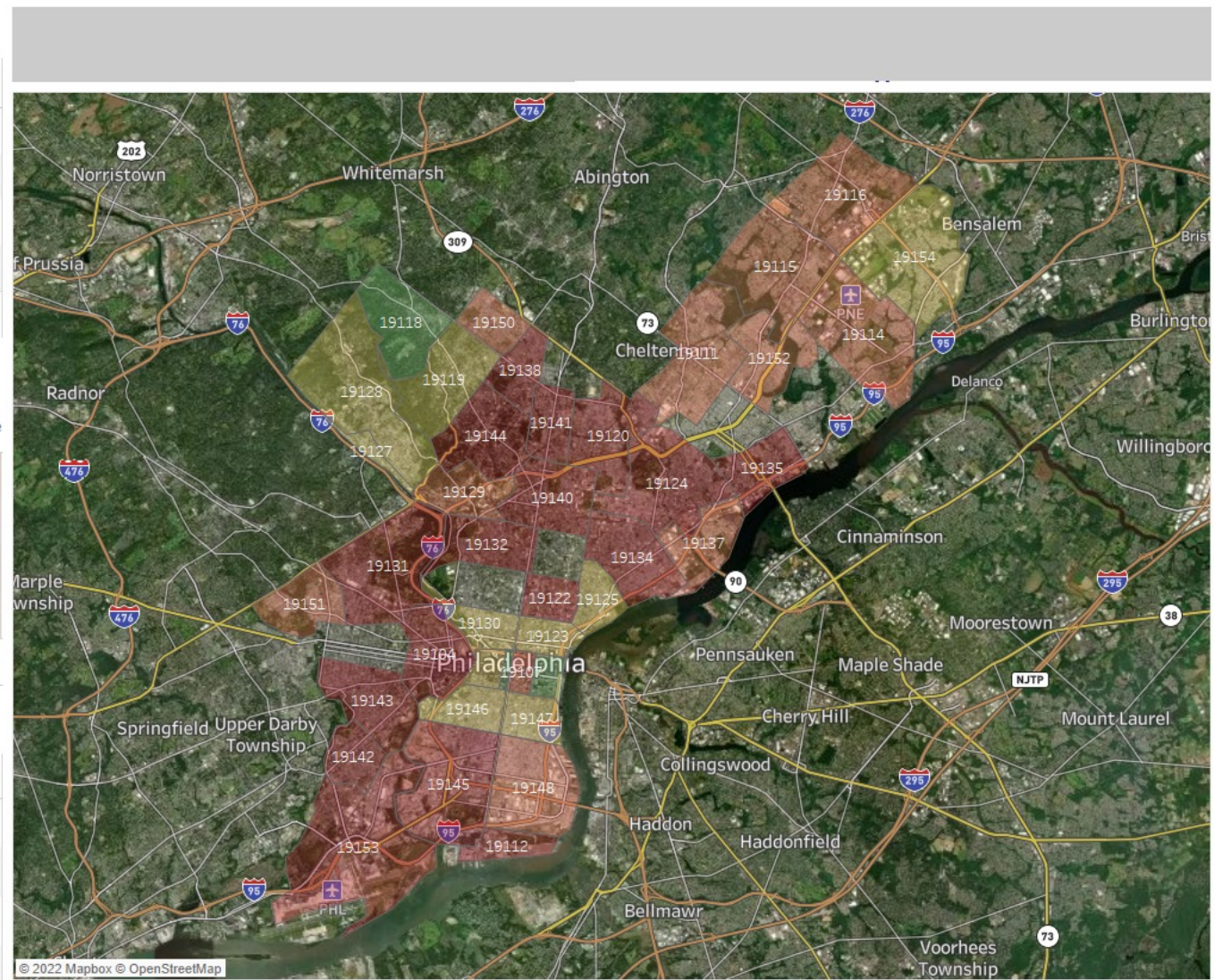
Price Parity Adj. Median HH Income Rating	Decrease	Stable	Modest Increase	Large Increase	Grand Total
Very Low	608	267	33	50	958
Relatively Low	220	193	13	14	440
Relatively Moderate	133	1,423	42	53	1,651
Relatively High	15	306	5	2	328
Grand Total	976	2,189	93	119	3,377

### Percent of Policies

Price Parity Adj. Median HH Income Rating	Decrease	Stable	Modest Increase	Large Increase
Very Low	18.00%	7.91%	0.98%	1.48%
Relatively Low	6.51%	5.72%	0.38%	0.41%
Relatively Moderate	3.94%	42.14%	1.24%	1.57%
Relatively High	0.44%	9.06%	0.15%	0.06%
Grand Total	28.90%	64.82%	2.75%	3.52%

### Est. Annualized Change in Premium \$

Price Parity Adj. Median HH Income Rating	Decrease	Stable	Modest Increase	Large Increase	Grand Total
Very Low	(\$547,080)	\$16,020	\$5,940	\$23,280	(\$501,840)
Relatively Low	(\$49,680)	\$11,580	\$2,340	\$6,000	(\$29,760)
Relatively Moderate	(\$101,940)	\$85,380	\$7,560	\$32,460	\$23,460
Relatively High	(\$7,500)	\$18,360	\$900	\$1,920	\$13,680
Grand Total	(\$706,200)	\$131,340	\$16,740	\$63,660	(\$494,460)



Price Parity Adj. Median HH Income:
   
 Very Low (Dark Red)
   
 Relatively Low (Red)
   
 Relatively Moderate (Orange)
   
 Relatively High (Green)

Color Key	Monthly RR 2.0 Rate Change	Range	< - \$100	\$-100 to \$-90	\$-90 to \$-80	\$-80 to \$-70	\$-70 to \$-60	\$-60 to \$-50	\$-50 to \$-40	\$-40 to \$-30	\$-30 to \$-20	\$-20 to \$-10	\$-10 to \$0	\$0 to \$10	\$10 to \$20	\$20 to \$30	\$30 to \$40	\$40 to \$50	\$50 to \$60	\$60 to \$70	\$70 to \$80	\$80 to \$90	\$90 to \$100	> \$100



# Zip Code Level Analysis of RR 2.0 Monthly Rate Change Impact by Congressional District

Zip Code: (All) | Congressional District Zip Match Level: Quinary | Congressional Dstct: (All) | Primary County: Philadelphia

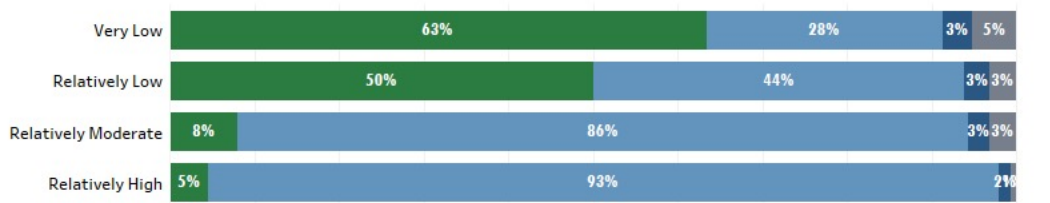
Source: <https://www.fema.gov/flood-insurance/risk-rating>



PA-2 Boyle, Brendan | D State: PA  
 PA-3 Evans, Dwight | D District: (Multiple values)  
 PA-5 Scanlon, Mary Gay | D

