



# RESILIENT NJ RESILIENT RARITAN RIVER AND BAY COMMUNITIES

## APPENDIX M: REGIONAL COORDINATION OF EVACUATION PLANNING

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# KEY FINDINGS

# In New Jersey, there are a variety of state-level evacuation planning resources available

## State-level resources include:

- An existing Statewide Traffic Management Center (STMC), which is supported by PA-AOC, NJDOT and Regional TOCs
- [State Emergency Response Commission \(SERC\) meetings](#) which occur twice annually, in which NJ Office of Emergency Management (NJOEM) coordinators attend and discuss evacuation routes
- New Jersey's Coastal Evacuation Maps for each county, provided by NJOEM. Evacuation Route Signs are maintained by the NJ Department of Transportation (NJDOT)
- NJOEM provides [online resources for preparedness planning](#) for local government officials
- NJDOT conducts [annual hurricane evacuation exercises](#) in South Jersey. These are conducted with the NJ State Police (UNJSP), NJ Turnpike Authority (NJTA), and South Jersey Transportation Authority (SJTA)
- There is a Contra flow plan (reversing traffic on a section of roadway to travel in the opposite direction) on highways that are Jersey Shore evacuation routes

# The Federal Highway Administration (FHWA) also provides several useful resources

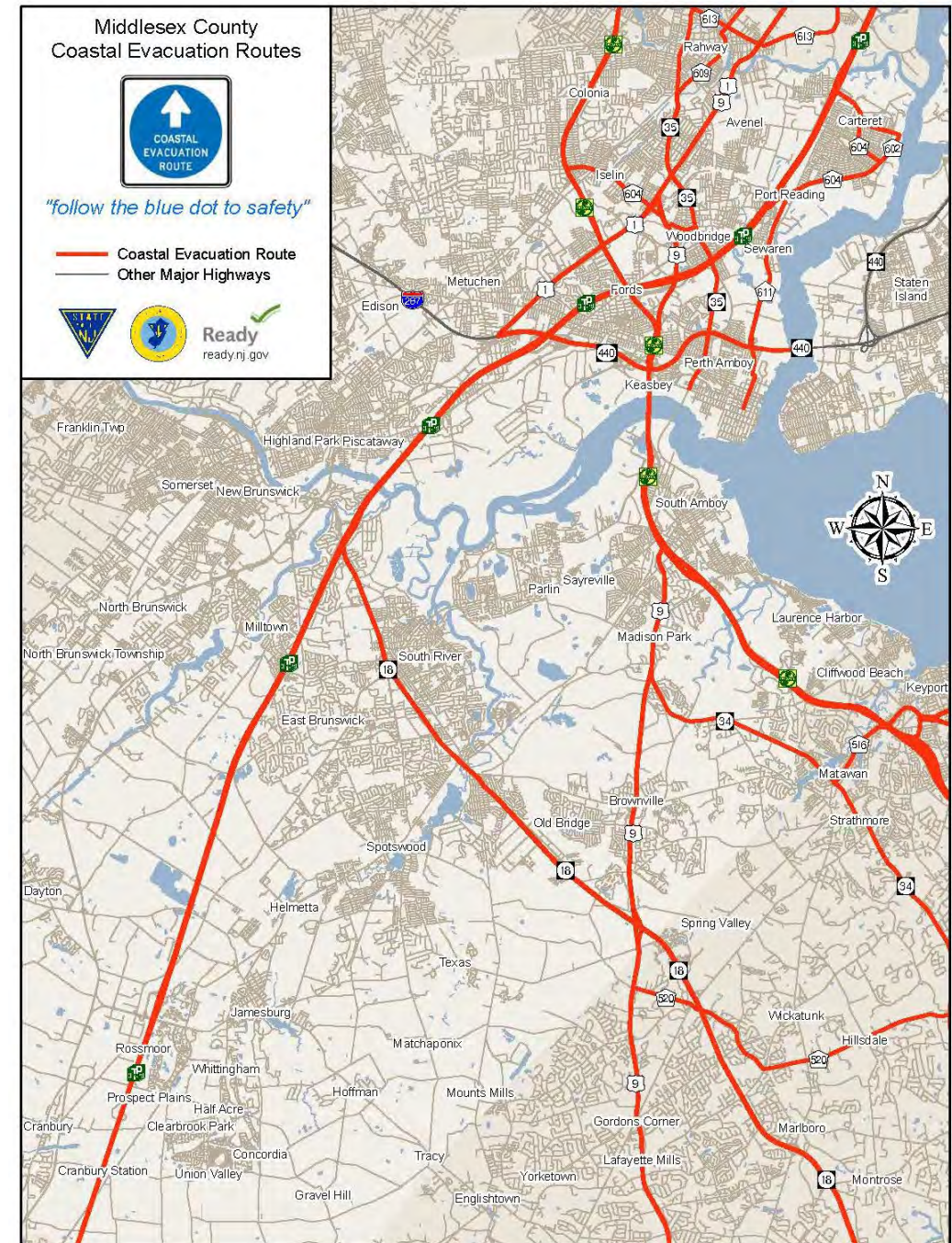
## Key FHWA resources include:

