**Community Disaster Resilience Zones Act and National Risk Request for Information**

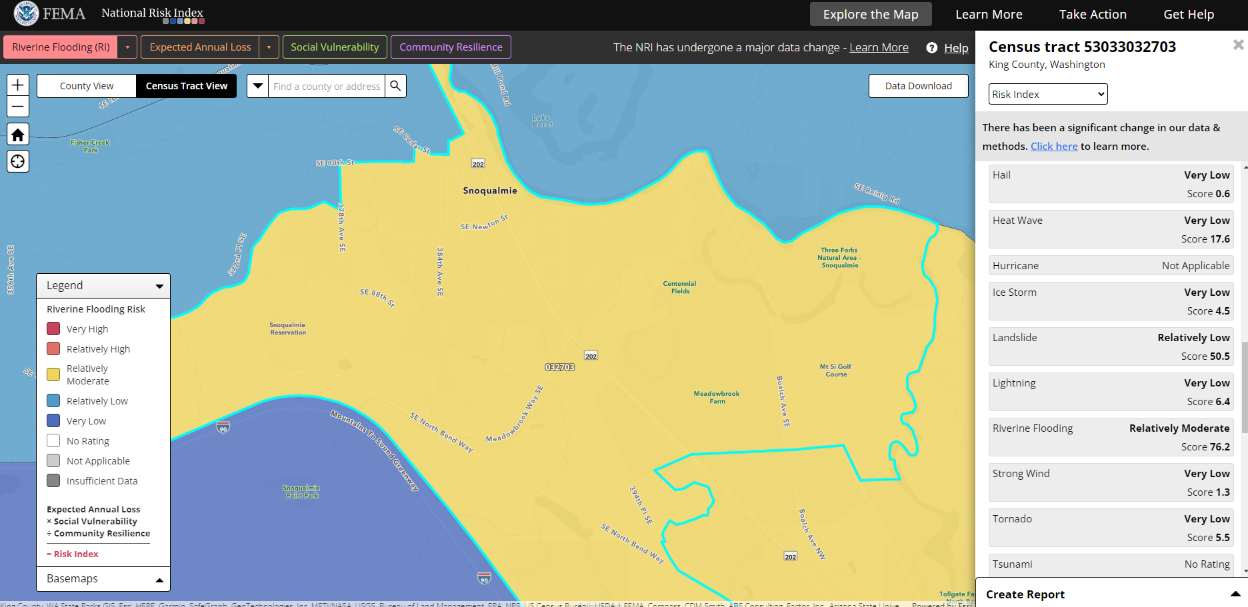
**Response from the International Association of Emergency Managers, Hazard Mitigation, Resilience, and Climate Adaptation Caucus**

***A. Risk Assessment—General Questions***

***Question 1:*** *How does your organization use risk assessment products and associated risk ratings? What products do you use and why are they useful? How does your organization vet risk assessment tools and products? Are there additional data, information, analysis capabilities, or metrics that would be useful? Are there data that you do not currently have access to, but would like?*

Risk assessment products use depends on their scale. For national-scale planning and risk analysis, the NRI does a fairly good job, and a huge amount of work went into determining annualized loss information. For local scale, it is not very useable as a risk assessment tool. Risk at a local level can be very spatially discrete. For example, floodplain areas in states like Washington are usually tightly defined (Washington does not have the sweeping floodplains of the Mississippi, for example).

In our work, we use the NRI in conjunction with other data sources and tools to provide a holistic *national scale* picture of overall community burden or disadvantage. Our members generally do not use it for hazard planning at the local level since it provides no specific information about where hazards are actually impacting a Census tract and the number of structures, for example, potentially impacted. Finally, many members prioritize use of the expected annual loss piece since that is the most robust and unique part of the index. A great example of why we can’t use it for local planning is the City of Snoqualmie in King County. The ENTIRE area in the selection is in the 100-year floodplain, but it is considered relatively moderate flood risk by the NRI. This may be true, nationally, but this is utterly irrelevant locally.

Furthermore, nearby areas that have substantial flood risk are considered to be relatively low flood risk. North Bend, for example, is another community entirely in the 100-year floodplain. Other tools like the Resilience Analysis and Planning Tool offer more of this spatially specific data that is so useful when conducting local planning. This does not mean the NRI is not useful, just that its use is more for federal agencies than state and local governments.

As for data we would like access to, it would be extremely helpful to have info on repetitive loss and severe repetitive loss properties so that we can prioritize these homeowners for potential buyouts.