All Policies or SFH Only  
All Policies

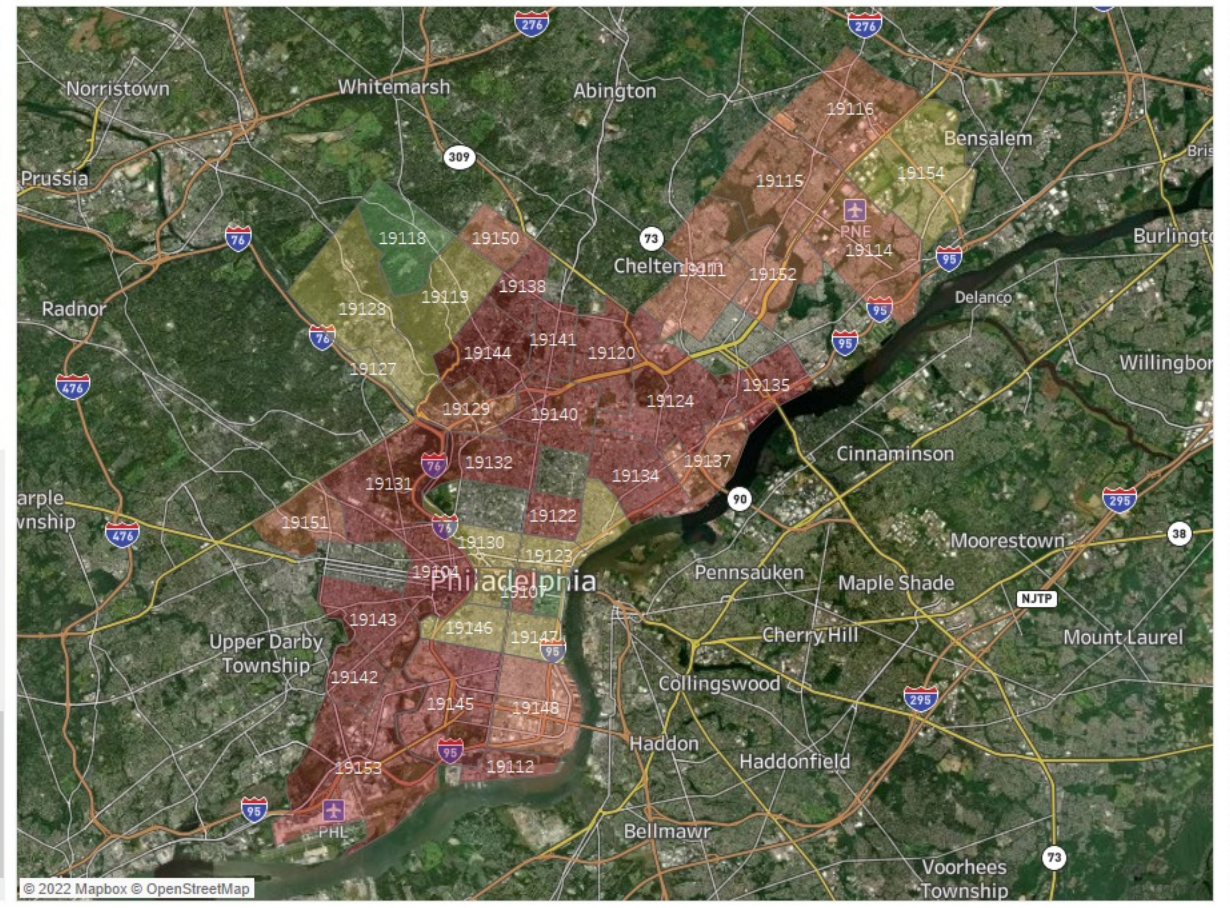
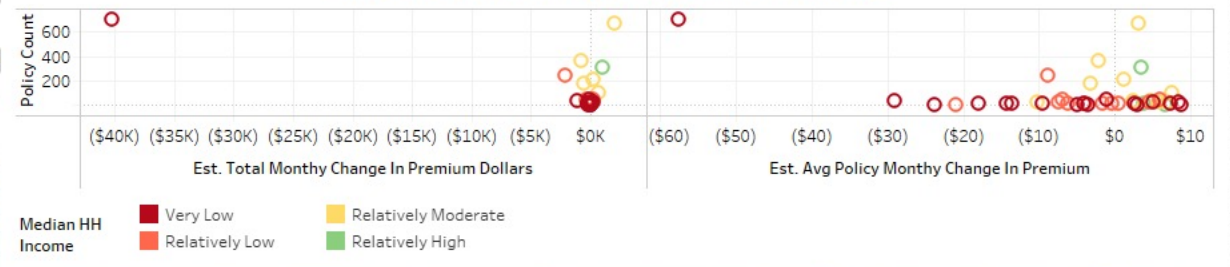
Percent of Policies by MHHI & Rate Change Category



Price Parity Adj. Median HH Income Ra..	Decrease	Stable	Modest Increase	Large Increase	Grand Total
<b>Very Low</b>	608	267	33	50	958
<b>Relatively Low</b>	220	193	13	14	440
<b>Relatively Moderate</b>	133	1,423	42	53	1,651
<b>Relatively High</b>	15	306	5	2	328
<b>Grand Total</b>	<b>976</b>	<b>2,189</b>	<b>93</b>	<b>119</b>	<b>3,377</b>

Zip Code	Congressional Dstct Zip Level Match	Price Parity Adj. Median HH Income Rating	Decrease	Stable	Modest Increase	Large Increase	Grand Total
19137	PA-2 1	Relatively Low	9	30	1	6	46
19138	PA-3 1	Very Low	5	6			11
19140	PA-2 0.5678 PA-3 0.4322	Very Low	2	3			5
19141	PA-3 0.5257 PA-2 0.4743	Very Low	1	4			5
19142	PA-5 1	Very Low	4	7		3	14
19143	PA-3 0.7914 PA-5 0.2086	Very Low	11	33			44
19144	PA-3 1	Very Low	5	9		2	16
19145	PA-3 0.5659 PA-5 0.4341	Very Low		15	1	1	17
19146	PA-3 1	Relatively Moderate	9	75	5	8	97
19147	PA-3 1	Relatively Moderate	43	316	2	1	362
19148	PA-5 0.8228 PA-3 0.1772	Relatively Low	2	31	8	3	44
19150	PA-3 0.9948 PA-4 0.0052	Relatively Low	6	4			10
19151	PA-3 1	Relatively Low	4	7			11
19152	PA-2 1	Relatively Low	4	11			15
19153	PA-5 1	Very Low	538	121	20	21	700
19154	PA-2 0.9999 PA-3 0.0001	Relatively Moderate	2	29	2	1	34
<b>Grand Total</b>			<b>976</b>	<b>2,189</b>	<b>93</b>	<b>119</b>	<b>3,377</b>

## Zip Code Level Analysis of Estimated Change



- (All)
- AK
- AL
- AR
- AS
- AZ
- CA
- CO
- CT
- DC
- DE
- FL
- GA
- GU
- HI
- IA
- ID
- IL
- IN
- KS
- KY
- LA
- MA
- MD
- ME
- MI
- MIN
- MO
- MP
- MS
- MT
- NC
- ND
- NE
- NH
- NJ
- NM
- NV
- NY
- OH
- OK
- OR
- PA
- PR
- RI
- SC
- SD
- TN
- TX
- UT
- VA
- VI
- VT
- WA
- WI
- WV
- WY

# AN ACTION PLAN FOR FRAMEWORK DESIGN

## DEFINING SUCCESSFUL IMPLEMENTATION (NEXT STEPS)

Accelerating Beyond Studies, Reports,  
Analyses to Action, Jump-Start Immediate  
Implementation

Investment  
and  
Resource  
Allocation  
Working  
Group

Pilots,  
JumpStart  
Opportunity  
Working  
Group

Cost-  
Benefit/Non-  
Financial  
Impact  
Working  
Group

Public  
Sector  
Liaison and  
Engagement  
Working  
Group

"Home, Multi-Family,  
Neighborhood" Focus  
versus Large-Scale  
Infrastructure

Prioritization of  
Actions and Next  
Steps to Reach  
Scale



# DESIGNING A FRAMEWORK FOR ACTION

## DEFINING THE OPPORTUNITY

Context of the WH, Congress, DHS-FEMA, State-Local Govt. for the CDRZ Act

Insurance  
and  
Reinsurance

Real Estate  
and The Built  
Environment

Community  
and Civic  
Organizations

Foundations  
and Non  
Profit  
Institutions

Existing,  
Traditional  
Programs  
and Delivery

Innovative, Alternative  
Best Practices/  
"Exemptions for  
Breakthroughs"

