THREAT AND HAZARD IDENTIFICATION AND RISK ASSESSMENT (THIRA)

2021 Report
Hawaii

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THIRA Overview

The THIRA is a three-step risk assessment completed every three years. It helps answer the following questions:

- What threats and hazards can affect our community?
- If they occurred, what impacts would those threats and hazards have on our community?
- Based on those impacts, what capabilities should our community have?

The THIRA helps communities understand their risks and determine the level of capability they need in order to address those risks. The outputs from this process lay the foundation for determining a community's capability gaps during the SPR process.

The THIRA follows a three-step process, as described in Comprehensive Preparedness Guide 201, Third Edition:

1. **Identify Threats and Hazards.** Based on a combination of experience, forecasting, subject matter expertise, and other available resources, develop a list of threats and hazards that could affect the community. When deciding what threats or hazards to include in the THIRA, communities consider only those that challenge the community's ability to deliver at least one core capability more than any other incident; the THIRA is not intended to include less challenging threats and hazards.

2. **Give Threats and Hazards Context.** Describe the threats and hazards identified in Step 1, showing how they may affect the community and create challenges in performing the core capabilities. Identify the impacts a threat or hazard may have on a community.

3. **Establish Capability Targets.** Using the impacts described in Step 2, determine the level of capability that the community plans to achieve over time in order to manage the threats and hazards it faces. Using standardized language, create capability targets for each of the core capabilities based on this desired level of capability by identifying impacts, objectives, and timeframe metrics. A core capability is comprised of several functional areas in which a community may have a gap. Each required standardized target addresses one or more functional areas.

Report Overview

This report contains two sections:

- THIRA Steps 1 and 2: Threats, Hazards, and Context
  - o Identified threats and hazards
  - o Context descriptions
  - o Standardized impacts
  - o Non-standardized impacts
- THIRA Step 3: Capability Targets
  - o Standardized capability targets
  - o Maximum requirements

THIRA Step 1 and 2: Threats, Hazards, and

Threat/Hazard: Cyber Attack

Category: Technological	Type: Utility Interruption	Terrorism: No

Context Description:

A cyber incident can be described as the hostile use of information technology by individuals or groups for financial gain or as an action to further a social or political agenda. This includes cybercrime activities, the use of information technology to threaten, exchange information, and/or organize and execute attacks against networks, computer systems, and infrastructure. Familiar cyber incidents include, but are not limited to, phishing, malware, ransomware, unauthorized access to networks, infection of vulnerable systems by computer virus, web site defacing, and denial-of-service attacks.

Background

A cyber incident is a human caused hazard which can affect demographically and geographically diverse populations. In most cases a cyber incident can be characterized as either being carried out for financial gain, directly or as a hired actor, or to further a social or political agenda. An attack for financial gain may directly target financial institutions such as banks or credit unions. An attack may also be directed at business, research, or industrial targets for purposes of industrial espionage (theft of proprietary information or technology). In either case the perpetrators may ransom information back to the source to prevent dissemination to competitors or the public. An attack to further a social or political agenda typically operates with the intent to gain access to sensitive or classified material. This information may be disseminated to the public with the intent to discredit or embarrass the target. This is commonly referred to as "hacktivism".

Since 2009 there has been an increase in cyber incidents directed at power generation and oil companies. These attacks have used a variety of techniques such as spear-phishing, social engineering, Windows operating system bugs, and remote administration tools (RATs).

None of these approaches are very advanced or hard to develop and manage. Although evidence suggests the growing trend in these attacks appears to target individual entities, instead of primary infrastructure, a mass coordinated attack cannot be discounted. Ransomware is a type of malware that blocks access to a system, device or file until a ransom is paid. The ransomware encrypts files and will delete files until a ransom is paid. There are opportunistic and strategic forms of ransomware.

Recent cyber threats in Hawaii

Hawaii County

On Saturday, July 22, 2017, the County of Hawaii traffic camera network was compromised, and a server was infected with Aleta Ransomware. On the following Monday, a traffic technician noticed the ransomware when attempting to retrieve a file from a traffic server where data was stored. Everything on the server was inaccessible and encrypted. The traffic technician immediately took all servers offline. The technician reported that the hackers had uninstalled a free version of McAfee. On a networked printer in a room nearby, a message from the hackers was printed out on hard copy, which demanded bitcoins with instructions for payment.

Actions Taken/Resolution:

•	The traffic technician contacted the Department of IT (DIT) several days later to report the incident and request assistance.

•	DIT immediately reported the incident to:

o	MS-ISAC via DHS Report: https://www.dhs.gov/how-do-i/report-cyber-incidents

o	FBI: IC3: https://complaint.ic3.gov/default.aspx

o	Hawaii State Fusion Center: via Paul Epstein

☐	A forensic image was attempted and sent to MS-ISAC for review, however the image

was incomplete.

☐   DIT brought in a consultant to redesign the traffic network, apply appropriate firewalls, and allow DIT to monitor the traffic network.

☐   The plan was implemented and DIT continues to work with the traffic division to build out and manage their network.

Zippy's Restaurants

During the period November 23, 2017 and March 29, 2018, Zippy's was informed by experts that credit and debit cards used at ALL Zippy's Restaurants, Napoleon Bakery's, Kahala Sushi, and Pearl City Sushi were breached. This breach was discovered March 9, 2018.

•   All Zippy's Restaurants were impacted by a data breach that affected its credit and debit card processing system.

•   The information compromised include the cardholder's name, the card number, expiration date, and security code.

Catastrophic Scenario

During the summer, the State of Hawaii sponsors RIMPAC (Rim of the Pacific Exercise). The latest RIMPAC included over 25 nations, 46 ships, approximately 200 aircraft and 25,00 personnel with five submarines participating in the Navy's largest Naval Exercise. Approximately a month prior to RIMPAC, there are numerous social media postings indicating an unspecified cyber threat to power companies in Hawaii especially to Oahu. The threats initiate a wide ranging, and often confused exchange on Social medial. During the month prior to RIMPAC there are several exchanges on social media revolving around Hawaiian Electric Company.

Approximately two weeks prior to the start of RIMPAC an unknown actor(s) begin a cyber-attack on Hawaiian Electric. Hawaiian Electric services the entire island of Oahu (approximately 304,948 customers) including military installations of Kailua, Scofield Barracks, USARPAC, PACOM and headquarters for major installations on Oahu. Social media posts indicate that the targeting of Hawaiian Electric and timing of the attack were meant as a statement with the electric company representing the state to reduce use of fossil fuels and the military.

On the first day of RIMPAC a small number of Hawaiian Electric customers lose electricity especially at Pearl Harbor and the Naval Shipyard. The affected customers begin calling the company to report the power outage. The company begins investigating the unexplained outage and working to restore service. As the day progresses the situation worsens. By the end of the day approximately 100,000 customers have lost power. Thousands of calls, texts, and emails overwhelm the company's telephone and email systems. The disruption of electrical service disables traffic signals in the affected area. The lack of traffic control significantly increases travel times and accidents. Calls for service quickly overwhelm local emergency medical, fire, and law enforcement.

Many government agencies and hospitals can continue providing critical services on emergency generator back-up systems. However, these emergency generator back-up systems are limited by available fuel supply typically limited to 24-, 48- or 72-hours. Few businesses across Honolulu are similarly equipped and are forced to close. This immediately degrades local access to food, fuel, supplies, and other necessities.

The Hawaiian Electric Company is working tireless to restore electrical services across the island. During this time unexplained encrypted network traffic on the industrial control system is discovered. A review of available information suggests that vulnerability on the control system was exploited to manipulate other lifeline systems (medical, transportation, water, etc).

Hawaiian Electric, Federal Bureau of Investigation, Hawaii State Fusion Center, MS-ISAC and other key agencies are investigating but do speculate that the yet unknown manipulation of

one or more of the system components is responsible for the outages.

All military leaders are concerned that critical supplies, medical, and transportation resources are being severely limited with the power outages seen at the Kahe and Waiau Power Plants.

Outages have occurred over the week; the source remains unknown; hundreds of Hawaiian Electric customers remain without power which includes both Joint Base Hickam Pearl Harbor and the Navy Shipyard.   Public information and communication has become extremely challenging. Television, radio, mobile telephone, and internet are all severely limited by the widespread power outage and continuing demand on backup power sources such as batteries and generators.