***Question 2.*** *Does your organization use the National Risk Index? How does your organization use the National Risk Index? What are the time horizons for decisions your organization is making using the National Risk Index (e.g., projects that will take place in 5, 20, 50+ years)? Are there specific features or aspects of the National Risk Index that you find particularly useful? Are there specific features or aspects that you would like to change? Does the addition of Expected Annual Loss Rate help in how your organization understands relative natural hazard risk? Would providing additional built in data filters (e.g., Hazard Mitigation Plan Status, National Flood Insurance Program participation, FEMA Disaster Declarations, Justice40 initiative investments, etc.) benefit the usability of National Risk Index data?*

Many IAEM members use the NRI Annualized Losses data to power some of their work around identifying disadvantaged communities, along with other data. One option to add functionality would be to combine it with the Resilience Analysis and Planning Tool. Another option would be to build it into a new webapp – depending on the application chosen, maps can have different features. For example, maps can be selection-based, filter-based, have the ability to add additional data, etc. See the [https://experience.arcgis.com/experience/0920984aa80a4362b8778d779b090723/page/Applicant-Explorer/](about:blank) for a few examples of how data can be made more interactive.

***Question 3.*** *Risk Assessment capability within FEMA traditionally uses nationally available data. Some tools (including but not limited to Hazus 15 and he Resilience Analysis and Planning Tool 16) allow users to upload local information for decision support. How can FEMA work with State, local, Tribal, and Territorial partners to understand what more detailed information exists and how it can be incorporated into national level decision support tools? Should FEMA* *maintain products with baseline natural hazard risk data from consistently available national data sources and an enhanced product with additional local information? Are there specific features or aspects of the National Risk Index that you find particularly useful including features that could be added or altered?*

Some local data sources are available if purchased, for example, national parcel maps. Other sources, like the First Street Foundation, provide data as well. FEMA should maintain consistent, national data and offer the NRI data via different applications (see question 2). It is OK to have one website with multiple, separate applications (or tabs) that allows the user to interact with the data in different ways.

***Question 4.*** *Is there potential to combine or integrate FEMA’s hazard assessment products with other tools? If so, which tools and how?*

See questions 2 and 3. Using different web application tools can allow different solutions. For example, imagine a tool that includes the NRI data, AND parcel data (from a provider like UrbanFootprint or CoreLogic) AND floodplain data (like the RAPT shows). One could identify high level areas with lots of exposed losses and vulnerability, see the specific kinds of land uses that are vulnerable to the specific areas that are exposed within the parcel. This allows both a national and local perspective. Local data could also be added by the user to further supplement.

***Question 5.*** *Are there ways that FEMA could provide better outreach to communities and individuals with fewer resources to encourage use of its hazard assessment products? Are there partnerships that FEMA could explore to improve its outreach (and if so, with whom)? What other ways can FEMA and its partners present data and information to users to make data actionable? What other support could FEMA provide to help communities act on this information?*

The main benefit of risk analysis tools is their ability to aggregate data and make it equally available. The RAPT, NRI, and many other tools do this in different ways. If FEMA wants to make it more applicable, the way to do this would be to work with communities to understand THEIR KPIs and build a tool that produces those. For example, if communities may want to know things like the total population in the floodplain, the number of residential structures in the floodplain, the number of arterials in the area that are likely to be impacted by a flood, etc., then FEMA could build a tool that would allow a user to select a study area and it would report these metrics.

As members have discussed many times within the Mitigation Caucus, it is hard to reach the most disadvantaged communities. Largely the barrier for them begins with a lack of capacity to dedicate staff hours to learning about the tools and then how to use them effectively to create the accurate localized data that is useful. That lack of capacity in theory is filled by contractors, but often these communities struggle to put the RFP/RFQ together and obtain the funds to hire a contractor to perform this important work.

Creating the integrated tool that is address searchable and could be expanded to show and entire area rather than a singular address is a great suggestion. It is also critical to work with the communities to understand the tools and their limitations in order to truly have the effect FEMA is looking for.  Otherwise, it is just another misunderstood tool and practitioners will find what they believe is a flaw like the couple of examples, like cited in question one comments, and then disregard the entire tool as inaccurate.

***B. Risk Assessment—Methodology***

***Question 1.*** *In general, how could FEMA improve its National Risk Index methodology used to understand, measure, and communicate community level natural hazard risk across the country? Are there any potential biases within the National Risk Index data or methods? What methods exist for addressing these biases?*

FEMA should absolutely add future-focused data. This is a must if we are using this tool for forward-looking planning. There very well may be biases in the index – this can be assessed by determining if NRI scores under or overrepresent certain geographic areas or demographic groups. It is also possible that issues with how vulnerability and resilience are calculated creates biases – everything is equally weighted in the SVI, which means the presence of older people is treated the same as the income level of a community. This is likely incorrect. For losses, it is likely that this favors urban areas; however, calculations for historic loss ratios may adjust for this.