# CRITICAL ELEMENTS OF FRAMEWORK



Co-Strengthened  
Residential,  
Commercial,  
Industrial, Public  
Assets



Creates Projects  
for Community  
and Economic  
Thriving

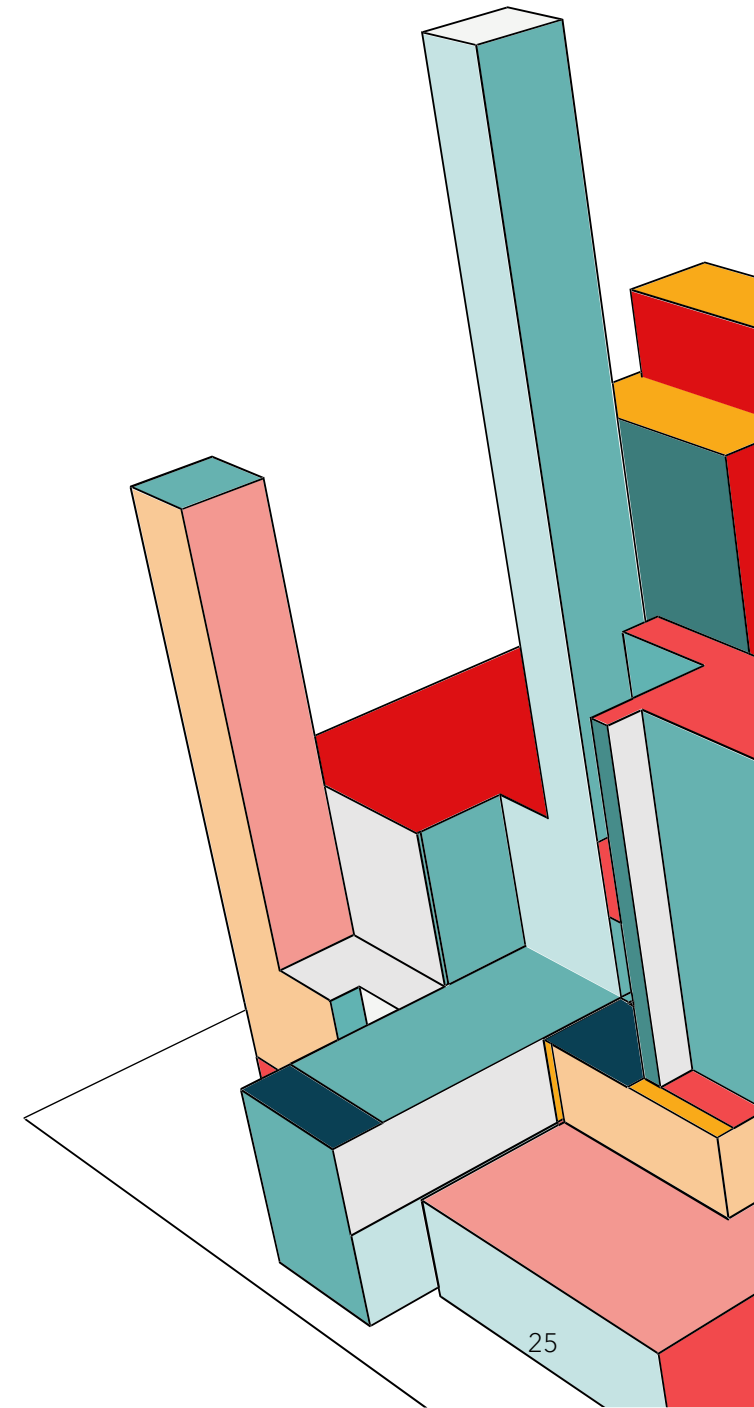


Fiscally- and  
Socially-Sound  
Risk Reducing  
Investments



## CHALLENGES & HURDLES FOR CDRZ BASED ON AFTER ACTION REPORTING, ONGOING ANALYSES

- **Inefficient Practices vs. Highly Organized Across Common Interests**
- **Constant Rebuild vs. Lasting Mitigation, Purpose Design**
- **Fragmented Resources vs. Streamlined Application, Distribution**
- **Failures Highlighted vs. Celebrate, Communicate Successes**
- **Conflicting Cost-Benefits vs. True Costs Captured Beyond Losses**
- **No Encouragement to Pivot vs. Incentivized Collaborative Actions, Investments.**
- **No Baseline Metrics vs. Triple Bottomline and Equity Performance**
- **Infrastructure-Centric vs. Integrated Built Environment + People-Centric Projects**



# FRAMEWORK MODEL(S)



---

DATA DRIVEN:  
HISTORICAL,  
CURRENT,  
PROJECTED FOR  
MOST AT RISK/  
MOST IN NEED  
LOCATIONS



---

DESIGNED TO  
SCALE FOR  
GREATEST IMPACT,  
SIMPLICITY TO  
IMPLEMENT –  
BALANCING  
NATIONAL INTENT  
WITH LOCAL  
OUTCOMES



---

ADAPT TO EACH  
COMMUNITY'S  
NEEDS, DIVERSITY,  
UNIQUENESS BY  
ADOPTING  
MEASURABLE  
RESULTS AND  
PERFORMANCE

# OPPORTUNITIES

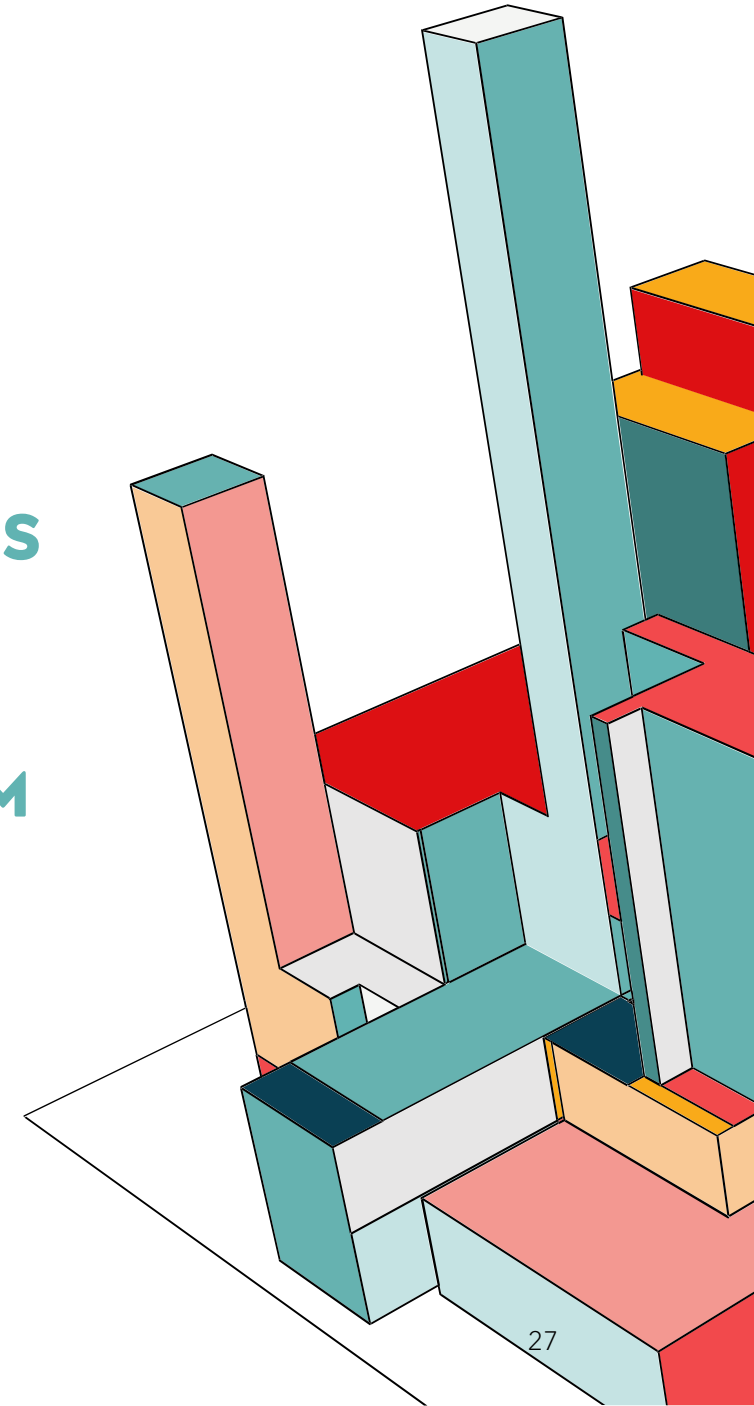
FOCUSED  
“PLATFORM” FOR  
NEW STRATEGIES