Standardized Impact

Impact Category	Estimate	Impact Category	Estimate
(#) jurisdictions affected	5	(#) people with access and functional needs (requiring accessible shelter)	1
(#) partner organizations involved in incident management	31	(#) people requiring food and water	1
(#) people affected	100,000	(#) people with access and functional needs (requiring food and water)	1
(#) people with access and functional needs (affected)	250	(#) animals requiring shelter, food, and water	1
(#) people with limited English proficiency affected	125		
(#) customers (without water service)	1	(#) people requiring temporary, non-congregate housing	1
(#) customers (without wastewater service)	100,000	(#) people with access and functional needs (requiring accessible, temporary, non-congregate housing)	1
(#) customers (without communication service)	100,000		
(#) customers (without power service)	100,000	(#) people requiring rescue	25
(#) people requiring evacuation	1	(#) people requiring medical care	15
(#) people with access and functional needs (requiring evacuation)	1	(#) businesses closed due to the incident	150
(#) miles of road affected	1	(#) affected healthcare facilities and social service organizations	18
(#) hazmat release sites	1	(#) people requiring long-term housing	1
(#) exposed individuals (hazmat-related incidents)	1	(#) people with access and functional needs (requiring accessible long-term housing)	1
(#) fatalities	1		
(#) structure fires	1		
(#) people requiring shelter	1		

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Standardized Impact

Impact Category	Estimate
(#) damaged natural and cultural resources and historic properties registered in the jurisdiction	1
(#) people requiring screening	
(#) people with access and functional needs (requiring screening)	
(#) personnel	
(#) priority intelligence stakeholder agencies/entities	

Non-Standardized Impact Entries

Impact Name

Source Identification

Source Name	Sources Used to Develop Context Description and Calculate Impacts (Optional)
- Real-world events - Subject-matter experts (SMEs) - Fusion Center products and assessments - Other reports (government, academic, non-profit) - Prior year THIRAs	A Friday December 26, 2008 Island wide power outage led to 100's stranded in elevators and significant impact on airport. Private sector cyber threats; All Zippy Restaurants were impacted by a data breach that affected its credit and debit care processing systems. This compromised all cardholder's name, card holders, expiration dates, and security code. The University of Hawaii has been a victim of numerous cyber incidents.

Threat/Hazard: Domestic Terrorism

Category: Human Caused	**Type:** Explosive Devices	**Terrorism:** Yes

Context Description:

Category: Human caused Type: Explosive Devices/Ramming Terrorism: Yes (Domestic)

Context Description:
BACKGROUND: Hawaii has identified a Mass Casualty Incident (MCI) as a distinct hazard due to the limited resources available within the state and the difficulty of obtaining supplemental resources from other states and the federal government entities outside of Hawaii in a timely manner. Numerous large-scale exercises including the most recent DoD RIMPAC 2018 exercise demonstrated significant challenges in patient (casualty) movement without the benefit of federal military airlift. Planning and exercising conducted since 2003 suggest that available Emergency Medical Services and Trauma Program resources are inadequate to simultaneously provide life-saving and life-sustaining care for more than 25 seriously injured casualties. Any major casualty-generating event (act of terrorism, aviation mishap involving widebody aircraft, etc.) exceeding this threshold would overwhelm established standards of care and critically impact emergency departments and surgical capabilities; possibly leading to an even greater casualty count. Hawaii is home to 31 hospital facilities positioned on six islands. These hospitals have a typical average daily census of 95 percent. The Hawaii Healthcare Emergency Management (HHEM) operates a federally-funded healthcare coalition in collaboration with the Hawaii State Department of Health. This coalition coordinates the preparedness, response and recovery of over 130 healthcare organizations. In addition, the U.S. Department of Health and Human Services has a type II Federal Disaster Medical Assistance Team (Hawaii DMAT) headquartered in Honolulu. It is estimated that when these resources are activated, they can provide life-saving medical and surgical care for up to 250 casualties. This hazard is classified as a low-risk, high-vulnerability hazard that would require supplemental resources from local and state health care organizations like HHEM and federal agencies such as the National Disaster Medical System (NDMS) under the Department of Defense.

This type of hazard applies to all open air and enclosed gymnasium/auditorium/arena/conference hall mass gathering events. Some such high-profile events are the Honolulu Marathon, Great Aloha Run, Aloha Week Waikiki Ho'olauea, Neal Blaisdell Concert Hall, Waikiki Shell, Disney Kids Film Festival, and Ironman race.

SCENARIO:

Background: On an early morning in December, the average low temperature in downtown Honolulu averages just under 70 degrees F. Between Thanksgiving and Christmas, Hawaii traditionally has holiday tourists in state. The Honolulu Marathon is always the second Sunday in December. The Marathon typically has 26,000-33,000 participants from around the world. The Marathon is popular for its exotic location in Hawaii, and is also popular among first-time marathoners, many of whom are visitors from Japan.

Incidents: Participants begin gathering on Ala Moana Boulevard around 2:00 am in anticipation of the start of the Honolulu Marathon. Everyone awaits the opening fireworks display and the sound of the cannon blast that signifies the start of the race. At 5:00 am., the starting line is tightly packed when the sound of the cannon blast is heard and music from the loudspeakers plays. Suddenly something is causing a standstill and confusion is taking place at the front of the gathered formation. Moments later, there are two explosions: one toward the front of the race starting line and one toward the back of the crowd of runners. Two bombers nearly simultaneously detonate homemade suicide vests filled with

nails and other sharp objects as secondary projectiles.

There are immediately people dead and injured.

People near the very front and very rear of the lined-up runners flee hysterically in many different directions. People are stumbling, falling, and being trampled. HPD has many of the side roads blocked, so several hundred participants run up Queen and Piikoi streets.

Minutes later, a cargo delivery van traveling south on Queen street at nearly 60 MPH runs quickly toward people fleeing north on Bishop, and ultimately plows into the disorganized, confused, and congregated group of people. The crowd scatters, leaving behind a scene of injured and dead.

There is mass confusion, as not all runners become aware of the situation at the same time. Some runners flee the sound of the explosions and vehicle ramming, while others simply react to the crowd's panic and run without knowing why. Runners who heard only one of the explosions are in danger of running toward the location of the second. Many runners from the back who flee toward the start line are faced with those wounded with the initial attack.

With the quick disbursement of runners in every direction and as warnings spread, the crowd does clear.

HPD sees the commotion at their headquarters and notifies the onsite command unit. Within minutes, law enforcement, fire services and emergency medical personnel arrive on scene. It is estimated that over 50 are dead from the explosion, the vehicle ramming, and the trampling. There are 100 seriously injured and dozens of lesser injured have fled the scene spontaneously..

In sum, a three-person team has effectively executed a coordinated attack by having two (one at the front and one toward the back) terrorists enter a mass gathered crowd and detonate homemade explosives, while a third monitored from a safe distance and executed a vehicle ramming on targets of opportunity.

Terrorism Summary Risk Analysis
Evaluation Criteria   Description   Ranking
Risk to People, Property, Environment, and Operations
Probability/potential threat of occurrence   •   The hazard occurs only very infrequently, generally less than every five years on a large scale, although localized events may be more frequent
•   The hazard is generally very localized and on a small scale
•   A methodology for identifying event occurrences and/or severities is poorly established in the state, or is available only on a local basis
Vulnerability
•   Multiple, reliable, well-coordinated, countermeasures are in place to prevent or protect against this hazard.
•   Countermeasures have an extensive demonstrated history of testing and success in significantly reducing the threat potential.
Mitigation Potential
•   Methods for reducing risk from the hazard are not well established, are not proven reliable, or are experimental
•   The State or counties have little or no experience in implementing mitigation measures, and/or no technical knowledge of them
•   Mitigation measures are ineligible under federal grant programs
•   There is a very limited range of mitigation measures for the hazard, usually only one feasible alternative

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•   The mitigation measures have not been proven cost-effective and are likely to be expensive compared to the magnitude of the damages caused by the hazard
•   The long-term effectiveness of the measure is not known, or is known to be relatively poor

Impacts of Catastrophic Scenario
Evaluation Criteria   Description   Ranking
Public
•   Local medical services are unable to manage the volume of
   injuries and fatalities.
•   Patients require transportation to regional medical facilities
outside of the affected areas.
Responders   •   Significant federal and/or mutual aid from other states would be needed to meet the needs of the incident.
•   A federal disaster declaration would be expected.
COOP, including delivery of services
•   Impact on COOP would be low unless government facilities receive a direct attack.
Property, Facilities, and Infrastructure
•   Some damage to property and facilities in the localized area of the attack.
Environment
•   Minimal impact on the environment.
Economy
•   Negative impact to local economic activity in the short-term.
•   Direct effects limited to the local community.

Public Confidence
•   Major loss of confidence in government and society. Possible panic and major civil disturbances requiring sustained law enforcement response and other security measures.