***Question 2.*** *Do you have any feedback on the formula used to derive the National Risk Index risk ratings or the specific data used to measure expected annual loss, social vulnerability, or community resilience?*

The formula used to derive the NRI has potential issues with the Social Vulnerability and Resilience components.

* Variables like Age, Disability, Lack of a vehicle are extremely similar from tract to tract, but a small difference between two tracts in total numbers can result in very large differences in percentile rank. This is a fundamental problem with the SVI.
* Furthermore, also with the SVI, while age and disability are indicators of individual vulnerability, that does not mean a community with slightly younger, older, or disabled people is actually more vulnerable! Community vulnerability is a very different thing than individual vulnerability.
* Social vulnerability index components are equally weighted, such as income (which matters a lot) is just as important as age (which may not matter at all for community vulnerability). This needs to be fixed.
* As noted above, the biggest issue with the formula is the division of vulnerability by resilience where resilience and vulnerability have many of the same variables. The concept of dividing one by the other makes sense in a way – basically, one can reduce the impact of vulnerability on your NRI score by increasing resilience, which is good! – but it is unclear of what the impact is of including the same variables on both the numerator and denominator.

***Question 3.*** *The National Risk Index incorporates Expected Annual Loss information for 18 different natural hazards. Are there ways that the National Risk Index could better represent these data? If so, how? What research exists to help guide FEMA in the development of Expected Annual Loss beyond the current methodology? What additional information should FEMA consider for the Expected Annual Loss factor?*

In our understanding, this model is pretty good given the data limitations and challenges outside of figuring out a way to incorporate future risk. One potential option to do this would be to look at the projected changes to heat, extreme precipitation, etc., that is available from NOAA and use that as an additional component (not part of the Annualized losses, but as a separate element like the vulnerability indicator is). Another option beyond this would be to use other indicators of hazard vulnerability – for example, there is a lot of research on the impact of impervious surfaces on disaster vulnerability. There is also data on impervious surfaces, so this could be added as a “multiplier” component (however, NRI staff would have to make sure that the current models aren’t already implicitly capturing this effect).

***Question 4.*** *While the National Risk Index incorporates the Centers for Disease Control and Preventions' Social Vulnerability Index, are there ways that the National Risk Index could better represent the broader societal impacts of natural hazards and/or measure how different populations are vulnerable to natural hazards? If so, how and based on what research? What research exists to explain the validity or predictability of social vulnerability factors and models?*

The use of existing social vulnerability models presents a big challenge for the NRI. A lot of the research on social vulnerability has difficulty teasing out the causes for different levels of loss. This leads to the misattribution of hazard losses to social vulnerability (a nebulous and complex concept) rather than from something that can be directly addressed through policy. For example, this publication from CDC attributes heat-related hospital visits to generic social vulnerability and only one time in the whole piece mentions that the deaths occurred in primarily agricultural areas and surprisingly seem to have nothing to do with race or language.

[https://www.sciencedirect.com/science/article/pii/S2212420919310611](about:blank)

CDC’s own summary does not even refer to this finding at all!

[https://svi.cdc.gov/Documents/Publications/CDC\_ATSDR\_SVI\_Materials/SVI\_HRI\_GA\_v7.pdf](about:blank)

The heat hospitalizations are likely happening because working outside in agriculture makes people more vulnerable! This is NOT the SVI predicting anything and stating that it is only complicates real policy solutions.

Furthermore, social vulnerability can make it harder to identify equity issues that could be a violation of federal law. For example, social vulnerability looks at race and ethnicity all together as part of how they define vulnerability, inclusive with income, age, and other factors. Instead, it might be beneficial to look at race and ethnicity as part of looking at disproportionate burden. In this case, you would look at the characteristics of those who live in high-risk areas relative to the state and national population…if they bear a disproportionate share of the risk burden, then investments benefitting those areas can improve equity.

Finally, the SVI weights variables equally. This makes sense for the SVI – since weighting should be based on the specific phenomenon you are trying to measure. It also means, however, that an unweighted SVI is not appropriate for this disaster risk-specific use case. At present, the model is saying that income, for example, is just as important as a determinant of *community* risk as the proportion of your population over 65. It is unlikely that that is the case.

***Question 5.*** *The National Risk Index incorporates the Baseline Resilience Indicators for Communities as the Community Resilience component. Are there ways the National Risk Index could better represent resilient communities? If so, how? Recognizing that the Baseline Resilience Indicators for Communities does not currently include Territories, how can the Community Resilience component better measure Territories? What research exists to explain the validity or predictability of community resilience models?*

The concept of dividing vulnerability by resilience to create a ratio to modify the relative risk of the area makes a lot of sense. Using the same indicators for both vulnerability and resilience (e.g., disability, age, housing, etc.) makes less sense, at least at first glance.