LEVERAGED  
RESOURCES AND  
INVESTMENTS

THRIVING, NOT JUST  
SURVIVING FOR  
COMMUNITIES, CITIZENS

NEAR- AND LONG-TERM  
BENEFITS FOR ALL  
STAKEHOLDERS

FORCE MULTIPLIER FOR  
PRIMARY, SECONDARY  
BENEFICIARIES



# GENSLER PREPAREDNESS FRAMEWORK 2023

<p><b>Environment:</b></p> <p><i>Minimizing carbon emissions across the built environment</i></p> <p><i>Reducing the impact of resources used in new development</i></p> <p>Investing in natural capital and greening our communities</p> <p><i>Protecting &amp; preserving local ecosystems and resources</i></p>	<p><b>Economy:</b></p> <p><i>Ensuring business continuity in the face of adverse climate events</i></p> <p><i>Driving incentives and cost recovery vehicles for resiliency upgrades</i></p> <p><i>Prioritizing investments in adaptive energy and resource use</i></p> <p>Addressing the insurability and long-term value of real estate</p>
<p><b>Experience:</b></p> <p>Promoting cultural resilience and preparedness</p> <p>Creating places that improve health, well-being, and social connection</p> <p><i>Growing awareness and optimism in our communities</i></p> <p><i>Building unique spaces that support positive interaction &amp; collaboration</i></p>	<p><b>Equity:</b></p> <p><i>Prioritizing marginalized communities that bear the brunt of climate change</i></p> <p>Addressing the impacts of climate change on local and regional identity</p> <p><i>Planning with a diverse set of local voices to foster culturally informed decisions</i></p> <p><i>Designing places that are proactively inclusive of all people</i></p>



# “Community Disaster Resilience Zone” A Census Tract Conceptual Design



Prepared by **Gensler**

The issues of Natural and Human Environment Challenges:

## **Disaster Vulnerabilities**

- Drought
- Flood
- Overland Water flow
- Wild or Urban Fire
- Coastal Storm Surge
- Windstorms
- Urban Heat island

Response:

*Large Scale Disaster Mitigation  
Infrastructure and Hazard Reduction  
Methods*

## **Social Vulnerabilities**

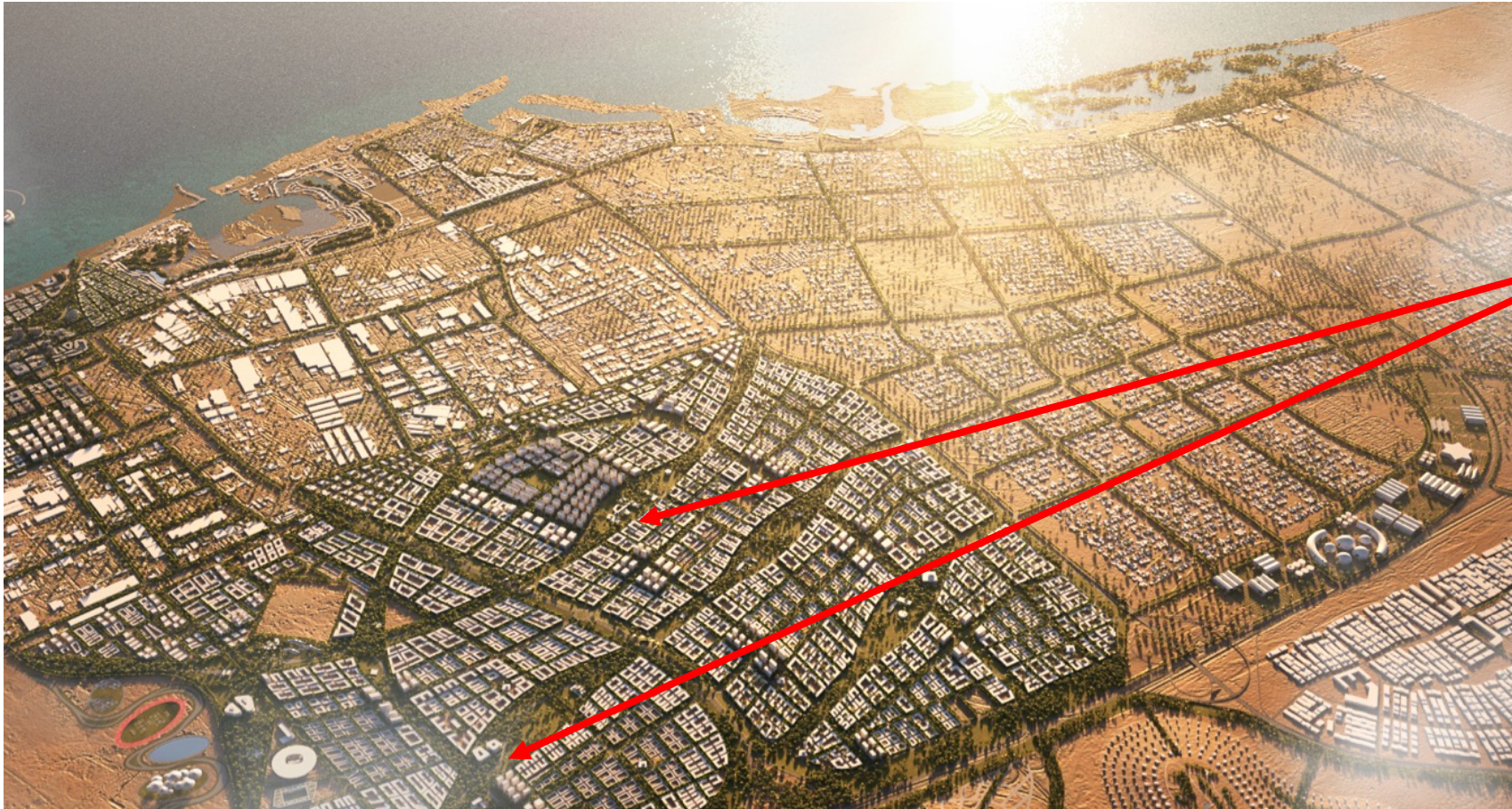
- Health and Pandemics
- Food ‘Deserts’ and Nutrition Options
- Limited Weatherization and Fortified Structures/Homes
- Limited Broadband and Critical Communications Access
- Training and Certification for New Opportunities in Resilience/Sustainability

Response:

*Integrated “Thriving Not Just Surviving”  
strategic programs, projects for  
homeowners, citizen and civic groups*



# “Community Disaster Resilience Zone” A Census Tract Conceptual Design



The issues of human and natural environment challenges...

Professional Services, Medical Health Clinics and Emergency Services

*Response: Aligned Small Business Operational and Physical Continuity Coupled with Critical Community Health Care*



# “Community Disaster Resilience Zone”

## A Census Tract Conceptual Design



The issues of human and natural environment challenges...

Community Center, Civic Space, and Park / Recreation

*Response: Design, Retrofit, and Multiple Purpose Utilization for Storm Water Detention-Retention, Preparedness and Rescue Centers*



# “Community Disaster Resilience Zone”

## A Census Tract Conceptual Design



The issues of human and natural environment challenges..