- The 3-volume [Routes to Effective Evacuation Planning Primer Series](#)
- [Good Practices in Transportation Evacuation Preparedness and Response](#), which provides an overview of best practices identified during a 4-region workshop series. Practices are grouped into 3 evacuation phases with multiple strategy types (see right)

Evacuation Phase	Strategy Type
<b>Preparation and Activation</b>	Coordination for Emergency Preparedness
	Fuel Equipment and Supplies
	Public Information and Education
	ITS including TMCs (Traffic Management Centers)
<b>Response</b>	Coordination for Emergency Response
	Communication Systems Use and Coordination
	Information Sharing
	Emergency Operation Center Practices
	Emergency Traffic Management and Evacuation
	Personnel and Resource Management
<b>Re-Entry and Return to Readiness</b>	Performance Evaluation
	Emergency Documentation
	Public Information

# Existing roles and responsibilities are shared across multiple scales

FEDERAL	<ul style="list-style-type: none"> <li>To provide country wide guidance on best practices.</li> <li>To provide a general structure for OEM structures.</li> </ul>
STATE	<ul style="list-style-type: none"> <li>[NJDOT] To develop a statewide evacuation plan and identify evacuation routes throughout the state.</li> <li>[NJ OEM] To make the determination of when a statewide evacuation is needed and to communicate that to the county level</li> </ul>
COUNTY	<ul style="list-style-type: none"> <li>To discuss and maintain countywide evacuation strategies and plans.</li> <li>To discuss and stay in communication with the State on Statewide evacuation events.</li> <li>To communicate information down to their municipalities</li> </ul>
LOCAL	<ul style="list-style-type: none"> <li>To have communication plans with residents for evacuations</li> <li>To maintain (if they wish) local evacuation routes.</li> </ul>



# Opportunities and recommendations for municipalities, the County, and the State include the following:

- Municipalities can and should develop local evacuation routes to complement the existing county and statewide evacuation routes
- Municipalities have the opportunity to improve communications during weather and other potential evacuation events. This can be through websites, television, social media, door-to-door, or other methods
- The County should work with their municipalities and other agencies to ensure that evacuation planning is well-communicated
- The State will be updating the Statewide Evacuation Routing plan and the County will have the opportunity to provide their input on updates
  - The County and municipalities should be involved in this process in order to ensure that their residents needs are heard, and disadvantaged communities are considered during the evacuation route planning process

# With these existing resources and opportunities in mind, this appendix details case studies, interview studies, and funding opportunities:

- The **case studies** provided in the pages 9-15 can serve as strong precedents for municipalities, the County, and the State to look to in advancing resilient evacuation planning and routing practices
- **Interviews** conducted with key stakeholders, including NJDOT, Middlesex County, project municipalities, and the NJ Turnpike Authority—summarized on pages 16-20—help provide additional context on existing operating procedures, opportunities, and challenges
- The **PROTECT Program**, a funding opportunity detailed on pages 21-26, is presented as an option to support the implementation of comprehensive evacuation planning for resiliency



# CASE STUDIES

# Case Study #1: Monmouth County Office of Emergency Management – “Know Your Zone” Hub

## Background

- Monmouth County (NJ) OEM and the Sheriff’s Office work together to keep county residents informed of their hurricane evacuation zones and vulnerability

## Route Designation

- County-designated Public Evacuation Centers outside of evacuation zones, activated when a mandatory evacuation order is issued
- Every County municipality has a Local Reception Center, where residents are instructed to go
- Residents are to be brought by bus to the appropriate shelter and returned to respective reception centers once it is deemed safe