The issue with the non-Census indicators, like the presence of civic organizations, is that the data resolution is likely not tract level. This makes it a poor match to the rest of the data that is typically tract level or can be adjusted to tract level. There isn’t an easy workaround for resilience data but including the same data on both numerator and denominator or including data that isn’t applicable to the most usable scale (tract level) produces problems for the accuracy of the index.

***C. Risk Assessment—Data***

***Question 1.*** *What mechanism exists or could be created to ensure that the National Risk Index is using the best available data? What additional information should be considered when developing the National Risk Index? How would these resources be incorporated? How often should this information be reviewed and incorporated? How often should the National Risk Index data be updated?*

Partnering with other data and index developers, as well as robust engagement with the growing geospatial academic community, is a good option to both produce and obtain the best public data at scale. FEMA should consider purchasing data, like parcel databases, to help improve the resolution for local areas and the accuracy of impact areas. Some of this parcel data is already available for internal agency consumption, but it is not licensed to be shared publicly.

The NRI should be updated at least every 5 years.

***Question 2.*** *What additional data sources should FEMA consider for the National Risk Index? Are these data sources national, including full U.S. Territory coverage or local/State equivalent specific, and are they publicly available? What is the period of record? How often are these data sources updated?*

The NRI should add parcel data to improve the robustness of population exposure calculations. The NRI should consider including overlays of spatially discrete hazard information (e.g., floodplains). The NRI should consider including the new climate data in the Climate Mapping for Resilience and Adaptation map.

***Question 3.*** *Can FEMA leverage new technologies to refine its risk assessment products? If so, what are they, and how can FEMA use new technologies?*

FEMA can leverage new technologies including dashboarding tools that offer different options for displaying and interacting with data! Some of these tools allow for on-the-fly analysis built into the map. This can open up a whole new range of possibilities for users and lower barriers to communities seeking to do their own risk assessments. FEMA should also consider incorporating more data related to community change – this data can be obtained via the land cover databases or computed using landsat imagery. FEMA can also take advantage of increases in the frequency of data updates to better track changes in on the ground conditions.

***Question 4.*** *What data could FEMA use to include place-based approaches for the U.S. Territories, including but not limited to frequency, exposure, and historic loss ratio data for hazards or social vulnerability and community resilience data?*

***D. Climate Change and Future Conditions Data***

***Question 1.*** *How should FEMA incorporate climate change and future conditions data into the National Risk Index? What tools/data sources should FEMA consider (e.g., Climate Risk & Resilience Portal, (17) Climate Mapping for Resilience and Adaptation Tool, (18) or U.S. Climate Resilience Toolkit (19)) when expanding the National Risk Index to include anticipated impacts due to climate change? Who should FEMA consult with and include when developing this possible expansion?*

The US Department of Transportation used a combination of land cover data, the NRI’s annualized loss estimates, and information on change relative to the rest of the country for a number of climate drivers (e.g., precipitation events greater than the 99%ile). This can function as a multiplier, for example, by creating a climate variability component that multiplies the relevant hazard by the amount of change. This will usually not be a large number, but that should be sufficient for planning up to 2050 or so.

***Question 2.*** *How could the National Risk Index incorporate “derivative climate change,” and/or the cascading effects of natural hazard incidents? Which data or models could be utilized to show this relationship?*

We do not believe the NRI should try to model all possible knock-on effects as we do not believe this can be done well. It would be better to leave that up to qualitative analysis than to incorporate it into a score, given its complexity, variability, and potential lack of generalizability.

***Question 3.*** *What solutions exist that account for potential future resilience efforts (including but not limited to future building codes, land use planning and zoning, or nature-based solutions)? What existing data or methods are publicly available to support climate change data integration into the National Risk Index? What future conditions data and information exist to support the non-hazard components ( i.e., economic, infrastructural, coping capacity) of the National Risk Index? What future population growth and movement, demographics, landscape change, building development, agriculture, cultivated crops, etc. information exists and how can these be applied to the existing National Risk Index framework? Are these linked with specific emissions scenarios? If not, how could they be linked to expected emissions?*

There is already data on adoption status for building codes, at least at the state level. For parcel data in general, the likely practical option is to acquire it from an existing firm, like UrbanFootprint, that aggregates land use and land value information. The non-hazard component of the NRI is in some ways less useful now that so many new indices are being built. It may be more useful to focus on the hazard components, which are truly unique.

If FEMA wants to get to actual outcomes-based risk analysis, the best path forward will be to use data on community change after disasters. For example, FEMA can use data on the population, land use, land value, traffic, and other factors to look at how communities were before disasters and what happened after. Information on how places changed and who lived in those places, can tell us a lot about vulnerability. This can also be done at scale across the whole US, which will improve the generalizability of the analysis. This is exciting because only recently has it become possible to look at how things change at the local level, but on the national scale as a result of big events (like disasters). While not everything is discernible, it is possible to see changes in things like housing tenure, diversity, language, economic activity, and many other factors that are related to either vulnerability or resilience. Using this information, those factors associated with either vulnerability or resilience could be converted into indicators for the NRI.