Historic or Older Industrial Facilities, Research or Corporate Facilities (preparedness for Spills and Leaks, Fires and Explosions, Power Outages)

*Response: Fortification from Current-Future Disasters, from Pre-positioned Strategic Inventories of Prevention-Response Resources, Reuse and Repurpose for New Resilience-Related Manufacturing and Sustainable Technology Installation, Training and Certification through Apprenticeships, Adoption of Microgrids for Power-Energy-Water*



# “Community Disaster Resilience Zone”


## A Census Tract Conceptual Design



The issues of human and natural environment challenges..

 Faith Based Institutions

 Elementary, Middle and High Schools

 Workforce and Certification Training, Community Colleges

 Residential/ Apartment/ Multi Family

 Commercial/ Industrial Tracts

*Response: A Purposeful and Integrated Use of Existing Facilities, Sites, Infrastructure into Coordinated Resilient Strategies Across Public and Private Sectors Reducing Disaster AND Social Vulnerabilities*



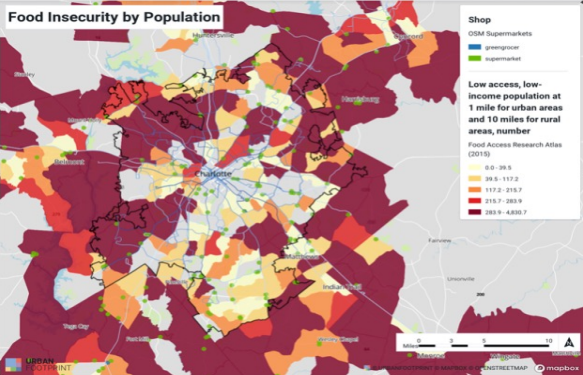
# Strategic Scenarios: Risk Mitigation + Impact

Urban Farming and  
Critical Supply  
Chains

Localized Health and  
Well-Being

Circular Sources of  
Energy, Power, and Water

Homes, Housing,  
Neighborhoods



# Example of INTEGRATING, INNOVATING Disaster and Societal Resilience Zone Impacts

## Future Proofing America's Homes, Housing, Neighborhoods





# ROUND ROBIN I

## DEFINING THE MUTUAL IMPACTS

Connecting Financial, Economic, Fiscal, Societal, Health, Environmental Impacts Among for Multi-Stakeholder Impacts

Cost-Benefit Analysis Aligned

2nd/3rd Tier Benefits ("Impacts Rate of Return")

Balancing Expected Returns on Investment

Immediate, Near and Long-Term Metrics

Overcoming Longstanding Recover and Rebuild versus Mitigation and Preparedness Mindset

Enhancing Levels of Trust Among New Partners, Collaborations

# ROUND ROBIN II

## DEFINING THE INVESTMENT SCENARIOS

New Investment Models Across Traditional, Non-Traditional "Stacks" of Private-Philanthropic THEN Public Sector Resources

Resilience, Mitigation and Other Private Activity Bonds

"Fund of Funds" and Community Trust Funds

Tax Credits, Incentives, Other Public Sector "Sparks"

Donor Advised Funds (DAFs) and Other Global Examples

Risk and Regulatory Hurdles Requiring Attention

Role for Federal Reserve, CDFIs, Others

# KEY DEFINITIONS AND TERMINOLOGIES

**Cost  
Benefit  
Ratio**

**Impact  
Rates of  
Return**

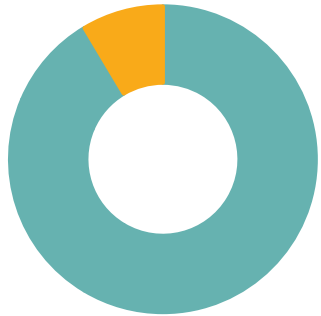
**Socially  
Vulnerable**

**Triple  
Bottom  
Line**

**Low-to-  
Moderate**

**Community  
Engagement**

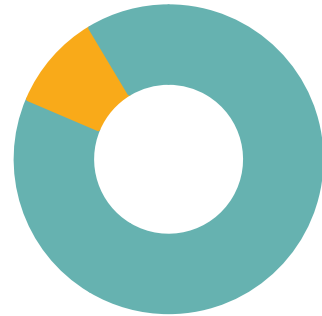
# CURRENT FUNDING SOURCES



FEDERAL/STATE/  
LOCAL

\$2+ T

Program, Infrastructure,  
Other Funding - direct  
and indirect uses for  
mitigation



TRADITIONAL PROJECT  
FINANCING

\$1+ T

Emerging interest in  
adapting financing for  
weather-, water-, and  
certain perils



CAT/PARA  
FUNDS

\$500 B

2017-2022 Historical  
Levels for creation of  
new insurance-backed  
funds



PRIVATE  
WEALTH

\$12-14 B+

Family Offices,  
Generational Transfer  
as drivers of Impact  
Investing

# INNOVATIVE CAPITAL STACKS FOR CDRZ INVESTMENT

Leveraging Whole of Government Grant Programs with Non-Federal Public, Private, and Philanthropic Resources for Maximizing Investment Strategies in Projects, Programs, and People

**Resilience  
Zone Private  
Activity Bonds**

**Scott  
Williamson  
Reinsurance  
Association  
of America**

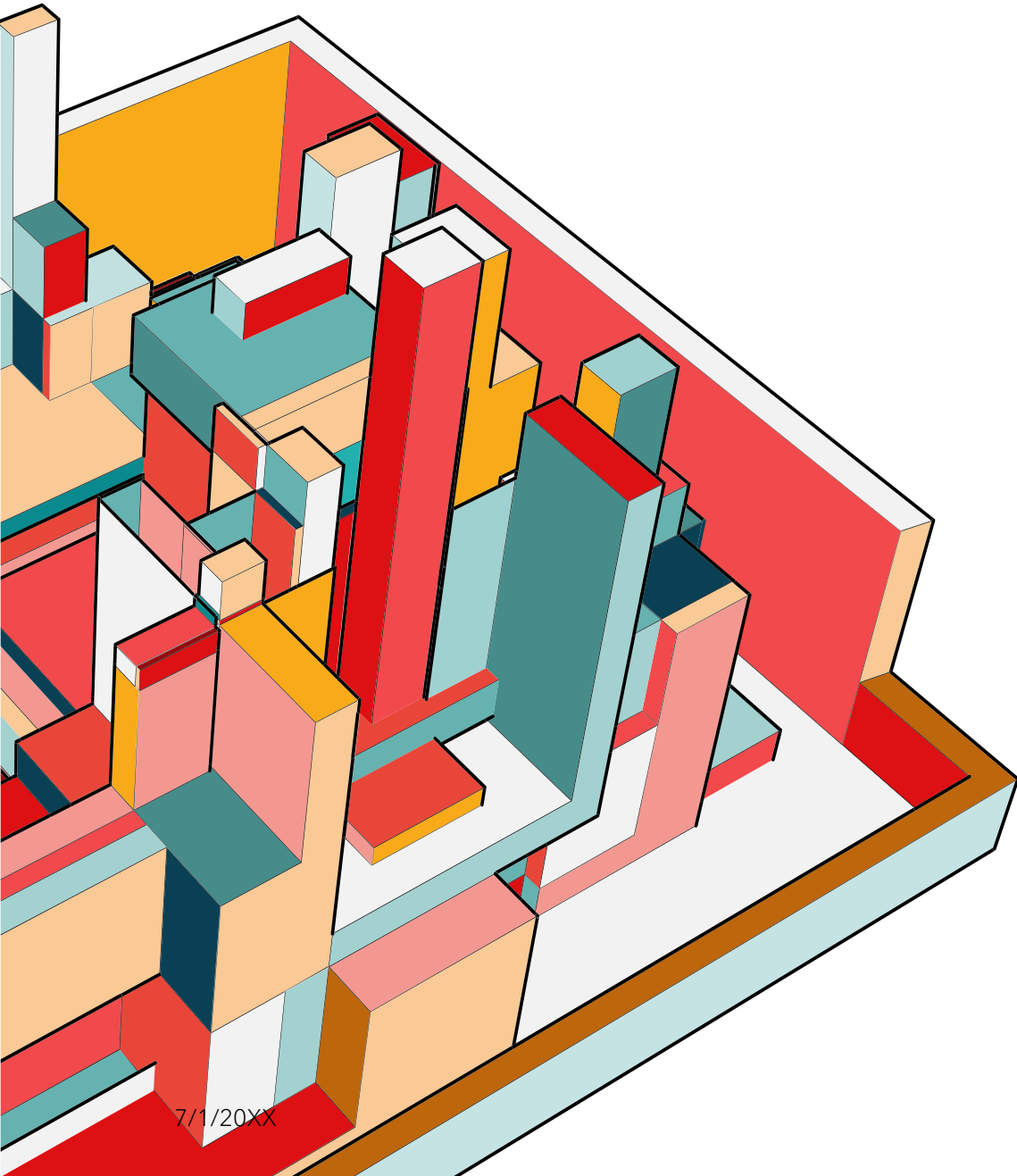
**Community  
Development  
Finance  
Institutions  
(CDFIs)**

