

Fiscal Year 2023 SHSP/UASI Risk Methodology Updates

New State Homeland Security Program/Urban Area Security Initiative Risk Methodology

Due to the evolving threats that we face in the United States, the Fiscal Year (FY) 2023 State Homeland Security Program (SHSP)/Urban Area Security Initiative (UASI) risk methodology has been updated.

Funds available under SHSP and UASI are statutorily required to support jurisdictions' capabilities to prevent, protect against, mitigate, and respond to acts of terrorism. When the SHSP and UASI grant programs were created in the immediate aftermath of 9/11/2001, foreign terrorist threats were the predominant threat. While foreign terrorists remain a dangerous threat to the United States, the threat to the homeland has increased in complexity, diversity, and geography over the last twenty years. Today, one of the most significant terrorism threats to the United States comes from lone offenders and small groups of individuals who commit acts of violence motivated by a broad range of violent, racial, ethnic, political, religious, anti-government, societal, or personal ideological beliefs and grievances.¹ These U.S.-based lone actors present a unique challenge to law enforcement and intelligence agencies. Even with these lone offenders, foreign terrorist organizations such as al-Qa'ida and ISIS maintain a desire to conduct large-scale attacks on the homeland and require continued vigilance.

Since 9/11, other threats have emerged and are increasing. Of note, the cybersecurity threat has grown exponentially; this threat now dominates our efforts to secure our nation's critical infrastructure. Additionally, the hostile actions of adverse nation states, the level of global and western hemisphere migration, and the severity and frequency of extreme weather events all have increased dramatically. We have seen this new threat landscape reach medium- and small-sized jurisdictions and remote locations, and now encompass a greater swath of our country than before, to include so-called "soft targets" and other targets of opportunity.

As a result, the risk methodology is changing to be more in line with the current complex and diverse threat environment and the intended use of the SHSP/UASI grants. DHS and FEMA have updated this year's risk methodology after extensive stakeholder engagement, and we commit to continuing that engagement through the FY 2023 application period to ensure our grant programs are as simple and easy to access as possible.

DHS and FEMA will conduct a review of the risk methodology for possible additional changes in FY 2024 and beyond, to keep the SHSP/UASI risk methodology in step with the threats facing the United States. Stakeholder engagement will occur as part of any future review.

To reflect the evolving nature of the terrorist threat, the changes to the methodology are likely to increase the number of Metropolitan Statistical Areas (MSAs) receiving UASI funds. We will not significantly diminish funds of the jurisdictions that currently rely on them.

The change in the risk methodology will allow many jurisdictions to build new capacity to address the complex and diverse threat environment, while allowing other jurisdictions to maintain current capacity to the extent it meets the new threat environment.

¹ *Intelligence in Depth, Key Threats to the Homeland Through 2022*, U.S. Department of Homeland Security, Office of Intelligence and Analysis.