If there is a desire to also include more data on resilience and vulnerability, we would recommend simplifying. Conduct analyses to determine if any variables are colinear and therefore should be removed. Consider conducting validity testing to assess which variables are not strongly correlated to known outcomes – for example, this can be done using data from recent hurricanes and wildfires. Fewer variables that are known to be predictive of community – rather than individual – vulnerability can be very useful. For example, a variable like age under 17 is useful to identify vulnerable families with dependents. However, it is entirely possible that a community with more children may be on the whole more resilient and likely to recover than a community with none.

***E. Questions To Identify Community Disaster Resilience Zones***

***Question 1.*** *In accordance with the legislation, FEMA will designate community disaster resilience zones at the census tract level. How can FEMA best communicate this designation once it has been made to the relevant jurisdictions and communities? What additional data and information would be useful to communities who are designated community disaster resilience zones? Would it be beneficial for FEMA to use a phased in approach or announce in stages, making adjustments to the selection methodology based on lessons learned, feedback and results? If so, what data and information should FEMA consider for a phased approach and how frequently should these designations be reviewed and how? How can FEMA best include climate change, land use change, and demographic changes in these designations?*

FEMA should NOT phase the rollout of the zones themselves. Instead, we recommend the following process. First, FEMA should publish its methodology for selecting CDRZs and socialize them with tribes and states to get agreement on the methodology. The key to acceptance of the final selection will be agreement on the methodology used to select the zones. Then, FEMA should make preliminary selections for all zones using the proposed methodology and transparently review the results with the states and tribes, as well academic, local, and other stakeholders. The initial selections should also be screened for bias against protected groups, rural communities, etc. Changes to the consensus methodology should only be made if there is a significant problem with the selected census tracts. This is NOT going to be an easy process, but FEMA can either choose to make selections and weather the criticism or work with stakeholders in a transparent way to select communities that truly are the most vulnerable in the US.

FEMA should consider climate change as part of the annualized losses estimates.

FEMA should consider factors that are changing the risk of an area and incorporate them into the model. It is critical that communities be able to get off the list of most vulnerable tracts.

FEMA should be aware that, when using a percentile methodology, very small changes to the scoring method comprehensively change the results. There are no little changes. This makes it all the more important to settle on a set of rules for what a CDRZ looks like statistically before publishing any results.

The complicated topics around mitigation already deter many emergency management, planning, and other community level professionals. The designations of the CDRZs will only further intimidate those individuals. We must combine this rollout with ongoing education and training that is recognized as a valuable and marketable credential to generate interest in learning the concepts. Perhaps a discussion with Emergency Management Institute around a certificate program for mitigation including hazard id, risk reduction, project scoping and management and grant writing/administration?  A series of coursework with interested practitioners that would start with the very disaster-prone Central City model and use the available tools to evaluate the hazards including how to develop the additional information needed to localize it.  They could use some of the existing coursework they offer and package it into a program as well as add what is missing. A few examples such as analytical tools and their uses including the CDRZ and end it with presentation of a group capstone project of drafting a report for a mitigation project including data driven analysis, scope to be performed and expected outcomes.  This model has proven to lend credibility and demonstrated skills for hiring in the emergency management space over time. These programs like MEP, EMPP, Continuity Practitioner etc. occur cohort style over a period of months and result in a graduation with a credential that can then be recognized universally.

***Question 2.*** *In addition to the census tracts based National Risk Index risk ratings and inclusion of Tribal lands, the legislation directs consideration of coastal, inland, urban, suburban, and rural areas for geographic balance. What additional criteria should FEMA consider in determining how to achieve geographic balance?*

None – this definition of geographic balance with so few tracts is already going to render it exceedingly difficult both to use an objective method to identify tracts and ensure geographic diversity. Also, the legislation does not mandate the use of the NRI. This is just convenient for FEMA – FEMA has the option of using other tools or devising new tools, if required.

***Question 3.*** *In the absence of social vulnerability and community resilience data for the U.S. Territories, how should FEMA help Territories prioritize census tracts and resources based on the level of risk and vulnerability in each community, as well as the unique characteristics of each community, so that resources can be allocated more efficiently and effectively to support disaster resilience efforts?*

US territories are substantially more disadvantaged than any state. It is recommended that they be considered in totality as CDRZ. Alternatively, FEMA should produce a territory-level ranking of these areas using the data that is available and select Census Tracts based on that.