## Public Messaging Pre-Disaster

- Evacuation orders are voluntary (recommended) or mandatory

## Public Messaging During & Post-Disaster

- Pertinent info to be disseminated through media outlets

## Interagency Coordination

- Developed in partnership with municipal emergency management coordinators in coastal towns
- Development of this campaign also spurred by the National Hurricane Center (NHC) decision to separate the association of storm surge inundation from category of storm

## Applicability / Relevance

- Showcases methods of communication with residents



# Case Study #2: Miami-Dade 2018 Hurricane Season Emergency Evacuation Pick-Up Sites

## Background

- The Miami-Dade County (FL) Office of Emergency Management informs county residents in storm surge planning zones that the County has evacuation shelters if they do not have a place to stay outside of evacuated areas
- Those that do not have their own transportation can use public evacuation transportation

## Route Designation

- Miami-Dade Transit is to activate specific emergency evacuation bus pick-up sites by zone
- Mobile home parks have designated evacuation bus pick-up sites
- Residents can utilize regular Miami-Dade Transit routes to get to an evacuation bus pick-up site if a designated emergency evacuation bus pick-up site is not located near them

## Public Messaging Pre-Disaster

- Emergency evacuation bus pick-up sites are identified by a sign stating “Emergency Evacuation Bus Pick-Up Site”
- Buses placed into service for evacuation are to have displays stating “Emergency Evacuation.” These buses only travel between bus pick-up sites and evacuation centers
- To learn which emergency evacuation bus pick-up sites are active during a storm, residents can listen to local media, monitor the county website, or contact the 311 Contact Center

## Applicability / Relevance

- Showcases how transit systems can play a role in evacuation



# Case Study #3: City of New Orleans – NOLA Ready

## Background

- New Orleans (LA) Office of Homeland Security & Emergency Preparedness informs New Orleans residents how to prepare for hurricane season (6/1 to 11/30)

## Route Designation

- Smoothie King Center is the hub for evacuation for residents who cannot leave on their own
- From there, evacuees are to board a bus, train, or airplane to a state or federal shelter
- Residents have options to get to Smoothie King Center:
  - Evacuspots: 17 pickup locations across the City, where dedicated shuttle buses bring evacuees to Smoothie King Center. 5 Evacuspots are for seniors
  - RTA Bus Routes: Saturday operations schedule; all bus routes ending at Duncan Plaza are to make a final stop at Smoothie King Center
  - Drop-offs and walk-ups: Evacuees can be dropped off or walk up to Smoothie King Center from Poydras at LaSalle St
  - Uber/Lyft: If residents use rideshare to get to Smoothie King Center, they should be dropped off at Loyola Ave & Dave Dixon Dr
  - Special needs registry: residents sign up for special needs registry if they need to be picked up from their homes due to medical or mobility needs

## Public Messaging Pre-Disaster

- All residents and visitors must leave if the City issues a mandatory evacuation
- All lanes on major highways will go out of the City during a mandatory evacuation (also known as “contraflow”)
- Residents are encouraged to utilize any transportation mode available to evacuate
- If residents cannot leave on their own, City-assisted evacuation provides free transportation

## Public Messaging During/Post-Disaster:

- Residents who need help leaving can text “EVACNOLA” to 77295 to use City-assisted evacuation
- NOLA Ready has an interactive map to help residents find their nearest Evacuspot

## Inter-Agency Coordination

- The Mayor’s office announces mandatory evacuations

## Applicability / Relevance

- Showcases methods of connecting and communicating with disadvantaged populations

# Case Study #4: Municipal- and County-Led Evacuation Planning in Middletown, NJ

## Municipal-Led Planning

- Municipal Coastal Evacuation Routes:
  - To supplement State-identified evacuation routes, Middletown OEM developed several coastal evacuation routes to lead bay shore residents inland to higher ground
  - Square white and blue signs posted on Middletown roadways assist coastal residents and visitors in finding safer locations during emergencies (including hurricanes)
  - These routes are considered the safest way to travel inland or to higher ground, away from Raritan Bay & Navesink River
- Community Emergency Response Team (CERT)
  - Teaches residents how to help friends and neighbors during emergencies
  - Skills taught include first aid, search and rescue, and preliminary damage assessment
  - Modeled after a national program to enhance community response to emergencies, especially 12-72 hours after an emergency when first responders focus on the most critical situations