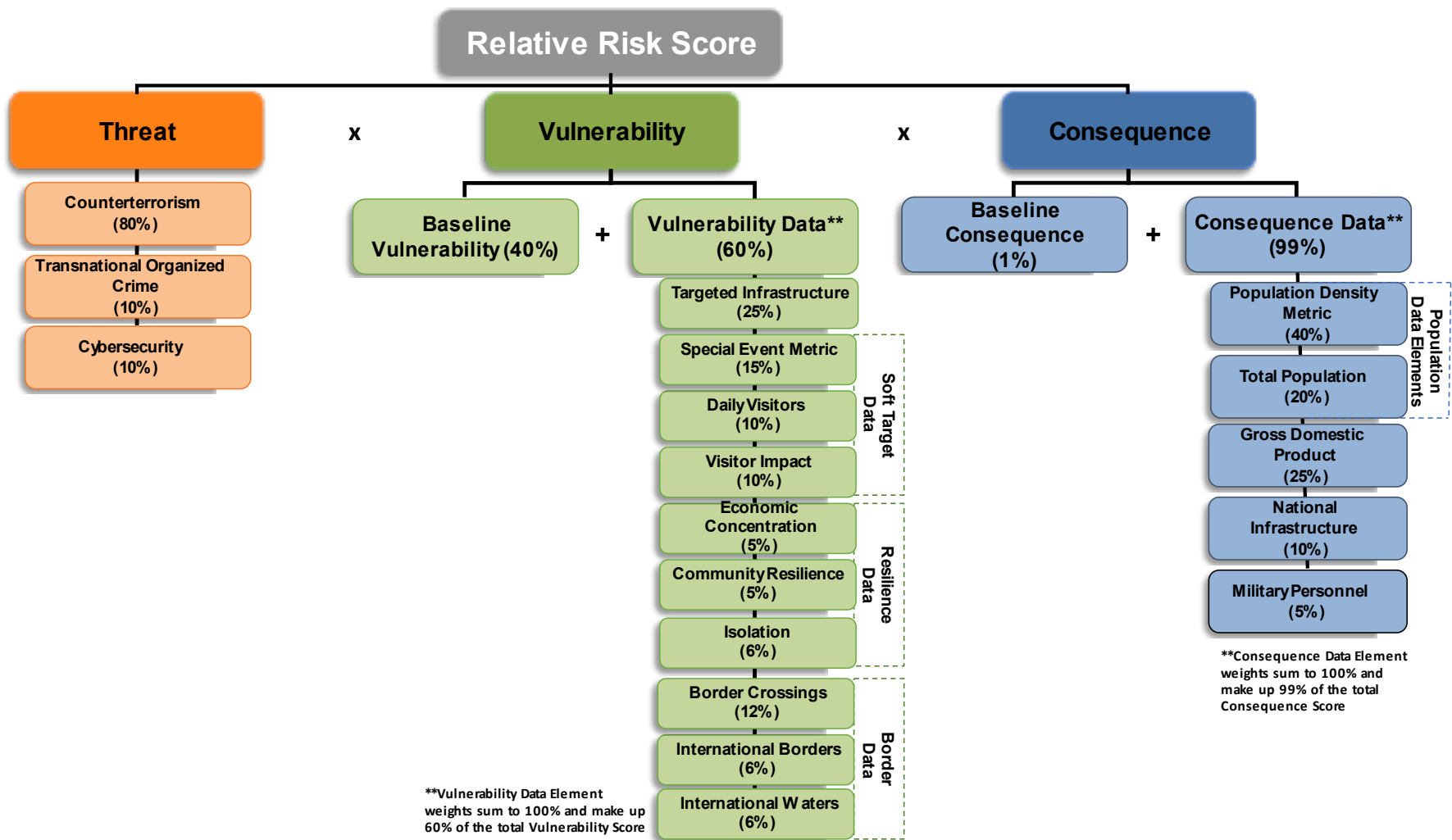


Figure 1: FY 2023 SHSP and UASI Risk Methodology

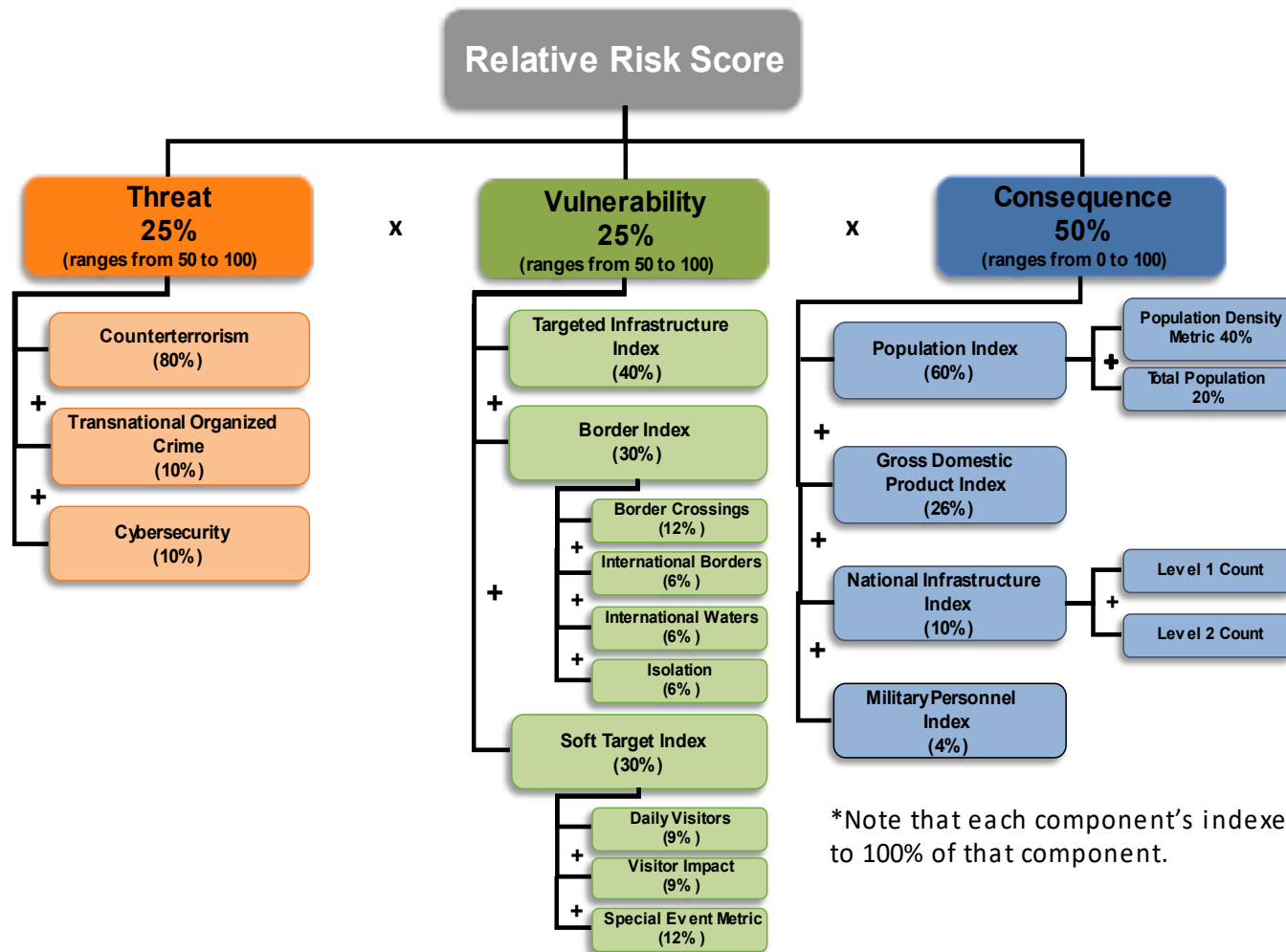


Figure 2: FY 2022 SHSP and UASI Risk Methodology

Tables 1 and 2: Data Element Weights and Descriptions (Comparisons between FY 22 to FY 23)

Vulnerability Data Element	FY 2022 Weight	FY 2023 Weight	Data Element Description
Targeted Infrastructure	40%	25%	Critical infrastructure sectors in a jurisdiction that are most likely to be targeted by the threat of terrorism. Weights were adjusted to incorporate new variables and to align the formula with the threat environment.
Special Event Metric	12%	15%	Special Event Assessment Rating (SEAR) data for each jurisdiction (if available)
Daily Visitors- -Domestic/-International	9%	10%	The sum of the average daily international and domestic visitor population within a jurisdiction.
Visitor Impact (Resident Population, Domestic Visitors, International Visitors)	9%	10%	Total Visitors (by jurisdiction) divided by Resident Population
Economic Concentration	N/A	5%	The EC metric highlights jurisdictions that are more vulnerable due to less diverse economies (one or only a few major industries in the jurisdiction), making recovery from an attack more difficult.
Community Resilience	N/A	5%	The CR metric reflects that less resilient populations can be significantly impacted by a shock from a terrorist attack because of their lack of resources and alternatives to mitigate or absorb that shock.
Isolation	6%	6%	States, territories, and Metropolitan Statistical Areas (MSAs) isolated from the rest of the U.S. may need to be self-sufficient for longer when the need arises, because those MSAs may not be able to rely on neighboring jurisdictions for support.
Border Crossings	12%	12%	The number of border crossings in the jurisdiction (if relevant) (provided by DHS Customs and Border Protection (CBP))
International Borders	6%	6%	The presence of international borders in the jurisdiction (if relevant)