***Question 4.*** *How should FEMA work with State, local, Tribal and Territorial Governments in designating zones? How can FEMA Partner with States, Tribes and Territorial government in working with local governments with community disaster resilience zones? What can FEMA do to help ensure community disaster resilience zones are supported by State, local, Tribal, and Territorial resilience efforts? Are there specific considerations that should be taken into account when designating zones in Tribes and Territories?*

See question 4.1 above. The most logical thing would be to work directly in conjunction with states and tribes to select zones. First, reach consensus on criteria. Next, develop preliminary results and statistically validate results, then finalize results unless a serious problem with the methodology is identified. Another option would be to let states and tribes identify their own zones using the FEMA methodology. This would likely produce greater support.

***Question 5.*** *In what ways could FEMA encourage collaboration across jurisdictional boundaries to support a community's ability to reduce hazard risk?*

Continue to support multijurisdictional mitigation plans.

At present, applicants already get points for partnering in grant applications, like with BRIC, so many of the barriers for collaboration are fundamental to the challenge of managing a multi-jurisdictional hazard mitigation project in which one jurisdiction has to be the sub-applicant. This includes issues with financing, reimbursement, match, etc.

***Question 6.*** *What are the significant barriers that potential community disaster resilience zones face in accessing and leveraging Federal resources, and how can FEMA and other Federal agencies assist them in overcoming these barriers and make this process more equitable?*

Census tracts are not the same as communities. It is highly likely that there will be many census tracts that are designated and be relatively isolated from other designees. The best way to overcome barriers for communities is the same as for any other low-capacity community: help with identifying an eligible project, help identify a local project champion, help complete grant applications and BCA, help find match dollars (if required).

***F. Resilience or Mitigation Project Planning Assistance***

***Question 1.*** *What would be the most useful and equitable way for FEMA to provide financial and technical assistance to benefit communities with Community Disaster Resilience Zones to plan, apply for, and evaluate resilience or mitigation projects?*

FEMA should incorporate CDRZ into the BRIC Direct Technical Assistance efforts. This will be more efficient and effective and make it more likely that equitable service will be provided. FEMA should consider expanding the BRIC DTA program, or streamline its delivery strategy, in order to offer additional slots.

CDRZ communities should receive additional points in the technical evaluation portion of BRIC scoring under the same scoring criteria as those who have received project scoping awards receive extra points. They should follow the same qualitative scoring as everyone else. Equity is critical address in multiple ways, including racial equity, geographic equity, etc. It will be difficult for CDRZ designation to be equally representative of all forms of equity, so providing additional points in technical review will increase the likelihood of a project reaching qualitative review, while still ensuring that the best projects are ultimately chosen for scarce BRIC funds.

***Question 2.*** *How can FEMA support comprehensive community resilience planning to benefit community disaster resilience zones and the larger communities those census tracts lie within?*

FEMA already has hazard mitigation planning in place and there is nothing in the current mitigation planning structure that prevents these plans from being more robust and effective, especially when it comes to identifying projects. However, planning guidance explicitly does not permit the scoping of projects using the funding for planning. Even basic scoping in a mitigation planning process could go a long way to making projects more implementable. FEMA should permit this and get more use out of mitigation planning.

***Question 3.*** *How should FEMA engage with State, local, Tribal, Territorial, and nongovernmental levels to provide technical assistance to benefit communities within Community Disaster Resilience Zones?*

FEMA should directly engage with tribes in designated CDRZs to notify them that they are designated a priority zone for disaster resilience and explain what this entails. FEMA should engage with states and, collaboratively with states, engage designated CDRZ. It is critical that this process bring together states, communities, and FEMA at the same time and that FEMA does not supplant states as the provider of technical assistance.

***Question 4.*** *What activities could FEMA undertake to help community disaster resilience zones understand and implement the types of projects, activities, or services that would minimize/reduce natural hazard risk?*

FEMA should follow the programmatic “plan to project” pipeline approach to community disaster resilience zone support. This process includes four elements.

* Establish strategic direction, including strategic planning, prioritization, fund source analysis, and strategic partnership development.
* Resilience planning, explicitly focusing on identifying projects and building coalitions for follow-through.
* Capacity building, focusing on leveraging DTA to empower local champions and get the ball rolling on projects.
* Strategy implementation and knowledge transfer, focusing on leveraging success to build local experience and willingness to continue to commit time and resources – make sure to leave tools behind in the hands of communities so they can maintain their program. Make sure to hand off the technical assistance engagement to the state so that it can be continued.