**Stewart  
Sarkozy-  
Banoczy,  
Precovery  
Labs**

**Foundations As  
Sparks for  
Partnerships**

**Brooks  
Nelson,  
Walmart  
Foundation**





# WORKING GROUP FORMATION

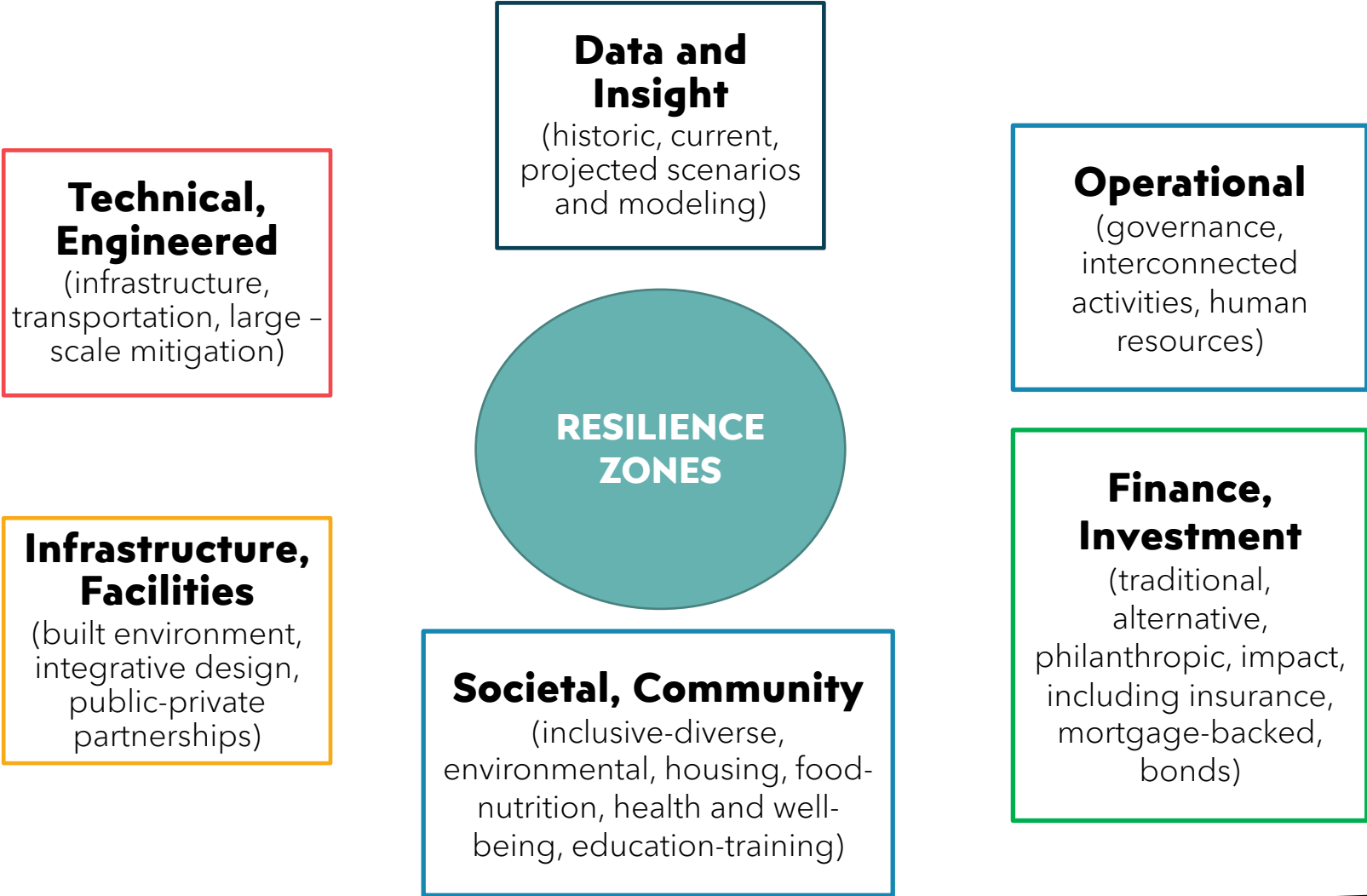
- ❑ INVESTMENT AND RESOURCE ALLOCATION
- ❑ PILOTS, JUMPSTART OPPORTUNITIES
- ❑ COST BENEFIT, NON-FINANCIAL IMPACT
- ❑ PUBLIC SECTOR LIAISON AND ENGAGEMENT

Post Roundtable Survey and “Sign-Up” for Next Steps

<https://bit.ly/roundtablesurveyrequest>

# Community Disaster Resilience Zones

## A National-Local Collaborative Model for Leadership, Engagement, Implementation Success



# DESIGN FOR FUTURE PROOFING: ALIGNING DISASTER AND SOCIAL VULNERABILITY ROAD MAP ELEMENTS

## By Disaster Type

- Physical Points of Vulnerability to Harm
- Nature and Extent of Harm (Levels, Magnitude)
- Existing, Proven Mitigation Approaches
- Innovative, New Mitigation Approaches
- Estimates of Reduction Mitigation
- Time to Installation, Completion
- Costs, Incentives, Financial Effects

## By Social Limitation **A Thriving Not Just Surviving Approach**

- Houses, Housing, Neighborhoods
- Food and Nutrition
- Health and Well-Being
- Education and Training
- Employment and Entrepreneurial Opportunities
- Financial Literacy