## County-Led Planning

- Monmouth County's [Coastal Evacuation Route Improvement Study \(CERS\)](#) identifies a set of evacuation routes, examines physical/operational problems, and proposes near, intermediate and long-term improvements
- Has a website with links to storm surge and coastal evacuation maps

## Applicability / Relevance

- Example of a municipality with a Community Emergency Response Team that focuses on educating residents



# Case Study #5: Municipal-Led Evacuation Planning in New York City

## Municipal-Led Planning

- Most information is provided through the NYC emergency management website (with separate websites on evacuation zones and flood zones)
- The [Coastal Storm Plan](#) details a citywide response to a large-scale coastal storm event, especially hurricanes
- NYC maintains an Emergency Operations Center (EOC) for decision-making during events
- NYC has a [“Know Your Zone”](#) hub that provides connections to the following resources:
  - Find Your Zone: Maps/resources to determine evacuation routes
  - Know the Hazards: Details how to plan, evacuation order/procedures, what to do after a hurricane, and what the City does
  - Stay Informed: Provides sign-up for text alerts through NotifyNYC App
  - Make a Plan: Information on planning/preparing & evacuating/sheltering in place
  - Be Ready NY: An emergency planning workbook on for those with differing needs, people with pets, business owners, people with children, and those with disabilities. Brochures are in audio as well with range of languages, plus a pocket guide and Ready NYC App information
  - Show Your Zone: Details how businesses/communities can bring awareness to evacuation zones and display their zone in prominent public places

## Municipal-Led Planning (cont.)

- Ready New York is another online user-oriented hub with key information for emergency planning, including:
  - Information for requesting community education events
  - Guides & App information
  - Ready Girl superhero comic for kids
  - Videos in multiple languages
  - Preparedness tips
  - Recognition of National Preparedness Month (September)
  - “Ready Up NYC” webinars
  - Awards “Ready School of the Year” as part of Ready New York for Kids Program
  - Separate portals with resources for community planning, businesses & hazard planning

## Applicability / Relevance

- Example of communication and education of people with differing needs and children using multimedia tools



# Case Study #6: Municipal- and County-Led Evacuation Planning in Bethany Beach, DE

## Municipal-Led

- The Town coordinates with the County and State to provide several key resources, including:
  - Links to county evacuation routes and other county and state resources
  - An Emergency Prep Kit website, including information on making a plan, community planning, first aid, food, home safety, household/family evacuation planning, pets, phone resources, resources for those with disabilities, information for volunteering, and water and utilities during storms
  - Port disaster information
  - Roadway condition cameras accessible to the public
  - “What to do if” emergency scenario portal with pages on evacuations and flooding/hurricanes, including tips on when and how to learn when to evacuate, as well as information for those with special needs to contact the County EOC to arrange for provisions for needs with Delaware Emergency Management Agency (DEMA)

## County-Led

- The Sussex County Emergency Operations Center (EOC) responds to natural disasters (floods, hurricanes, snowstorms, nor’easters, etc.) and technical disasters (chemical spills, hazmat incidents, etc.) for county residents
- The County has an Emergency Preparedness website containing information on:
  - Evacuation route maps
  - Evacuation Plans
  - Hurricane Information
  - Open Shelter information
  - News Releases
- The County also has an [All Hazards Evacuation Annex – Transportation Incident and Event Management Plan](#)

## Applicability / Relevance

- Example of online resources for educational purposes



# **INTERVIEW SUMMARIES**



# NJDOT Interview Summary

## Key takeaways from this interview include the following:

**Question:** *What is the most important consideration you have for evacuation route planning?*

**Answer:**

- Our focus and considerations go toward the physical roadway itself plus messaging (VMS boards). The Governor has input on what is written on the VMS boards regardless of Manual on Uniform Traffic Control Devices (MUTCD) compliance.
- There has been a big push for County Level Evacuation Zones. It has been shown that municipal boundaries may or may not be the best way to determine evacuation zones. Therefore, counties were asked to determine other ways of splitting their communities into evacuation zones. Zones were identified, which are alphabetical (A, B, C, D, etc.). NJDOT required Zones A & B to be the 50- and 100-year flood zones.
- Monmouth County set up a County Evacuation Plan. NJDOT took a lot of what they were working on and applied it to other Counties. Monmouth County created a GIS tool for residents to type their addresses and which would tell them which zone they live in and give their area information.
- Next steps for the County Level Evacuation Zones following a statewide standard are to go back to partners and resurrect the effort, to double-check the zones. Reapproval from county-level political leadership will also be needed.