Standardized Impact

Impact Category	Estimate	Impact Category	Estimate
(#) jurisdictions affected	3	(#) people with access and functional needs (requiring evacuation)	3,604
(#) partner organizations involved in incident management	26	(#) miles of road affected	10
(#) people affected	347,397	(#) hazmat release sites	
(#) people with access and functional needs (affected)	36,824	(#) exposed individuals (hazmat-related incidents)	
(#) people with limited English proficiency affected	95,534	(#) fatalities	50
(#) customers (without water service)		(#) structure fires	
		(#) people requiring shelter	34,000
(#) customers (without wastewater service)		(#) people with access and functional needs (requiring accessible shelter)	3,604
(#) customers (without communication service)			
(#) customers (without power service)		(#) people requiring food and water	34,000
(#) people requiring evacuation	34,000		

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Standardized Impact

Impact Category	Estimate
(#) people with access and functional needs (requiring food and water)	3,604
(#) animals requiring shelter, food, and water	
(#) people requiring temporary, non-congregate housing	
(#) people with access and functional needs (requiring accessible, temporary, non-congregate housing)	
(#) people requiring rescue	
(#) people requiring medical care	250
(#) businesses closed due to the incident	550
(#) affected healthcare facilities and social service organizations	5
(#) people requiring long-term housing	
(#) people with access and functional needs (requiring accessible long-term housing)	
(#) damaged natural and cultural resources and historic properties registered in the jurisdiction	
(#) people requiring screening	34,000
(#) people with access and functional needs (requiring screening)	3,604
(#) personnel	300
(#) priority intelligence stakeholder agencies/entities	10

Non-Standardized Impact Entries

Impact Name
Number of hospital beds available at this time of day/holiday weekend will vary.
Coordination with Crime Victim Compensation Commission

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Non-Standardized Impact Entries

Impact Name
Coordination with Embassies and Consulates for the foreign personnel participating in the marathon

Source Identification

Source Name	Sources Used to Develop Context Description and Calculate Impacts (Optional)
- Real-world events - Other plans - Subject-matter experts (SMEs) - Exercises - After-Action Reports - Fusion Center products and assessments	After action reports from Las Vegas Mandalay Bay, Boston Marathon, New York City/France vehicle ramming incidents, and the Hawaii Joint Counterterrorism Awareness Workshop Series (JCTAWS) 2018 response matrices and after action review. Complex Coordinated Terrorist Activity and sync matrix planning for each jurisdiction and especially the scenario for City and County of Honolulu in September 2019. CCTA sync matrix for each county.

Other Plans
COVID related planning activities

Threat/Hazard: Hurricane

Category: Natural	**Type:** Hurricane / Typhoon	**Terrorism:** No

Context Description:

HAZARD IDENTIFICATION
All communities in the state of Hawaii are vulnerable to the damaging impacts of hurricanes. Historically, it has been relatively rare for a hurricane to impact the state, though there have been multiple near misses in recent years that have produced flooding, large swells and high winds. The last hurricane whose center made landfall was Hurricane Iniki on Kauai in 1992. Tropical Storm Iselle in 2014 and Tropical Storm Lane in 2018 each resulted in major disaster declarations. Most hurricanes that threaten Hawaii have their genesis in the Eastern Pacific, south of the Baja California Peninsula. From June through November each year, the ingredients there are optimal for tropical cyclone formation, with warm ocean temperatures, lots of moisture and weak vertical wind shear.

Every county in the state has been affected by hurricanes and each are at risk of damages from these storms (USGS 2002). The coastal areas of the state are more susceptible to damage caused by a combination of high winds and tidal surge. Inland areas, especially those in the 1% and 0.2% annual chance flood areas, are also at risk of flooding because of heavy rains associated with the storms. It is important to note that the Category 4 hurricane storm surge inundation areas may extend beyond the boundaries of regulatory flood zones, meaning that currently enforced standards offer some level of protection, but are likely not sufficient to prevent damage from a Category 4 hurricane in many areas. This issue is especially important for areas that experience 1.5 feet or greater wave heights due to their damaging effects on structures.

According to the 2015 Hawaii Catastrophic Hurricane Plan/FEMA Region IX Hawaii Catastrophic Annex, a hurricane of any size and duration may pose a threat to the infrastructure, the environment and economy, and impact the daily lives of residents. This risk is due to the state's geographic location and isolation, which require high dependence on maritime cargo to maintain and sustain its economic vitality. In addition, the state is densely populated along its coastal shores. Thus, the state's population, property and economy are highly vulnerable to storm surge and high winds, which are the main threats associated with a hurricane.

In addition to the devastating storm surge and wind impacts, a cyclone is likely to result in secondary hazards the state has identified as high-risk events in and of themselves.

Event Based Flood
Hurricanes and other tropical cyclones often produce widespread, torrential rains in excess of six inches, which may result in deadly and destructive flooding. Rainfall amounts are not directly related to the strength of the storm, but rather to the speed and size. Slower moving, larger storms produce more rainfall. Additionally, mountainous terrain enhances rainfall from a hurricane.

Dam Failure
Extreme rainfall produced by a cyclone increases the potential for dam failure. The state of Hawaii has a total of 132 dams and reservoirs, of which 123 have a classification of 'high hazard'.

Landslide
Heavy or prolonged rainfall is the main source of landslide and rockfall initiation in the state (State of Hawaii Hazard Mitigation Plan 2018).

Fire

Hurricane conditions may result in, or exacerbate, secondary hazards such as residential and wildland fires. Downed power lines, high winds, use of candles for emergency lighting and improper use of generators are all risk factors during a storm.

HAZARD CONTEXT

On the morning of July 1, Hurricane Makani crosses the 140 longitude line prompting enhanced monitoring protocols by state and county emergency management agencies. Over the next 5 days, the storm continues on a track towards the main Hawaiian Islands as a major hurricane. Prior to the arrival of damaging winds, protective measures are implemented to safeguard lives and property. All counties open hurricane evacuation shelters and issue evacuation orders. The United States Coast Guard (USCG) adjusts seaport conditions, closing all commercial ports completely before the arrival of damaging winds. Honolulu Harbor, the central hub through which almost all supplies and essential commodities flow into the state, closes two days before the storm's projected arrival, effectively halting importation of supplies into the state.

On July 4th, the outer bands of the storm reach Hawaii Island and the entire state begins experiencing wet weather conditions with periods of intense rainfall.

On July 5th, Hurricane Makani approaches Hawaii County from the southeast and makes landfall. Over the next 36 to 48 hours, the cyclone continues as a category 4 storm on a westward track, producing severe impacts across all of Hawaii's counties. High winds associated with the approaching hurricane down power lines, igniting and rapidly expanding three large wildfires in west Maui covering 2300 acres. The winds create dangerous conditions for firefighters and hamper containment efforts, allowing the fire to spread toward populated areas and prompting the evacuation of 100 homes in a residential area and two hotels on Maui. Fifty structures are burned on Maui before the fire is contained.

As the hurricane makes landfall, sustained winds reach 130 mph, with gusts up to 160 mph and a wind radius of 219 miles. Multiple structural failures occur, necessitating search and rescue operations. Other buildings sustain severe damage and it is unclear if they are safe for occupancy. Downed power lines and trees contribute to widespread disruptions of power and communications systems.

Coastal areas experience significant storm surge, with multiple islands experiencing a surge greater than 10 feet on south facing shores, pushing water into areas not normally prone to flooding. Non-coastal areas also experience major flooding due to prolonged and intense rainfall, particularly in windward areas. The heaviest downpours occur as the hurricane moves over the islands, with rain falling at a rate of 1 to 2 inches an hour. Flood conditions persist another 36 hours post-landfall as remnants of the system linger over the state.

Standardized Impact

Impact Category	Estimate	Impact Category	Estimate
(#) jurisdictions affected	5	(#) people with limited English proficiency affected	50,739
(#) partner organizations involved in incident management	31	(#) customers (without water service)	75,040
(#) people affected	1,641,472	(#) customers (without wastewater service)	92,400
(#) people with access and functional needs (affected)	85,866		

Standardized Impact

Impact Category	Estimate	Impact Category	Estimate
(#) customers (without communication service)	714,546	(#) people with access and functional needs (requiring accessible long-term housing)	8,982
(#) customers (without power service)	470,998		
(#) people requiring evacuation	155,426	(#) damaged natural and cultural resources and historic properties registered in the jurisdiction	687
(#) people with access and functional needs (requiring evacuation)	17,097		
(#) miles of road affected	1,246	(#) people requiring screening	
(#) hazmat release sites	17	(#) people with access and functional needs (requiring screening)	
(#) exposed individuals (hazmat-related incidents)	77,713	(#) personnel	
(#) fatalities	500	(#) priority intelligence stakeholder agencies/entities	
(#) structure fires	50		
(#) people requiring shelter	164,520		
(#) people with access and functional needs (requiring accessible shelter)	18,097		
(#) people requiring food and water	742,320		
(#) people with access and functional needs (requiring food and water)	81,655		
(#) animals requiring shelter, food, and water	611,000		
(#) people requiring temporary, non-congregate housing	81,655		
(#) people with access and functional needs (requiring accessible, temporary, non-congregate housing)	8,982		
(#) people requiring rescue	91		
(#) people requiring medical care	25,000		
(#) businesses closed due to the incident	94,160		
(#) affected healthcare facilities and social service organizations	18		
(#) people requiring long-term housing	81,655		

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Non-Standardized Impact Entries

Impact Name
(#) commercial airport runways closed - 14
(#) commercial sea ports require damage assessment before reopening - 8
(#) people requiring pre-impact evacuation shelter - 428261
(#) wildland fires - 3
Honolulu Harbor closed

Source Identification

Source Name	Sources Used to Develop Context Description and Calculate Impacts (Optional)

- Real-world events
 	
- Response plans
 	
- Hazard mitigation plans (including Hazard Identification and Risk Assessment)
 	