***Question 5.*** *What are potential unintended consequences of designating these zones and/or implementing other parts of this legislation that should be considered?*

1. There are many potential consequences.

* CDRZ could effectively crowd out projects from all other non-CDRZ applicants. There will be MANY zones and it will become necessary for a project to either be in one or benefit one for it even to be considered by FEMA due to limited funding. This will undermine the BRIC program and mitigation in non “top 1%” parts of the country, even though many of these will be at equivalent – or close to equivalent - risk!
* CDRZ requirement to be regionally, geographically, and urban/rural equitable will mean that many of the most vulnerable communities will be passed over for ones that are slightly less vulnerable in the name of geographic diversity. If CDRZ communities are getting much of the funding, this will be unfair and result in less mitigation in similarly vulnerable places.
* The method for designating CDRZ “feels” scientific but is fundamentally values-based. There are many compromises in the way that the NRI considers risk and vulnerability. These compromises could open FEMA to significant legal and reputational challenges because it can be reasonably argued that, with slight changes to the methodology, other communities would have been chosen. It is also very easy for slight errors in data – even caused by Census’ use of data privacy measures ([https://www.bloomberg.com/news/articles/2021-08-12/data-scientists-ask-can-we-trust-the-2020-census](about:blank))
* As CDRZ communities receive more technical assistance from FEMA, states are likely to back off from providing this assistance. As FEMA moves on from a technical assistance engagement, it may be unlikely that states will reengage to maintain progress.

G. Community Disaster Resilience Zone Project Application and Certification Process and Other Investment Opportunities

***Question 1.*** *As amended by the Community Disaster Resilience Zones Act, section 206(i) of the Stafford Act (42 U.S.C. 5136(i)) provides FEMA the discretion to execute an evaluation and certification program for projects within, or primarily benefiting, a community disaster resilience zone. FEMA may evaluate prospective projects to determine if the project is designed to reduce injuries, loss of life, or damage and destruction of property, such as damage to critical services and facilities; and substantially reduces the risk of, or increases resilience to, future damage, hardship, loss, or suffering. What is the most equitable way for FEMA to implement a certification process to minimize applicant burden while ensuring the most beneficial projects move forward, given this criteria? How should FEMA determine the extent to which proposed projects benefit the individual census tract(s) and promote comprehensive community-wide resilience?*

FEMA should create a standard list of project types that, when meeting certain conditions, are considered automatically cost effective. These conditions could include: benefits primarily a CDRZ, costs under a certain amount, benefits cost no more than a certain amount per capita (different in rural and urban areas), etc. This would avoid the need for a BCA.

To determine project impact/benefit areas, FEMA should establish clear, standard impact areas for different project types. For example, a project hardening an evacuation route to a disadvantaged coastal community would have a large impact area. A project elevating a single home would have no impact area and would have to be located in the CDRZ. In addition to providing standard criteria, FEMA should be willing to accept clearly defined and documented assertions by the applying jurisdiction. In issues pertaining to equity, it is impossible to consider every iteration, so flexibility needs to be built into how FEMA makes these determinations; however, since flexibility requires greater applicant burden, standard values should be provided as well. Overall, however, most projects will likely fit into a standard set of types (e.g., local flood risk reduction project, slope stabilization, seismic retrofits, etc.). It should not be overly difficult to carefully consider and establish impact areas and cost effectiveness thresholds so that a BCA can be avoided.

***Question 2.*** *How can the identified community disaster resilience zones and FEMA's assistance amplify other Federal and non-Federal programs to direct resources to communities with high risk to natural hazards, high social vulnerability and low community resilience? What other programs would be complementary?*

The Environmental Protection Agency, Department of Energy, Department of Transportation, the Department of Agriculture, Department of Commerce, and a couple other agencies have programs (e.g., Thriving Communities from DOT and EPA or Communities LEAP from DOE). In addition to coordinating with these communities, FEMA should coordinate with state programs that offer similar services (many do!).

***Question 3.*** *How can FEMA monitor progress of improving resilience in community disaster resilience zones over time? What are key data and other metrics that can be used to monitor and evaluate progress?*

Progress is directly connected to the construction of projects that materially reduce hazard exposure or vulnerability. FEMA SHOULD NOT count plans, preparedness initiatives, or other activities that do not materially and broadly reduce risk, as risk reduction.

The monitoring and showing of change over time is one of the limitations of using the NRI for CDRZ designation. As currently constructed, community NRI ranking is unlikely to change much as a result of FEMA’s actions. Many of the indicators in CDRZ are immutable (e.g., race and ethnicity) or difficult to change (e.g., housing tenure). This means that substantial projects can be put in place to reduce physical risk, but the NRI score for the area possibly would not change at all. Even if the NRI considers the physical location of structures in a tract relative to slopes, floodplains, etc., many hazards like earthquake and severe weather are non-discrete. **In sum, the NRI is not a good tool for designating CDRZ if we want to show progress in reducing risk.**

To monitor change over time and show progress, FEMA should establish the baseline of what is driving the high ranking of each particular CDRZ. This information should be associated with key performance indicators that can be influenced by FEMA activities. Based on the NRI, this could take a few forms. First, a jurisdiction could have high hazard exposure and would need to reduce that exposure (e.g., reduce structures in the floodplain). Second, a community could have high social vulnerability in a metric like unemployment and would need to invest in social programs like job training to reduce it and thereby reduce CDRZ ranking. Third, a community could have low resilience because of low civic participation, and accordingly would need to invest in something like grants to non-profits to increase local engagement or get-out-the-vote-drives to reduce this score. If this multi-channel process that focuses on many factors outside of BRIC is undesirable, then the NRI as currently implemented, likely cannot be used effectively to show improvements over time. Even with investments in these areas, most won’t show any impact at all measured at the tract level, at least for a long time period.