**Question:** *How do you communicate with the public (especially disadvantaged communities or residents with disabilities or living along waterways) on evacuation routes, both during the event and on readiness preparation in general?*

**Answer:**

- NJ511 Connect has been operational for a year. It's a geofencing communication mechanism where one can draw a polygon around a specific segment of roadway. With approval from the communications bureau, communications can be made directly with whomever is in that geofence. This could be utilized for stranded motorists in a snowstorm. It is an informal process and has not yet been formalized.

**Question:** *If you choose evacuation routing, why were certain roadways chosen over others? What is the process for a roadway becoming an evacuation route?*

**Answer:**

- In Robert Burd's opinion, these routes have been established for so long that it is not clear how they were developed. His understanding is that it was a collaborative effort between state police and NJDOT. His opinion is that they were selected because of population density, for the most part they selected all the major state accesses.



# Middlesex County Interview Summary

## Key takeaways from this interview include the following:

**Question:** How does your current evacuation system work?

**Answer:**

- How the system works depends on whether the reason for evacuation is local or regional/statewide. A weather event is more likely to induce a county-level response. Weather information is disseminated through an email distribution list.
- Middlesex County is comprised of several zones. Income is also factored into zone development. Municipalities are consulted directly when determining zones.
- The County will receive guidance from the State if there is a statewide evacuation.

**Question:** What is the most important consideration you have for evacuation route planning?

**Answer:**

- Messaging and communication. Communications go out 48 hours and then 24 hours prior to a hurricane.
- It is also important to make sure that low-lying roadways are not selected as evacuation routes.

**Question:** Since an evacuation journey (“service shed”) does not end at your borders, how do you coordinate the evacuation route network/planning in surrounding areas?

**Answer:**

- Middlesex County will inform surrounding counties if they are orchestrating an evacuation that may impact their areas. They regularly communicate with other counties. There is a mutual aid agreement amongst all NJ counties so assistance can be provided as needed.
- There has never been a multi-county evacuation drill held as an exercise, but they are regularly requested.
- There is also a relationship with Rutgers University to utilize their buses for evacuation.

**Question:** How do you communicate with the public (especially disadvantaged communities or residents with disabilities or living along waterways) on evacuation routes?

**Answer:**

- Municipalities handle most of the communications directly. Middlesex County communicates to municipalities; municipalities subsequently communicate to their residents. Most municipalities have an SMS system. The County used to have Reverse 911 but not anymore, as it was not cost effective.



# Project Municipalities Interviews Summary

## Key takeaways from these interviews include the following:

**Question:** *How do you communicate with the public (especially disadvantaged communities or residents with disabilities or living along waterways) on evacuation routes during an event and about readiness preparation in general.*

**Answers:** Each municipality uses different strategies for communication.

- Woodbridge uses Code Red and TV 35 to communicate to their residents. They will also travel door to door during evacuations.
- South Amboy uses Nixel and Reverse 911. They are aware of the locations for Deaf residents and have police officers that know ASL.
- Sayreville communicates through their social media accounts. They also have a communication network for community members with special needs.

**Question:** *How are your evacuation routes maintained both during evacuations and in general?*

**Answers:**

- During a weather event jurisdictional lines disappear. In many cases the municipalities will assist with maintenance issues on county and state roadways. This can include fallen trees or blocking flooded roadways.
- The municipalities feel like it's important to ensure that bus routes are on all evacuation routes. The presence of a bus route should play a role in the determinations of which routes are evacuation routes.



# NJ Turnpike Authority (NJTA) Interview Summary

## Key takeaways from this interview include the following:

**Question:** *How does your current evacuation system work?*

**Answer:**

- From an operational standpoint, the traffic management center (TMC) is in Woodbridge. Locals are not represented in operations. This is daily work not just during an emergency. This TMC is the nexus.
- If an evacuation route was needed there is an “escape the cape” plan for the Atlantic City expressway in Cape May from milepost "0" to milepost "36.”
- Reversal of the southbound lanes on the parkway is possible through state order. Determination is made 48-72 hours prior to storm. There are milestones and markers that are in place leading up to an evacuation.

**Question:** *How do you communicate with the public (especially disadvantaged communities or residents with disabilities or living along waterways) on evacuation routes during an event and about readiness preparation in general?*

**Answer:**

- There is a decision-making matrix that is involved in any event. It has been shown to be very effective. This decides who the phone calls go to, whether it's an incident, a spill, an evacuation. This information is given to the supervisors in the TMC.