- Subject-matter experts (SMEs)
 	
- Modeling or tools
 	
- Other reports (government, academic, non-profit)
	Jurisdictions = 4 counties and state
	Partners = Each county, plus state depts and ESF agencies.
	People Affected = Total residents (Census Bureau, Annual Est of Resident Pop, July 1, 2017) + Visitors (HTA 2016 Annual Visitor Research Report)
	Limited English = People Affected x 6.3% (Non-English Speaking Pop. in HI report, 04/16, DBEDT)
	Water: Outage estimates provided by county boards of water supply.
	Wastewater: Total customer accounts provided by 3 counties and estimated for Hawaii County. Impact number based on Puerto Rico numbers at 70% of population initially without wastewater. (70% x 132,000 total accounts).
	Communications = Number reflects cell service only. Assumes 72% of adult resident population have cell service. Only 12% of cellular customers would have service immediately post-impact. (Based on FEMA Puerto Rico AAR, p.2). https://www.fema.gov/media-library-data/1531743865541-d16794d43d3082544435e1471da07880/2017FEMAHurricaneAAR.pdf
	Power = 95% of customers affected (Based on Puerto Rico AAR). Customer # sources (HI Electric 462,225) https://www.hawaiianelectric.com/about-us/power-facts; (KIUC 33,562) http://website.kiuc.coop/about
	Evacuation = Residents located in MOMS SLOSH area, 2018 HAZMIT Plan, p. 4-241, Table 4.11-10.
	Miles of Road Affected = 2018 HAZMIT Plan, p. 4-239

HAZMAT Release Sites = Included inundated commercial ports and wastewercial treatment plans (2015 CATPLAN, p.2-7, table 2-5)

Exposed Individuals: Estimated to be 50% of the population living in inundation/evacuation areas.

Fatalities = 2015 CATPLAN, p.2-5, table 2-2

Structure/Wildland Fires = Based on Real World Event (Hurricane Lane, 2018)

Shelter = 2015 CATPLAN assumption that 10% of population would seek shelter post-impact. Includes resident and visitor population.

Pre-Impact Shelter = 35% of resident population (2009 Evacuation Behavioral Study)

Food & Water = 2015 CATPLAN assumption that 52% of resident population is displaced and needs food/water

Animals Requiring Shelter, Food, Water = 2015 CATPLAN, Table 2-3

Temp Housing = 11% of total displaced population (source: Hurricane Harvey data)

Rescues = Based on rate of rescue of USAR Task Force during Hurricane Maria, FEMA Private Sector Advisory (1 OCT 17).

Medical Care = 2015 CATPLAN, p. 2-5

Businesses Closed = 50% of total businesses in HI. [FEMA; SBA 2017 economic profile, 2015 HI Business Income Tax Statistics (Table 1-1, p. 11)]

Affected Healthcare/Social Svc Orgs = Hospitals and community based health clinics (HDOH)

Long-term Housing = Same numbers used for temporary housing.

Damaged Natural/Cultural/Historic Properties = 50% of total historic properties damaged. Total historic properties as of 08/2018 is 1373 (DLNR, http://dlnr.hawaii.gov/shpd/)

All Access and Function Needs (AFN) Estimates: Used estimate provided for the general population and multiplied it by the percentage of the population with AFN (11%). Source is 2016 Disability Status Report - HI.

Threats and Hazards - 4, current data studies and subject matter expert outreach

Building code review - Every 3 years. State Building Code Council (attachment to Dept. of Accounting and General Services) and outreach to county partners.

THIRA Step 3: Capability Targets

Planning

Functional Area(s) – Evaluating and Updating Plans; Operational Planning; Whole Community Involvement and Coordination

Capability Target:

Within every **3** **year(s)**, update all emergency operations plans that define the roles and responsibilities of **31** partner organizations involved in incident management across **5** jurisdictions affected, and the sequence and scope of tasks needed to prevent, protect, mitigate, respond to, and recover from events.

Additional context necessary to understanding the capability target (Optional)

Jurisdictions include the state (1) and each county (4).
Each county was counted as a partner organization, as were all state departments and key non-governmental ESF partners.

Maximum Requirement (Optional)

Within every **1** **year(s)**, update all emergency operations plans that define the roles and responsibilities of **31** partner organizations involved in incident management across **5** jurisdictions affected, and the sequence and scope of tasks needed to prevent, protect, mitigate, respond to, and recover from events.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	A hurricane response involves the greatest number of partner agencies in the response effort.

Public Information and Warning

Functional Area(s) – Delivering Actionable Guidance; Alerts and Warnings; Culturally and Linguistically Appropriate Messaging; Inclusiveness of the Entire Public

Capability Target:

Within **15 minute(s)** notice of an incident, deliver reliable and actionable information to **1095201** people affected, including **116091** people with access and functional needs (affected) and **302180** people with limited English proficiency affected.

Additional context necessary to understanding the capability target (Optional)

Following the county synopsis, ensuring the context coincide the planning figures. Human-caused incidents (terrorist) occur with little to no warning; messaging will be similar to Hawaii's missile alert on January 13, 2018. Very little time to produce or distribute messaging/information. Reliance would be on law enforcement with state and county warning points. Utilized the Hawaii DATA Book for Hawaii as a source and Oahu disability studies. Used Total People Affected (Total Oahu population of residents and visitors). AFN: 10.6%, prevalence of disability in Hawaii for persons of all ages (2017 Disability Status Report - Hawaii, Cornell University) http://www.disabilitystatistics.org/StatusReports/2017-PDF/2017-StatusReport_HI.pdf?CFID=20745324&CFTOKEN=46ed971f57810ce4-3879615C-F69A-8EB1-8B8E34CAA03AC34F; LEP: 27.5% of the population in Honolulu County "Speaks other than English at home (% of the population aged 5 and older)" (DBEDT, Hawaii Report, April 2016) http://files.hawaii.gov/dbedt/economic/data_reports/Non_English_Speaking_Population_in_Hawaii_April_2016.pdf

Hawaii – Civil Defense Agency
Website: http://www.hawaiicounty.gov/civil-defense/
Notifications: http://www.countyofhawaii.bbcportal.com/
Facebook: https://www.facebook.com/hawaiicountycivildefense/

County of Maui – Maui Emergency Management Agency
Website: http://www.co.maui.hi.us/70/Civil-Defense-AgencyNotifications:
http://www.co.maui.hi.us/index.aspx?nid=983
Twitter: @MauiEmergAgency
Instagram: Maui_EMA
Facebook: www.facebook.com/MauiEMA

City and County of Honolulu – Department of Emergency Management
Website: http://www.honolulu.gov/dem/default.html
Notifications: https://hnl.info/alerts/login.php
Twitter: @Oahu_DEM
Facebook: https://www.facebook.com/OahuDEM

County of Kauai – Kaua'i Emergency Management Agency
Website: http://www.kauai.gov/kema
Notifications: https://countyofkauai.bbcportal.com
Facebook: https://www.facebook.com/CountyofKauai/

Public radio announcements/broadcast.

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Maximum Requirement (Optional)

Within **0 minute(s)** notice of an incident, deliver reliable and actionable information to **0** people affected, including **0** people with access and functional needs (affected) and **0** people with limited English proficiency affected.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Social media challenges our ability to de-conflict information being put out prior to the release of official government messaging. Develop pre-scripted messaging prior to major events that can go on air officially within a reasonable amount of time that says we're aware, responding and will keep public informed. Consider Activation of EOC, HI-EMA, and Hawaii State Fusion Center.

Operational Coordination

Functional Area(s) – Command, Control, and Coordination; National Incident Management System/Incident Command System Compliance; Stakeholder Engagement

Capability Target:

Within **45 minute(s)** of a potential or actual incident, establish and maintain a unified and coordinated operational structure and process across **3** jurisdictions affected and with **10** partner organizations involved in incident management. Maintain for **1 week(s)**.

Additional context necessary to understanding the capability target (Optional)

Although we identified 26 partners not all will be used in the initial response to managing incident. The jurisdiction will have incident command post established in the vicinity before, during, and after scheduled event to manage any possible incidents.
The Hawaii State Fusion Center will be in the incident command center which will provide immediate situation awareness to the Office of Homeland Security and the Hawaii Emergency Management Agency.

The City and County is using a four week period at a max for duration for the incident command. Consolidation of resources will occur most likely after week 1.

Maximum Requirement (Optional)

Within **0 hour(s)** of a potential or actual incident, establish and maintain a unified and coordinated operational structure and process across **3** jurisdictions affected and with **26** partner organizations involved in incident management. Maintain for **1 week(s)**.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Impacts why terrorism will be most challenging: Impacts on the health system; limited hospitals; one trauma center; there are four hospitals in the immediate area which can attend to the injured; medical examiners office is limited with numbers in their facility; additional equipment necessary to store bodies. Unknown if other events are to follow. The CCTA sync matrix also provided context for the operational coordination.