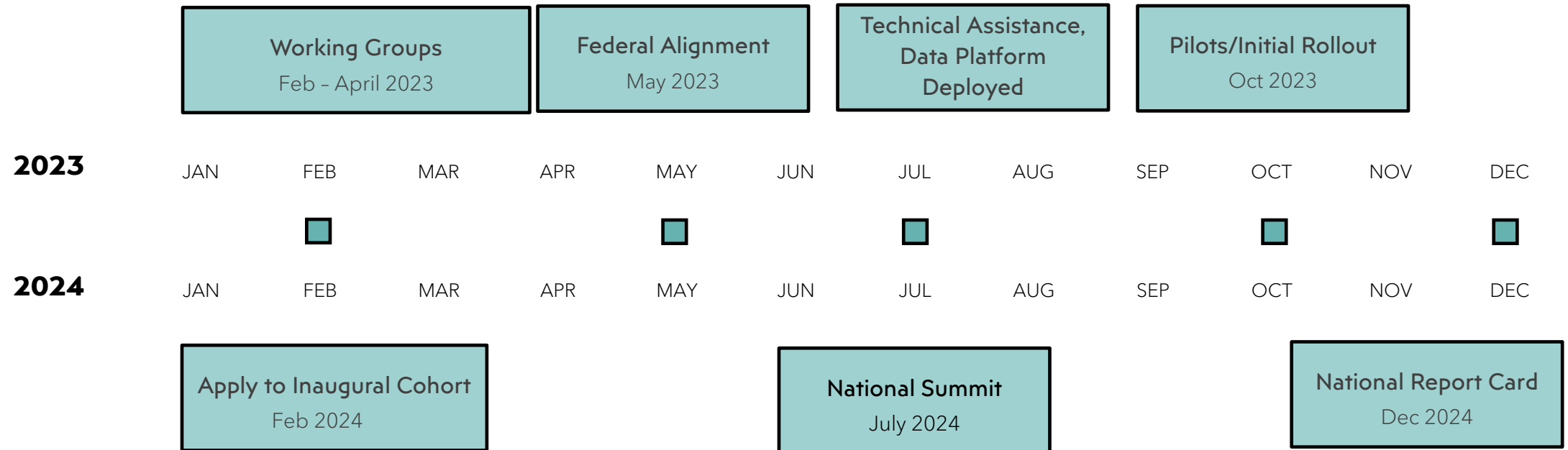
## By Innovation Scenario

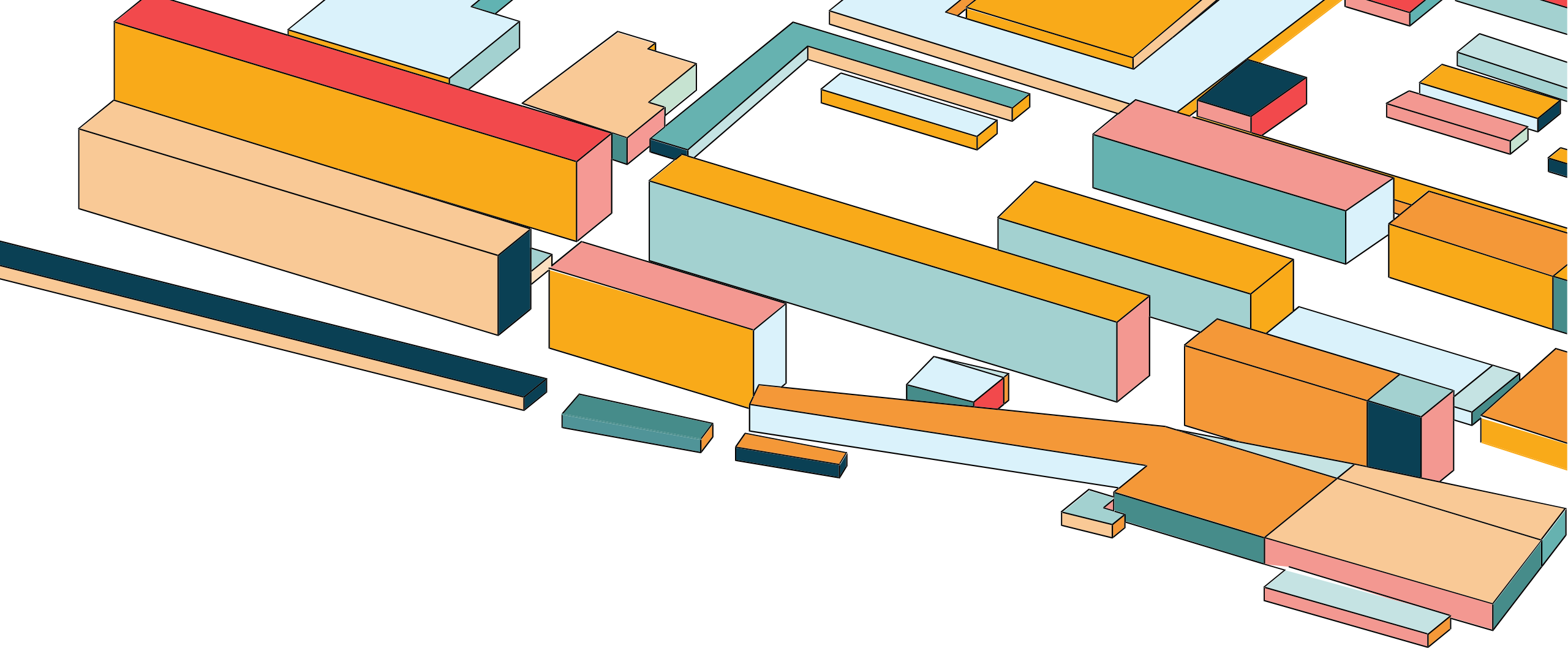
*Identifying Innovations Within and Across Zones Critical Policies, Practices for Disaster Type of Investments...While Engaging Programmatic and Community-Oriented Resources for Strengthening Societal Outcomes*

- Physical Points of Deploying Innovation Solutions
- Nature and Extent of Innovation Practices Adapted, Adopted
- Specific “Applications of Innovation” for Transformative Results
- Range of Possible, Measurable Impacts
- Timelines to Beta, Proof Impact, Scalability



# PROPOSED: IMMEDIATE & NEAR-TERM ACTION PLAN





# SUMMARY OF PARTICIPANT INSIGHTS

# DISASTER VULNERABILITIES

## Legislative and Policy Actions (through US Chamber of Commerce):

- Matrix of ~15 pieces of Congressional actions underway to address shortfalls in the Stafford Act (FEMA), guidance for Community Development Block Grants (HUD), directives for Whole-of-Government Mitigation (White House), etc., is led by US Chamber's Resilience Federal Affairs working group
- Information to be shared with Roundtable working groups and participants includes What Does the Legislation Do, How Does It Open New Resources, Who is Eligible, Who is Impacted (In the Community, Externally), How It Improves Streamlining and Coordination Across Federal and Possibly State-Local Government)
- Increased attention to commonalities across White House and Bi-Partisan Congressional intention for Cost-Benefit Analyses, Performance and Outcome Metrics, Guidance for Communities, and Acceleration of Resources to Community Preparedness and Rebuild
- Recommended Gaps and Challenges - elements limiting successful implementation as well as new forms of Private-Philanthropic Partnership include lack of specific criteria for qualifying non-government resources without causing communities becoming disqualified, pace by which resources are deployed in time for non-government resources to be maximized, state-local interpretation of federal intentions, real mitigation needs for communities rather than filling financial gaps previously experienced

## General Financial, Fiscal, Economic Findings and Recommendations:

- Determine how CDRZ and related federal programs will specifically increase resiliency for citizens, clients, customers, consumers, communities of interest - measurable action steps and changing current performance to a new level of outcomes
- Convert all the studies, analyses, reports, and most importantly millions of data points into a proactive road map and mutually beneficial framework for investment including strongly promoting and engaging non-government resources
- Expanded forms of innovative and alternative Public-Private Partnerships with Offices of Hazard Mitigation, Resilience, Emergency Management, Facilities-Infrastructure, Public Works, etc. across silos created in Washington DC and impacting community implementation - create a list of recent best practices such as Babcock Ranch and similar for guidepost
- Previous FEMA attempts to create a CDRZ-like initiative were successful because these were considered "Federal Responses" not just FEMA - and had the power of Congress and the White House signaling that priorities were reimbursed immediately. Pace, thoroughness, a total federal partnership not just one agency at a time built the trust with the private sector, non-government investors
- Understanding, pinpointing, and eliminating barriers, "excuses", institutional limitations for a new risk mitigation model and mindset in the US, across the CDRZ locations is a fundamental measure of success



# DISASTER VULNERABILITIES

## Program and Content Development:

- Design “Field Feasible” programs and content for pre-disaster risk mitigation to enable accelerated uptake by public sector partners – elected and appointed officials. The same construct for current Response-Recovery MUST be applied to Disaster and Hazard Mitigation
- Integrated approach to Traditional, Green-Sustainable, Resilient Facilities, Infrastructure and the Built-Environment yet simplified for “newbies” within emerging CDRZ communities and early acceptance of proactive mitigation through easy communications, knowledge sharing
- Based on prioritization by emerging, designated Zones – do not overwhelm with every solution (technical, scientific, economic, financial, societal, environmental, etc.) – create a package of solutions that spark “build to last resilience” over a three-year period of initial designation and development
- The 406B elements of the Stafford Act reward communities that have put in place the pieces for hazard mitigation including insurance policies and coverages for the broadest set of citizens – what else can be appended to leverage the 406B process?
- The linkage between “Thriving versus Surviving” Disaster and Social Vulnerability requires emerging designated Zones to consider a more purposeful approach for showing how programs and projects align to achieve new resilience standards.