International Waters	6%	6%	The presence of a coastline bordering international waters. in the jurisdiction (if relevant)

Consequence Data Element	FY 2022 Weight	FY 2023 Weight	Data Element Description
Population Density	40%	40%	This metric calculates population density at the Census block group level (U.S. Census source)
Total Population	20%	20%	This metric is a standalone total population count, which is the sum of all residents, commuters, and Daily Visitors in the jurisdiction.
Gross Domestic Product	26%	25%	The GDP of the jurisdiction.
National Infrastructure	10%	10%	Count of Level 1/Level 2 assets/systems (as designed by NCIPP) within a jurisdiction
Military Personnel	4%	5%	Number of U.S. military personnel stationed within a jurisdiction

Executive Summary

What is the risk methodology and why is it needed?

The *Homeland Security Act of 2002*, as amended, requires that the “relative threat, vulnerability, and consequences from acts of terrorism” be considered when allocating funds for DHS’ and FEMA’s preparedness grant programs.

DHS and FEMA utilize a top-down approach to assess risk that is appropriate for informing resource allocation. The top-down approach treats the entire jurisdiction (e.g., state, high-risk urban area, port, or transit system) as a single “asset” for computational purposes. Using this approach, a jurisdiction is assigned a single threat value, a single vulnerability value, and a single consequence value. Although these values are influenced by the critical infrastructure assets present in the jurisdiction, and by other considerations, they are not determined by considering each asset individually. Instead, the threat component represents the aggregate intent and capability of the nation’s adversaries to target a particular jurisdiction; the vulnerability component measures the probability of a successful attack; and the consequence component measures the potential impacts of an attack on that jurisdiction.