Forensics and Attribution

Functional Area(s) – Attribution Assessments; Crime Scene Preservation and Exploitation; Evidence Collection; Forensic Analysis; Terrorist Investigations

Capability Target:

Within ___ ___ of a suspected terrorist attack, conduct outreach to the fusion center and Joint Terrorism Task Force (JTTF) in the community and identify ___ personnel assigned to support follow up information sharing, intelligence analysis, and/or investigative actions associated with the collection, examination, and analysis of evidence, as well as the identification of perpetrators.

Additional context necessary to understanding the capability target (Optional)

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context

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Intelligence and Information Sharing

Functional Area(s) – Analysis of Intelligence and Information; Developing Reports and Products; Disseminating Intelligence and Information; Exploiting and Processing Information; Feedback and Evaluation; Gathering Intelligence

Capability Target:

During steady state, and in conjunction with the fusion center and/or Joint Terrorism Task Force (JTTF), every **1 day(s)**, review ability to effectively execute the intelligence cycle, including the planning, direction, collection, exploitation, processing, analysis, production, dissemination, evaluation, and feedback of available information, and identify the **12** personnel assigned to support execution of the intelligence cycle. Then, within **2 hour(s)** of the identification or notification of a credible threat, identify/analyze local context of the threat for the respective area of responsibility, and facilitate the sharing of threat information with **10** priority intelligence stakeholder agencies/entities in accordance with the intelligence cycle, and all dissemination protocols.

Additional context necessary to understanding the capability target (Optional)

Intelligence will bring together each county law enforcement with federal and state entities. This would include Public Safety, Attorney General, State Department of Defense, Land and Natural Resources. The Fusion Center will reach out to all the entities to gain information for the Honolulu Police Department.

Maximum Requirement (Optional)

During steady state, and in conjunction with the fusion center and/or Joint Terrorism Task Force (JTTF), every **1 day(s)**, review ability to effectively execute the intelligence cycle, including the planning, direction, collection, exploitation, processing, analysis, production, dissemination, evaluation, and feedback of available information, and identify the **6** personnel assigned to support execution of the intelligence cycle. Then, within **2 hour(s)** of the identification or notification of a credible threat, identify/analyze local context of the threat for the respective area of responsibility, and facilitate the sharing of threat information with **10** priority intelligence stakeholder agencies/entities in accordance with the intelligence cycle, and all dissemination protocols.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Honolulu Police Department will be the law enforcement in charge. FBI will be on scene with the HPD and the Fusion Center. The fusion center will support the collection of intelligence and coordinate with HPD/FBI. The importance of credible intelligence is most important. The media and social media must be measured and consistent. The media will require total force.

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Interdiction and Disruption

Functional Area(s) – Interdicting Cargo, Conveyances, and Persons

Capability Target:

Within **30 minute(s)** of the identification or notification of a credible threat, conduct outreach to the fusion center and Joint Terrorism Task Force (JTTF) in the community and identify **3** personnel assigned to support follow up interdiction and disruption activities that may be undertaken against identified suspects and/or contraband.

Additional context necessary to understanding the capability target (Optional)

The Fusion Center will be in the Incident Management/Command Center. The time will require to have more staff available. In addition the primary law enforcement agencies will also be included int he incident management thus reducing the time for reporting analysis, dissemination of intelligence with the county and federal agencies.

Maximum Requirement (Optional)

Within **20 minute(s)** of the identification or notification of a credible threat, conduct outreach to the fusion center and Joint Terrorism Task Force (JTTF) in the community and identify **11** personnel assigned to support follow up interdiction and disruption activities that may be undertaken against identified suspects and/or contraband.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Movement of resources to support the City, Honolulu Police Department will all be reduced just based on the location of the incident and the timing the scene has to be protected. The scene will be large; number of individuals impacted. The crime scene will require forensic investigation by the FBI; the City and County Medical Examiner will require additional support and facilities. The media and social media will be important to ensure correct information is being reported.

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Screening, Search, and Detection

Functional Area(s) – Screening; Wide-Area Search

Capability Target:

Within **1 hour(s)** of notice of a credible threat, conduct screening, search, and detection operations for **34000** people requiring screening, including **36824** people with access and functional needs (requiring screening).

Additional context necessary to understanding the capability target (Optional)

2017 Disability Status Report - Hawaii, Cornell University (In 2017, the prevalence of disability in HI was 10.6 percent for persons of all ages). 347397 * 0.106 = 36,824; The actual number may be lower since the AFN entrants run the marathon on the day before.
http://www.disabilitystatistics.org/StatusReports/2017-PDF/2017-StatusReport_HI.pdf?CFID=20745324&CFTOKEN=46ed971f57810ce4-3879615C-F69A-8EB1-8B8E34CAA03AC34F

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Implement coordinated procedures for heightened security operations; establish security controls at all critical infrastructure locations; coordinate road, airport and water check points; roadway security will be coordinated state and county.

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Access Control and Identity Verification

Functional Area(s) – Verifying Identity

Capability Target:

Within **6 hour(s)** of an event, be prepared to accept credentials from **10** partner organizations involved in incident management.

Additional context necessary to understanding the capability target (Optional)

All runners will have two forms of identification unless removed based on the situation. Those who may not have sufficient identification will be volunteers and bystanders. Support from different LE entities will be required to support identification.

Maximum Requirement (Optional)

Within **24 hour(s)** of an event, be prepared to accept credentials from **10** partner organizations involved in incident management.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	The Honolulu Marathon organization will be most important to assist in the verification of runners.

Cybersecurity

Functional Area(s) – Guidelines, Regulations, and Standards; Sharing Threat Information

Capability Target:

Every **1 year(s)**, appropriate authorities review and update cyber incident plans/annexes based on evolving threats covering **211** publicly managed and/or regulated critical infrastructure facilities.

Additional context necessary to understanding the capability target (Optional)

Critical infrastructure is based on the recorded critical infrastructure assessment.

Maximum Requirement (Optional)

Every **1 year(s)**, appropriate authorities review and update cyber incident plans/annexes based on evolving threats covering **211** publicly managed and/or regulated critical infrastructure facilities.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Cyber Attack	Cyber is a fluid disaster. There potentially is more than one disaster -- the incident disruption to one or more sectors such as Energy, Water, Transportation, etc., and the interdependence on the sectors and sub sectors. Additionally, the cascading impacts which results in time without electricity, water, etc.for a duration.Developing the inter-dependencies on Critical Energy Infrastructure which includes Energy, Water/Wastewater, Transportation, Medical to include the special requirements for the Port of Honolulu. We might see this type of incident during natural incidents, where an increased exposure would hinder response and recovery capabilities.

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Physical Protective Measures

Functional Area(s) – Physical Security Measures; Site-Specific and Process-Specific Risk Assessments

Capability Target:

Within **1 month(s)** of completing a risk and vulnerability assessment, appropriate authorities review and update physical security plans covering **4** publicly managed and/or regulated critical infrastructure facilities to incorporate new information from the assessment.

Additional context necessary to understanding the capability target (Optional)

Prefer a percentage of the total critical infrastructure; minimal CI publicly managed; would prefer to assess with the private sector since the majority CI is owned by the private sector.

Maximum Requirement (Optional)

Within **6 month(s)** of completing a risk and vulnerability assessment, appropriate authorities review and update physical security plans covering **20** publicly managed and/or regulated critical infrastructure facilities to incorporate new information from the assessment.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Location and timing of an incident would be extremely unpredictable thus requiring full assessment marathon route and associated infrastructure along the route. This is personnel intensive.

Risk Management for Protection Programs and

Functional Area(s) – Data Collection; Risk Assessment

Capability Target:

Every **1 week(s)**, appropriate authorities conduct a review of relevant physical and cyber threats and hazards, vulnerabilities, and strategies for risk management covering **5** publicly managed and/or regulated critical infrastructure facilities.

Additional context necessary to understanding the capability target (Optional)

Maximum Requirement (Optional)

Every **1 day(s)**, appropriate authorities conduct a review of relevant physical and cyber threats and hazards, vulnerabilities, and strategies for risk management covering **5** publicly managed and/or regulated critical infrastructure facilities.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

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Supply Chain Integrity and Security

Functional Area(s) – Analysis of Supply Chain Dependencies

Capability Target:

Every **6 month(s)**, engage **31** partner organizations involved in incident management to promote awareness of threats, dependencies, vulnerabilities, and strategies to support restoration of private sector supply chains.

Additional context necessary to understanding the capability target (Optional)

Identifying the agencies that would be involved in transporting, securing, delivery of critical supplies and materiel. Include the entities that input to and support the operations of the supply chain.

Maximum Requirement (Optional)

Every **3 month(s)**, engage **20** partner organizations involved in incident management to promote awareness of threats, dependencies, vulnerabilities, and strategies to support restoration of private sector supply chains.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Hurricane is used due to the amount of impact and the great amount of effects in the supply chain; cyber security threats are great concern because we do not have the same predictive capacity. In addition, most systems are very low tech as compared to other infrastructure.