## Project Development:

- Projects designed to incorporate mitigation of known, persistent challenges should be recognized for maximum benefit and financial impact across citizens, communities, taxpayers, and public sector
- Storm Water Management, Elevations, Solar-MicroGrid-EV Charging Power, Use of Nature-Based (Wetlands, Detention), Streets and Transit Corridors, Native Vegetation, Fortified Roofs and Homes (including internal materials), other examples that may raise the cost of a project should also be designed to have offsets, incentives, discounts, among other financial and fiscal partners.
- Targeted mitigation of disasters – large-scale projects for public-driven infrastructure (floodgates, reduced fire-burn sources, similar) – can now be better pinpointed to precisely where the most risk reduction will occur. Yet “scoring” projects requires a more expansive understanding of benefits, performance, and multiple stakeholder affects
- Unique strategic partners exist at the CDRZ designation levels (census tracts) including Regional Councils of Government (COGs), Public Development Authorities, Special Districts, and other convening bodies for project design-development-deployment.
- With the CDRZ federal match reduced to 10% or less, determine how no–federal resources, especially Private-Philanthropic Partnerships, can not just fill the gap but generate viable investments for significant resilience

# SOCIAL VULNERABILITIES

## Exemplar Programs, Best Practices, and Existing Resources:

- Solutions must come from the communities – not a top-down approach. However, solutions that are based on proven successes that can be adapted, adopted for local impacts, results can become national baselines for program design – what are 3-5 critical baselines that address common opportunities?
- Create an inventory, curated of programs and practices that align with Reduction in Loss Exposure, Social Vulnerability, Community Resilience, Population and Housing Demographics, Agricultural Loss Impacts – and generate a visual data tool for said alignment
- Framework can leverage, be a force multiplier of CDRZ Planning Grants to assist communities with shepherding the application, cost-benefit calculations, initial multi-stakeholder engagement, and initial implementation
- Connect the key elements of disaster and risk mitigation with drivers of community and societal change required to have lasting effects from CDRZ for citizens, most in need, AND taxpayers
- Define examples, exemplars where physical AND social infrastructure have aligned to create solutions though every city has its own challenges and particular issues – we want to spark more agile response and social environment for preparedness
- Establishing a “Shared Resilience Agreement” as a resource for future CDRZ could assist immediate local engagement around specific 4-5 indicators (health, food access, housing, etc.)

## Investments with Secondary and Tertiary Benefits to Citizens, Communities:

- Building, facility, design, and operation codes for strengthening mitigation can also generate benefits for health, well-being, and related challenges to coincide with traditional investment scenarios – mitigating loss of life, loss of personal assets
- FEMA and White House may consider clustering multiple census tracts to create enough concentration for investment impacts AND the secondary benefits
- Identify the 2-3 “common denominators” within the CDRZ neighborhoods that create lasting resilience from disasters and related economic-social vulnerabilities
- The so-called “second disaster” for communities post the original disaster is failure to do the shovel worthy projects not just the ones that have not had other funding, having to return unspent funds, or worse being audited due to lack of operational skills – thus any investment scenario into CDRZ should include assistance with managing funds, resources
- In delivering upon the original returns-on-investment as well as assuring an “impact rate of return” – capturing the significant value of volunteer, pro-bono, and other non-financial elements of investing in CDRZ

# SOCIAL VULNERABILITIES

## Using the Data for Creating Responses for Reducing Social Vulnerability:

- Mechanisms for clearly defined continuous feedback, coupled with performance management and metrics in a transparent scorecard approach
- A national data “team” could be formed that drives simplified use of overwhelming amounts of data into actionable steps. Relying upon just FEMA-driven data platforms is a start maybe for the designation process, but the resources from private and philanthropic sector - if curated into a new platform - could create localized understanding and scorecards of progress
- Foundations, philanthropy, academia, and nonprofit research organizations have ample knowledge available for supporting local community program managers and collaborative engagement - yet mistrust of facts, external information requires or demands insights from citizens and boots-on-the ground neighborhood subject matter experts
- Platforms for cross-site learning, knowledge sharing, best practice, and CDRZ’ archetypes from among ALL of the designated locations - therefore scaling data and information across the largest number of impacted citizens

## Addressing Unique Local Challenges for Resilience:

- Defined evidence-backed actions prioritized by an inclusive set of stakeholders with equitable funding and programs (public and private), recognizing different funding streams are better suited for different outcomes, benefits
- Certain locations where CDRZ could be appropriately applied have historical and cultural issues that can be addressed through sudden access to resources including funding, technology, construction, etc. Recognizing said issues as immovable challenges requires acceptance that not all potentially designated locations will or could benefit.
- The costs for resilience may not be proportional to the benefits nor outcomes. Therefore, determining what should be spent and allocated requires a balance of national intent and local willingness to design programs, content, projects that are “right-sized” for realities of markets and other determinants. Throwing good money at bad situations will always lead to the message of “failure” for the public and media
- Consistent communications, education, awareness, and learning opportunities for citizens and communities within CDRZs including training for thriving AND surviving (neighborhoods, civic organizations, faith-based, employers-employees)



# KEY PRINCIPLES FOR CONSIDERATION

## Leading to Potential "First Domino" Actions for Working Groups

### FOR AND WITH COMMUNITIES

- Principles for Local Engagement, Decision-Making, Prioritization and Resource Allocation including Forming Internal and External Strategic Partnerships
- Aligning Economic and Social Stability within and across the CDRZ Designated Zones - no more talk, more action that IS pre-disaster mitigation
- Communications, Awareness, Education, Training, Best Practices, Resource Utilization, Multi-Stakeholder Coordination, etc., as National and Local Technical Assistance
- Forming Inaugural, Jump-Start Pilots and Demonstrations for Proving Impact from CDRZ to Congress, White House, Federal Agencies, Taxpayers, Community and Inclusion Interests

### FOR AND WITH INVESTORS (PRIVATE, PHILANTHROPIC)

- Principles for External Investment in A New Federal Program without Previous Experience (FEMA versus HUD, DOE, EDA) - establish "Levels of Confidence" for Non-Government Investment
- Specific steps for unleashing business, innovation to add value among public sector (federal, state, local, community) interests by generating the 1:6 or better cost-benefits
- Current and emerging investment instruments - private activity bonds, catastrophic community insurance products, resilience trust funds, transferable tax credits or resilience exchanges, other resources - can be immediately deployed while others require approvals - design a road-map for financing, funding CDRZ projects and programs
- Recommend non-policy solutions to hurdles, barriers, and limitations that may be addressed by tweaks, exemptions, and/or other public sector partnership agreements

# DATA SOLUTIONS, INTEGRATION INTO THE FRAMEWORK

Key Observations and Recommendations suggest a more robust data platform beyond a federal government-led solution that includes integration with private, third-party, academic, and philanthropic information to generate insights, reports, progress and performance metric-based scorecards. Other suggestions include:

- Baseline full complement of economic, financial, sectoral, industry, employment, housing, population, wage and income, climate impact, investment impacts including physical AND social “infrastructure”
- Leveraging Commerce’s EDA and HUD’s CDBG Disaster-Mitigation guidelines, and therefore datapoints
- Normalized census tract datapoints for property values, lost GPD or tax base, lost employment and wages, population fluctuations with flight-return cycle, agricultural crop and related logistics measures
- Analytics of cost-saving potential from historical to projected disaster vulnerabilities
- Benchmarks within and across Zones for observational scenarios and driving improvement

# THANK YOU

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