The generalized FEMA risk methodology used across SHSP and UASI is shown below. The risk methodology for SHSP, UASI, PSGP, and TSGP weight the Threat component at 25%, the Vulnerability component at 25%, and the Consequence component at 50%.

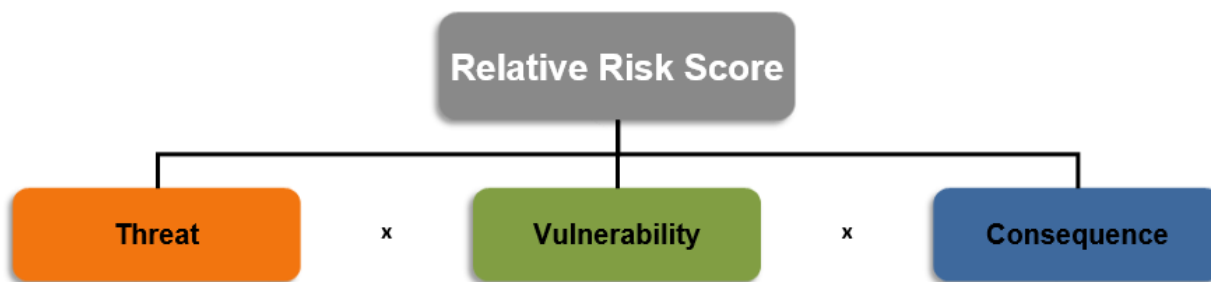


Figure 3: Relative risk score methodology

The methodology is assessed risk as a function of Threat, Vulnerability, and Consequence. Because this methodology represents a relative scale (ratio) for risk, the units of risk cannot be considered as a measure of the *absolute* risk of that entity; instead, risk scores are relative comparisons. DHS and FEMA use relative risk scores to inform allocation decisions. The highest-risk entity is assigned a relative risk score of 100 and all other risk scores are normalized in relationship to that highest-risk entity.

Fiscal Year 2022 Risk Methodology

As shown in the chart above, in Fiscal Year 2022 DHS and FEMA used individual data elements (e.g., population, population density, commuters), which were combined to create one value (e.g., population index), and then multiple indices were combined to create a single scaled value (e.g., consequence component risk score). The component’s scaled value was multiplied by other factors representing Threat, Vulnerability, and Consequence, in that 25-25-50 ratio, respectively.

This FY 22 composite indexing methodology allowed for assessment and comparison of relative risk based on multiple input factors. Because DHS and FEMA assessed risk to inform the allocation of finite grant dollars, the agency evaluates *relative risk*² among eligible grant entities. Using this approach, the risk from terrorism to one grant entity could have been directly compared to the risk to all other entities within the same program. The use of this framework impeded DHS’s and FEMA’s analysis of the data and diminished the influence the variables have within the

² Relative Risk definition: “measure of risk that represents the ratio of risks when compared to each other or a control,” DHS Lexicon, 2017 Edition, p. 550

components. Additionally, it imposed artificial interdependence on components and did not appropriately weight the components against the current threat environment. This resulted in a risk methodology that was difficult to adjust to accurately reflect the current risk environment being faced by communities.

Fiscal Year 2023 Risk Methodology

To simplify the risk methodology calculations and to provide for greater transparency, DHS and FEMA have made updates to the mathematical calculation used for Fiscal Year 2023. Variable weights were updated to reflect the current threat environment. The composite index construction was removed. Each variable now directly impacts Threat, Vulnerability, or Consequence, and does not get combined into an index beforehand, thereby not diluting the individual variable scores.

Secondly, DHS and FEMA will use a new mathematical calculation methodology: the Baseline variables. Using Baseline variables instead of constraints creates a simpler and more transparent calculation while still maintaining a consequence-focused model and continuing to incorporate unknown, universal, and undifferentiated elements that exists across all jurisdictions. The Baseline Vulnerability and Baseline Consequence elements better reflect the minimum level of vulnerability and consequence that exists across all jurisdictions. There is no Baseline element for Threat as the threat assessments already incorporate these universal threats.

Finally, DHS and FEMA added two new additional elements this year, Community Resilience and Economic Concentration to the Vulnerability component. Economic Concentration accounts for state, local, and urban area economies that are more vulnerable due greater concentration of economic sectors which in turn may hinder an economy's ability to recover from an attack. Community Resilience is a measure of the capacity of individuals and households to absorb, endure, and recover from the effects of disasters, including terrorist attacks. Jurisdictions that are more resilient to all disasters will be less vulnerable to the adverse impacts of terrorism.