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Community Resilience

Functional Area(s) – Communication and Outreach; Education and Skill Building; Partnership Building

Capability Target:

Every **1 month(s)**, conduct **2** outreach events or activities to increase awareness of locally significant threats and hazards to help the residents be more prepared to prevent, protect against, mitigate, respond to, and recover from those events.

Additional context necessary to understanding the capability target (Optional)

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context

Functional Area(s) – Understanding the Community; Broadening the Use of Insurance

Capability Target:

Within **5 year(s)**, **50** households are covered by risk-appropriate insurance, including homeowners, flood, windstorm, and seismic.

Additional context necessary to understanding the capability target (Optional)

The insurance market in light of recent large disasters has been rather dynamic. With large disasters and those incidents impacted by climate change including flood, windstorm, and fire, a 50% threshold is a vision for some coverage types.

Maximum Requirement (Optional)

Within **10 year(s)**, **75** households are covered by risk-appropriate insurance, including homeowners, flood, windstorm, and seismic.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Major hurricanes are expected to have an affect on the total population of the state, therefore, it is very challenging to have an entire population completely covered by the appropriate insurance. Economic influences of low salaries, high cost of living and housing affect the percentage of the population who are insured.

Long-term Vulnerability Reduction

Functional Area(s) – Adopting Vulnerability Reduction Standards and Building Codes; Incorporating Mitigation Measures into Construction and Development

Capability Target:

Every **3 year(s)**, **5** jurisdictions review their building codes, and, if necessary, enact or update risk-appropriate, disaster resilient building codes.

Additional context necessary to understanding the capability target (Optional)

State Building Code Council mandates that codes are reviewed every three years. Counties must also update every three years. If they don't comply, the State code becomes law by default. Within the three-year period, a review process is done by the State Building Code Council which meets monthly, which has occurred since 2007 when the council was formed. The public provides information for mitigation, hazards, and pushback (e.g. construction, businesses) during the review process.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Risk and Disaster Resilience Assessment

Functional Area(s) – Modeling and Analysis; Obtaining and Sharing Data

Capability Target:

Every **1 month(s)**, after identifying threats and hazards of concern, model the impacts of **4** threat and hazard scenarios to incorporate into planning efforts.

Additional context necessary to understanding the capability target (Optional)

HI identified four major/primary risks threats to the state: hurricane, tsunami, flooding, and earthquake. These are considered the largest threats to the population. Use the modeling as a catalyst to train the public. Continually conducted throughout the year via engagement of committees and working groups that meet monthly, quarterly, or as needed. State is heavily engaged with the scientific community as that community is mutually invested and mutually benefits from the research and outcomes.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Threats and Hazards Identification

Functional Area(s) – Estimating Frequency and Magnitude; Modeling and Analysis; Stakeholder Collaboration/Coordination

Capability Target:

Every **1 year(s)**, engage with **5** jurisdictions and **31** partner organizations involved in incident management to assess the threats and hazards that are realistic and would significantly impact your communities.

Additional context necessary to understanding the capability target (Optional)

Annually updated THIRA and Training / Exercise Plans for hazard-specific collateral damage threats. 100% of public sector engineers/inspectors trained on damage assessment and building collapse. State and County Hazard Mitigation Plans current and applicable stakeholder forums (State of Hawaii Hazard Mitigation Forum) and committees (Hawaii Earthquake and Tsunami Advisory Committee - HETAC) are active in updating threats and hazards and initiating mitigation projects. All County emergency management agency Administrators and their staff received information and instruction on the implementation of Hawaii Hazards Awareness and Resilience Program (HHARP).Click here to enter capability targets.

Maximum Requirement (Optional)

Every **1 year(s)**, engage with **5** jurisdictions and **31** partner organizations involved in incident management to assess the threats and hazards that are realistic and would significantly impact your communities.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Nothing significant to report (NSTR)

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Critical Transportation

Functional Area(s) – Debris Removal; Establishing Access

Capability Target:

Within **7 day(s)** of an incident, clear **1246** miles of road affected, to enable access for public, private, and non-profit emergency responders.

Additional context necessary to understanding the capability target (Optional)

The miles of road provided only includes state roads. The source for this information is the 2018 State Hazard Mitigation Plan, p. 4-239.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	A hurricane will generate the most amount of debris across the widest geographical area of any hazard faced by the state.

Functional Area(s) – Evacuation

Capability Target:

Within **12** **hour(s)** notice of an incident, complete the evacuation of **155426** people requiring evacuation, including **17097** people with access and functional needs (requiring evacuation).

Additional context necessary to understanding the capability target (Optional)

The capability target assumes all residents living in the MOMS (Maximum of Maximums) SLOSH inundation area will evacuate pre-incident. This number was sourced from the 2018 State Hazard Mitigation Plan (p. 4-241, Table 4.11-10)

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Functional Area(s) – Other: Primary Port Restoration

Capability Target:

Within 14 days of impact or port closure; assess the port, clear waterway obstructions, repair aids to navigation, and make repairs to the primary commercial port of the state (Honolulu Harbor Oahu) to restore or partially restore commercial shipping capability.

Additional context necessary to understanding the capability target (Optional)

Achieving this capability target will require investments by both state and federal entities with statutory responsibility for port operations. Though not achievable with state investments alone, this target is included in the state's assessment due to the criticality of Honolulu Harbor to the state's larger transportation system and the supply chain.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	The state's primary sea port, Honolulu Harbor on Oahu, is the hub of the state's critical transportation network, with almost all commodities required to sustain the state coming through this port. Rapid restoration of Honolulu Harbor is essential for the state's ability to respond to and recover from a major hurricane.

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Functional Area(s) – Transportation Safety and Condition Assessments: Restore Airport Operations

Capability Target:

Within 7 days of an incident, assess and clear 14 runways at commercial airports for a minimum of daytime Visual Flight Rules (VFR) flight operations.

Additional context necessary to understanding the capability target (Optional)

Capability target considers runways at the state's major commercial airports, including Honolulu (4), Lihue (2), Maui (2), Molokai (2), Lanai (1), Hilo (2), Kona (1).

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	All airports, with the exception of Lihue, are in inundation areas and likely to be impacted by surge and debris following a major hurricane, rendering them temporarily inoperable.

Functional Area(s) – Transportation Safety and Condition Assessments: Restore Commercial Port Operations

Capability Target:

Within 3 days of an incident, complete an assessment of 8 commercial ports, including harbor facilities, pier inspections, and waterway inspections (surface & subsurface) to determine the degree of loss of port infrastructure.

Additional context necessary to understanding the capability target (Optional)

This capability target includes the following major commercial ports: Kalaeloa Barbers Point Harbor (Oahu); Honolulu Harbor (Oahu); Kahului Harbor (Maui); Kaunakakai (Molokai); Kaumalapau Harbor (Lanai); Hilo Harbor (Hawaii); Kawaihae Harbor (Hawaii); Nawiliwili Harbor (Kauai).

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	All major sea ports will close pre-hurricane impact to allow for protective measures. Given the expected inundation and debris from the storm, all commercial sea ports will likely need to be assessed post-impact before they are deemed safe to resume operations.

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Environmental Response/Health and Safety

Functional Area(s) – Decontamination

Capability Target:

Within **7 day(s)** of a hazmat incident, complete decontamination procedures for **77713** exposed individuals (hazmat-related incidents).

Additional context necessary to understanding the capability target (Optional)

The hazmat impacts from a hurricane are anticipated to be largely environmental. Individual exposure to hazardous materials following a hurricane will likely involve hazardous debris and hazardous waste, particularly in the immediate aftermath before significant cleanup has been done. Almost all exposure would be minor and decontamination would be handled by the individual. An effective measure of the anticipated population impacted was not found. Therefore, THIRA authors made the assumption that the majority of impacts would be to individuals who live in inundated areas. The number of exposed individuals is estimated to be 50% of the population living in inundation areas.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Functional Area(s) – Hazardous Material Clean-Up

Capability Target:

Within **7 day(s)** of an incident, assess, contain, and begin cleaning up hazardous material releases from **14** hazmat release sites.

Additional context necessary to understanding the capability target (Optional)

The HAZMAT release sites are assumed to inundated commercial ports and wastewater treatment plants. The number is based on the 2015 Hawaii Catastrophic Hurricane Plan (p.2-7; table 2-2).

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Fatality Management Services

Functional Area(s) – Body Recovery; Mortuary Services; Victim Identification

Capability Target:

Within **2 week(s)** of an incident, complete the recovery, identification, and mortuary services, including temporary storage services, for **60** fatalities.

Additional context necessary to understanding the capability target (Optional)

We lack the resources in staffing, supplies, and facilities to manage an event of this magnitude. The Medical Examiner facility can only accommodate 25 individuals at one time.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Activation of our "emergency tree" to call all staff in to assist. Investigators would work in teams of 2-4 to recover the deceased and get them to a morgue or off site-storage. Conduct investigations of deaths that occur as a result of this activity. This includes confirmation of identity of the decedent, notification of next-of-kin, recovery and return of property, etc. A request will be made to the National DMORT team to assist with the identification and processing. Need to identify Human Remains Holding (HRH) containers.