It will also be important to ensure that activities FEMA can do can have an impact at all. For example, tornado safe rooms are a common strategy for risk reduction; however, there is no obvious way that their presence would change the score of a tract in the NRI. **The lack of ability to show progress is a significant issue since showing progress is a big incentive for making hazard mitigation programs work.** If there is no way to show progress, then there is a reduced incentive to prioritize certain kinds of investments in CDRZ communities.

**It is notable, however, that the NRI still includes many immutable factors in social vulnerability and resilience** including race and ethnicity, age, and disability – these cannot be changed and should not be changed. Because they cannot and should not be changed, **they shouldn’t be part of the factor that the NRI is trying to change.**

***Question 4.*** *In what ways could FEMA use the community disaster resilience zone designation as a catalyst for Federal and non-Federal funding, e.g., encouraging communities with the designation to partner with non-governmental entities, such as private non-profit organizations, philanthropy, and private equity, to drive investments to benefit designated communities?*

See question 3. If using the NRI, the only way to impact many of the factors influencing resilience are via non-FEMA organizations. FEMA will need to identify primary drivers of risk in a community and partner with appropriate organizations and agencies to address them. This could include get out the vote organizations (resilience), job training (vulnerability), or hazard projects (losses).

***Question 5.*** *For mitigation projects that benefit large areas covering many census tracts, how can FEMA help applicants determine if the project is “within” or “primarily benefits” a community disaster resilience zone? What tools or resources would help potential applicants design projects that prioritize these identified communities? How should these projects be evaluated for their efficacy in reducing natural hazard risk?*

Determining benefits and impact areas requires a consideration of project type, project location, characteristics of populations who may benefit, and the benefits that the project is anticipated to provide. Impact areas can be calibrated using data on past projects and variables including insurance rates, land values, loss rates, and similar indicators of impact in order to see how far these impacts extend around a particular project-type area. Another approach would be to replicate work like the Mitigation Saves report, but with an expanded focus on distributional equity.

Other federal agencies are actively pursuing similar challenges for determining impact areas under the Justice40 program. In these cases, agencies are looking at a list of potential project types, literature on the benefits those projects provide, and are providing rough estimates of impact areas and selecting the Census tracts that intersect those areas. The key is to keep it simple enough to make it easy for applicants to understand how to identify and propose a project that fits the criteria.

***H. Community Disaster Resilience Zone Projects Causing Displacement***

***Question 1.*** *How can FEMA best ensure any residents displaced by resilience or mitigation projects receive equitable treatment?*

The first step is to track what happens to people displaced. Right now, this is not done for those whose homes are bought out via FMA, for example. Second, track both direct displacement (people displaced because their homes are removed from the hazard area) and indirect (people displaced because land values were increased). Be sure that all potentially impacted groups are included in project scoping meetings and work with the community to understand what a fair process looks like for them.

***Question 2.*** *How can FEMA ensure comprehensive community engagement is a central component of any community resilience planning and project implementation for Community Disaster Resilience Zones?*

BRIC DTA includes substantial requirements for outreach and engagement. FEMA mitigation plans include substantial requirements. Environmental assessments require significant outreach and engagement. Local and state laws often require extensive engagement. The vehicles are already in place to require this, and additional requirements should not be put in place for CDRZ outside of requirements to track the equity of outreach and demonstrate that potentially disadvantaged groups were included.

***Question 3.*** *How can FEMA work with local jurisdictions designated as Community Disaster Resilience Zones to support community driven relocation, where appropriate?*

In our view, relocation should be solely something brought about by the local jurisdiction and FEMA should not propose it without local impetus to do so. In those cases, a multi-phase study should be undertaken to understand community preferences. Next, options should be considered other than relocation (including temporary or permanent flood control measures). Third, a relocation timeline/process should be established to relocate in phases so as to minimize disruption. For example, it may not even be necessary to move older residents. Their homes could be bought out now, giving them income, and then their homes removed once they no longer occupy the home. This is one of many more humane ways to support relocation.

Overall, FEMA should avoid making relocation the poster child of CDRZ as this could cause a lot of pushback and even potential inaccurate narratives associating CDRZ with relocation.