Fire Management and Suppression

Functional Area(s) – Structural Firefighting

Capability Target:

Within **12 hour(s)** of an incident, conduct fire fighting operations to suppress and extinguish **50** structure fires.

Additional context necessary to understanding the capability target (Optional)

The capability target is based on a real world incident, Hurricane Lane in 2018, and input from DLNR. During the 2018 incident, a wildland fire was fueled and caused damage to 50 structures. Response time took more than 12 hours in this event, but due to feedback from DLNR and chiefs within the county fire departments, this response time is reachable when additional equipment and personnel are on hand.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Wildland and structure fires occurring as a result of and concurrent with another major threat or disaster, such as a hurricane, are particularly challenging given that first responder resources are already engaged in and taxed by other response activities and will be further stretched by this scenario. Mutual aid resources in such a scenario will not be available as county/state agencies with firefighting capabilities will either be engaged in their own response preparations, or unable to deploy responders to neighbor islands due to storm conditions. In addition, weather conditions prior to a hurricane's impact, particularly high winds, will exacerbate the fire and the danger for firefighters.

Functional Area(s) – Wildland Firefighting: Suppress & Extinguish

Capability Target:

Within 72 hours of an incident, conduct firefighting operations to contain 3 wildland fires covering 2300 acres.

Additional context necessary to understanding the capability target (Optional)

Seventy-two hours to contain major wildland fires is a realistic capability target given the weather conditions described in the hurricane scenario. High winds would almost certainly prevent any frontal attack and would likely produce flame lengths and spot fires that would jump any fire breaks established. Variables such as fuel type, terrain, precipitation and remoteness, would affect actual capability during an event. The capability target is based on a real world incident, Hurricane Lane in 2018, and input from DLNR. During the 2018 incident, high winds fueled a wildland fire and caused damage to 50 structures.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Wildland and structure fires occurring as a result of and concurrent with another major threat or disaster, such as a hurricane, are particularly challenging given that first responder resources are already engaged in and taxed by other response activities and will be further stretched by this scenario. Mutual aid resources in such a scenario will not be available as county/state agencies with firefighting capabilities will either be engaged in their own response preparations, or unable to deploy responders to neighbor islands due to storm conditions. In addition, weather conditions prior to a hurricane's impact, particularly high winds, will exacerbate the fire and the danger for firefighters.

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Logistics and Supply Chain Management

Functional Area(s) – Resource Management; Resource Delivery

Capability Target:

Within **2 day(s)** of an incident, identify and mobilize life-sustaining commodities, resources, and services to **164520** people requiring shelter and **256071** people requiring food and water. Maintain distribution system for **2 month(s)**.

Additional context necessary to understanding the capability target (Optional)

This capability target is based on initially providing food/water to 30% of the displaced resident and visitor population.

Assumptions:
52% of total resident and visitor population will initially be displaced post-impact. (853,565)
There will be an almost immediate need to supply food and water for 30% of displaced residents/visitors. (Source: December 2011 statewide survey on individual preparedness conducted by Ward Research. The survey found 30% of the resident population has less than 7 days of food and water supplies on hand. For the purposes of this assessment, the same statistic was applied to the visitor population.)

It should be noted that the demand for food/water is expected to change after the first 10 days, when an additional displaced residents will run out of supplies and the visitor population declines as people begin returning home, providing some reduction in the total affected population.

The number requiring temporary shelter was sourced from the 2015 Catastrophic Plan, Table 2-2.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	A hurricane will most challenge the state's ability to mobilize life-sustaining commodities due to the large number of people affected and impacts to the supply chain and major transportation networks, which will constrain available commodities and the ability to deliver them. This capability target in a major hurricane scenario is not achievable with state resources alone and will require outside assistance.

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Mass Care Services

Functional Area(s) – Relocation Assistance

Capability Target:

Within **60** **day(s)** of an incident, move **81655** people requiring temporary, non-congregate housing, including **8982** people with access and functional needs (requiring accessible, temporary, non-congregate housing), from congregate care to temporary housing.

Additional context necessary to understanding the capability target (Optional)

The state does not currently have a good methodology of estimating the demand for temporary, non-congregate housing. Therefore, this capability target is based real-world operations in other jurisdictions, specifically on FL and TX 2017 hurricane operations. Those states set targets of 60 days to transition from emergency shelter to temporary housing. The estimated need for temporary housing is 11% of the displaced population. This number is based on needs documented in 2017 after Hurricane Harvey in TX.

Non-congregate housing is defined as hotels, dormitories, vacation rentals and traditional rental homes. It may also include temporary structures built at the time of the event. This target may be met by providing temporary housing within the state or by providing transportation assistance to other states where temporary housing is available.

[Sources: Hurricane Maria AAR; http://files.kff.org/attachment/Report-An-Early-Assessment-of-Hurricane-Harveys-Impact-on-Vulnerable-Texans-in-the-Gulf as noted in the FEMA Puerto Rico AAR, p.39.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	The widespread destruction a major hurricane will cause, coupled with the pre-existing housing shortage in the state, will create a demand for temporary housing. Unlike other states where people can temporarily relocate to neighboring jurisdictions, the state will be challenged with quickly identifying and deploying temporary housing solutions or evacuating people out of state.

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Functional Area(s) – Sheltering; Ensuring Access; Feeding; Hydration; Pets; Resource Distribution

Capability Target:

Within **7 day(s)** of an incident, provide emergency sheltering, food, and water for **164520** people requiring shelter and **742320** people requiring food and water, including **18097** people with access and functional needs (requiring accessible shelter) and **81655** people with access and functional needs (requiring food and water), and **611000** animals requiring shelter, food, and water. Maintain for **2 month(s)**.

Additional context necessary to understanding the capability target (Optional)

The standardized capability target is based on post-impact shelter needs following a hurricane. Pre-impact evacuation sheltering is evaluated as a separate capability target.

The estimated demand for post-impact shelter is based on the assumption from the 2015 Catastrophic Hurricane Plan that 10% of the population would seek shelter post-impact. Both the resident and visitor population were included in this capability target.

The demand for food/water assumes that 52% of the resident population is displaced and requires food/water. This assumption is from the 2015 Catastrophic Plan.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	A hurricane has the most potential to cause damage to homes. Much of Hawaii's housing stock is older and built with outdated construction techniques, such as single wall construction and post and pier foundations, that make homes particularly susceptible to wind damage. In addition, there is a high concentration of residential areas along the coast that will be impacted by storm surge. The high need for shelter is complicated by the fact that there are few public buildings constructed or retrofitted to provide protection from a hurricane pre-impact. This fact also means that many buildings that could potentially serve as shelters post-impact will be damaged and unavailable. A hurricane is also likely to result in extended closures or limit operations airports, hampering the ability to quickly evacuate visitors. On average, visitors add an additional 15% to the total

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residential population. If airports are not open and visitors cannot be evacuated quickly, the demand for mass care services in the first weeks of the disaster will be substantially more. Finally, approaching hurricanes result in the closure of all commercial ports pre-impact as a protective measure. As almost 90% of goods come by sea via a just-in-time delivery system, port closures result in immediate disruptions to the supply chain and shortages of food and water. Post-impact, there is a significant risk of damage keeping ports closed, severely complicating the state's ability to sustain the affected population.

Functional Area(s) – Sheltering: Pre-Impact Evacuation Shelter

Capability Target:

Twenty-four hours prior to hurricane landfall, provide evacuation sheltering for 428,261 people.

Additional context necessary to understanding the capability target (Optional)

Counties generally open hurricane evacuation shelters approximately 24 hours prior to landfall. Hawaii uses a calculation of 10 square feet per person to estimate space requirements. The capability target is based on a USACE/FEMA sponsored behavioral study conducted in 2009 that estimated 35% of the resident population would go to public evacuation shelters. The estimated need does not include the visitor population.

Maximum Requirement (Optional)

Twenty-four hours prior to hurricane landfall, provide evacuation sheltering for 293619 people.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Meeting this target requires shelter buildings that are built or retrofitted to withstand hurricane force winds, of which there are few in the state. The combination of older homes and residential areas in storm surge areas requires a large portion of the population evacuate and many do not have safer alternatives than public shelters.

Mass Search and Rescue Operations

Functional Area(s) – Rescue Operations; Search Operations; Community-Based Search and Rescue Support

Capability Target:

Within **2 day(s)** of an incident, conduct search and rescue operations for **91** people requiring rescue.

Additional context necessary to understanding the capability target (Optional)

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	A hurricane would require diverse search and rescue capabilities over a wide geographic area. Urban Search and Rescue (USAR) would need to be conducted due to collapsed structures. Swift Water Search and Rescue, and potentially Air Search and Rescue, would also be required due to flooding.

On-scene Security, Protection, and Law

Functional Area(s) – Law Enforcement; Protecting Response Personnel; Securing Disaster Areas

Capability Target:

Within **1 hour(s)** of an incident, provide security and law enforcement services to protect emergency responders and **34000** people affected.

Additional context necessary to understanding the capability target (Optional)

Response matrices and MED planning matrix. On duty forces need to have a work rest cycle established/augmented by State Law Enforcement Coalition (SLEC) and other counties for prolonged site security and investigation along with canvass investigations to take place state and nationwide. CCTA planning.

Maximum Requirement (Optional)

Within **30 minute(s)** of an incident, provide security and law enforcement services to protect emergency responders and **34000** people affected.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	The estimated population for the run is between 25 to 33K annually. The figure for those impacted will be runners and spectators. Honolulu Marathon Entry Statistics 2018 (Total entrants 33,558). Rounded up to include spectators, and volunteers and employees working the Marathon. This is the number of people potentially at the starting line. Runners will most likely scatter upon initial impact and will not necessarily need to be evacuated from the starting line (they will no longer be in the immediate impact area).

Operational Communications

Functional Area(s) – Interoperable Communications Between Responders

Capability Target:

Within **24 hour(s)** of an incident, establish interoperable communications across **5** jurisdictions affected and with **31** partner organizations involved in incident management. Maintain for **7 day(s)**.

Additional context necessary to understanding the capability target (Optional)

Based on ESF 2 existing State resources provided basic commo infrastructure is still intact.

Maximum Requirement (Optional)

Within **12 hour(s)** of an incident, establish interoperable communications across **5** jurisdictions affected and with **31** partner organizations involved in incident management. Maintain for **7 day(s)**.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Public Health, Healthcare, and Emergency Medical

Functional Area(s) – Triage and Initial Stabilization; Emergency Medical Services; Definitive Care

Capability Target:

Within **1 day(s)** of an incident, complete triage, begin definitive medical treatment, and transfer to an appropriate facility **25000** people requiring medical care.

Additional context necessary to understanding the capability target (Optional)

This capability target assumes that most of the injuries (between 30% and 40%) are non-acute. The estimated number of people requiring medical care is based on an assumption in the 2015 Catastrophic Hurricane Plan, p. 2-5.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

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Situational Assessment

Functional Area(s) – Delivering Situation Reports; Stakeholder Engagement

Capability Target:

Within **30 minute(s)** of incident, and on a **1 hour(s)** cycle thereafter, provide notification to leadership and **10** partner organizations involved in incident management of the current and projected situation. Maintain for **8 hour(s)**.

Additional context necessary to understanding the capability target (Optional)

Initially understand situation and provide leadership as well as public situational update reports at the appropriate classification levels for release pending investigations. Partner organizations may increase or decrease pending investigation outcomes.

Maximum Requirement (Optional)

Within **1 hour(s)** of incident, and on a **1 day(s)** cycle thereafter, provide notification to leadership and **26** partner organizations involved in incident management of the current and projected situation. Maintain for **1 hour(s)**.

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Domestic Terrorism	Coordinate the dissemination of official messaging with/through through the HPD, DEM,and HI-EMA with Federal agencies supporting the response.

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Infrastructure Systems

Functional Area(s) – Communications Systems

Capability Target:

Within **7 day(s)** of an incident, restore service to **150055** customers (without communication service).

Additional context necessary to understanding the capability target (Optional)

This capability target only addresses the restoration of cellular service. The planning assumption for this capability target is that 72% of the adult resident population contracts cellular service. [Sources: Hawaii marketing survey; Per 2017 Census Quick Facts 79% of the state's resident population are adults.]

The target restoration rate for the first 7 days is 3% of customers restored per day for a total of 21% restoration.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	Using the total number of residents and visitors in Honolulu as the scenario is not descriptive enough to gauge how many may lose or have restricted communications. This could potentially affect many people. Total residents and Visitor Population. U.S. Census Bureau, 2017 ACS 5-year Estimates Data Profiles: Demographic and Housing Estimates (Total population Estimate, Honolulu County - 990,060); HTA 2017 Annual Visitor Research Report (Visitor Average Daily Census by Island - 105,141, p. 21 and Table 6); Total residents and visitors used though the power outage in the scenario only affects 100,000 because there will be widespread rippling effects that could potentially affect the entire island in one way or another. DHS CISA

Functional Area(s) – Power Restoration

Capability Target:

Within **7 day(s)** of an incident, restore service to **90910** customers (without power service).

Additional context necessary to understanding the capability target (Optional)

The planning assumption for this capability target is that 95% of total customers statewide will initially be without power. The capability target is to restore power for 3% of customers a day for each of the first 7 days post-disaster.

Note that the customer numbers provide reflect customer accounts impacted, which is not the same as individuals impact. Each account may serve multiple individuals.

Sources for estimated number of customers: HI Electric 462,225 https://www.hawaiianelectric.com/about-us/power-facts; KIUC 33,562 http://website.kiuc.coop/about.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Functional Area(s) – Sanitation

Capability Target:

Within **7 day(s)** of an incident, restore service to **69300** customers (without wastewater service).

Additional context necessary to understanding the capability target (Optional)

The planning assumption is that 70% of an estimated 132,000 wastewater accounts statewide will initially be without service. Each account may include multiple people. This capability target assumes 75% of accounts will be restored within 1 week.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	The Sand Island water treatment plant is the most vulnerable to storm surge. If that plant goes down, 80,000 customer accounts will be impacted.

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Functional Area(s) – Water Treatment and Provision

Capability Target:

Within **7 day(s)** of an incident, restore service to **17758** customers (without water service).

Additional context necessary to understanding the capability target (Optional)

The numbers for this capability target reflect customer accounts and not individuals. There are approximately 134,000 customer accounts statewide. On average, county boards of water supply estimate that 56% of those accounts, or 75,040, will lose water service upon impact. This capability target for restoration over the first 7 days is 3% each day, or 21% total.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Economic Recovery

Functional Area(s) – Reopening Businesses

Capability Target:

Within **1 year(s)** of an incident, reopen **34541** businesses closed due to the incident.

Additional context necessary to understanding the capability target (Optional)

For this capability target, the assumption is made that 70% of all businesses in Hawaii (138,163) will close in a hurricane scenario. The capability target is to reopen 25% of closed businesses within 1 year. Not reflected in this capability target is the FEMA statistic that an additional 25% of small businesses fail after 1 year.

The following data sources were used for this capability target.

There are a total of 197,376 businesses statewide. This includes 132,132 (Oahu), 26,687 (Maui), 27,407 (Hawaii), 11,150 (Kauai) [Source: Hawaii Department of Taxation, 2017 HI Business Income Tax Statistics (Table 1-1, p. 11)].

Per FEMA, 40% to 60% of small businesses never reopen following a disaster. [Source: https://www.fema.gov/media-library/assets/images/116921]

In the state of Hawaii, 99.3% of businesses meet the Small Business Administration (SBA) definition of a small business. [Source: SBA 2019 Hawaii profile.]

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Health and Social Services

Functional Area(s) – Healthcare Facilities and Coalitions; Social Services

Capability Target:

Within **24 hour(s)** of an incident, restore functions at **12** affected healthcare facilities and social service organizations.

Additional context necessary to understanding the capability target (Optional)

Affected healthcare and social service organizations include hospitals statewide as well as community based clinics. This capability target was developed with the assumption that some healthcare facilities will not survive impacts from the hurricane due to their age and type of construction, rendering rapid restoration of functions impossible.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Housing

Functional Area(s) – Transition from Interim to Permanent/Long-Term Housing; Addressing Housing Shortages; Housing Accessibility

Capability Target:

Within **6 month(s)** of an incident, **81655** people requiring long-term housing, including **8982** people with access and functional needs (requiring accessible long-term housing), find and secure long-term housing.

Additional context necessary to understanding the capability target (Optional)

The state lacks a method to estimate the demand for long-term housing. In the interim, the same numbers used for temporary housing needs are being used for long-term housing.

Long-term housing assumes a private unit with running water, electricity, sleeping area, toilet and shower and kitchen. The state would look to various long-term housing options, included but not limited to vacant units, group sites with mobile units and leasing properties previously used for Air BnB or VRBO. The state will not be able to meet this capability target without federal assistance.

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

Natural and Cultural Resources

Functional Area(s) – Environmental Preservation and Restoration; Historic Preservation; Damage Assessment

Capability Target:

Within **1 year(s)** of an incident, restore **172** damaged natural and cultural resources and historic properties registered in the jurisdiction.

Additional context necessary to understanding the capability target (Optional)

Accurately identifying a realistic capability target for this core capability is difficult given a lack of consolidated data on existing natural and cultural resources and a lack of comprehensive analysis of potential disaster impacts on these resources. THIRA authors had to make an arbitrary impact assumption using the best, though incomplete, sources available. The source for this capability target is the list of state and national historic register counts provided by the State Historic Preservation Division of DLNR. As of August 2018, a total of 1373 sites are listed. An assumption was made by THIRA authors that 50% of these sites would be damaged. The capability target is to restore 25% of damaged sites within 1 year. (Reference: http://dlnr.hawaii.gov/shpd/about/research-resources-library/)

Maximum Requirement (Optional)

Source Identification

Which of your identified threats and hazards most challenges ability to achieve this	Additional Context
Hurricane	

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