**Question:** *Since an evacuation journey (“service shed”) does not end at your borders, how do you coordinate the evacuation route network/planning in surrounding areas?*

**Answer:**

- There are no evacuation routes in this study area that involve contraflow. There has been a flood inundation study that was conducted several years ago in response to Sandy in 2014. Those areas are mapped and are available in the turnpikes GIS platform.
- NJTA is undertaking an enterprise-wide study. They are doing a resiliency plan, looking at sea level rise as a result of climate change, and a hydrologic model of turnpike and parkway roadways and flooding. This will be used as an evaluation criterion for future projects.

**Question:** *Do you partner with community groups, nonprofits, or service/civic orgs for evacuation communications?*

**Answer:**

- NJTA coordinates directly with municipalities for emergency services. There are agreements in place and meetings that take place with fire ambulance and other first responders. This is handled through emergency management services at the TMC. Access to the road can be a key issue. All first responders have access through master keys or bolt cutters to get to the areas needed.

# THE PROTECT PROGRAM

# The PROTECT Program

## Summary

- The **PROTECT Program** (“Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation”) was funded/established for the first time through the **Infrastructure Investment & Jobs Act (IIJA)**
- It provides \$8.7 billion nationwide to support state and local assessments, planning, and projects that reduce transportation vulnerabilities
  - Includes both the **Formula Program** (\$7.3B) and **Competitive Grants Programs** (\$1.4B) for FY22-26
- Funding is for transportation infrastructure only (not other parts of the built and natural environment)
- There is no deadline for the U.S. Department of Transportation (USDOT) to release a Notice of Funding Opportunity (NOFO). The USDOT is running on a continuing resolution, without a full year appropriations bill
- There is no program website. Program language included here has been taken from legislative text

# The PROTECT Program

## Funding Process



IIJA created the PROTECT Program for USDOT to administer funding on transportation resiliency, nationwide

- \$8.7B allocated in total, divided into funding allocated to states through the **Formula Program** (\$7.3B) and **Competitive Grants** (\$1.4B)

USDOT to create and publish guidance on PROTECT funding – **to be announced**

- States are allocated funding via a **Formula Program** for transportation resiliency projects
- States/non-federal jurisdictions can apply for **Competitive Grants**

Implications for New Jersey

- NJ was allocated \$33.7M total for FY22-26 in Formula Program funding
- This funding will likely be administered through NJDOT
- NJ is eligible to apply for Competitive Grants for additional transportation resiliency funding

# The PROTECT Program

## Types of PROTECT Grants

### Formula Program

- This provides funding to be allocated to states. This is likely administered by state departments of transportation (federal guidance TBD)
- \$33.7M was allocated to New Jersey (with NJDOT as the likely “gatekeeper”) through the PROTECT Formula Program FY22-26
- Funding can be used to enhance resilience of evacuation routes or on resiliency projects (broad applicability: harden highways, public transit, etc.)

### Competitive Grant Programs

- *Eligible: States, Metropolitan Planning Organizations (MPOs), local governments, port authorities, multijurisdictional groups, etc.*
- Community Resilience and Evacuation Route Grants: \$140M to strengthen evacuation routes (FY22-26)
- Resilience Improvement Grants: \$980M FY22-26 to enhance resilience of surface transportation, communities, or coastal/natural infrastructure, including evacuation routes
- Planning Grants: \$140M FY22-26 for communities to assess current and future vulnerabilities
- At-Risk Coastal Infrastructure Grants: \$140M FY22-26 to address risk from natural disasters, flooding, erosion, surge, or sea level rise on highways, transport, rails, and ports
- *Applicability to evacuation routes is explicit in Community Resilience & Evacuation Route Grants and Resilience Improvement Grants*



# The PROTECT Program

## Competitive Grant Programs Relevant to Evacuation Planning

### Community Resilience and Evacuation Route Grants:

- Intended to be used to strengthen/protect evacuation routes, which is essential for providing and supporting evacuations
- Funding: \$140M total FY22-26
  - This includes \$25M for FY22-23 (per year) and \$30M for FY24-26 (per year)
- Eligible projects include:
  - Improving evacuation routes
  - Ensuring routes to provide safe evacuation passage
  - Reducing risk of damage to evacuation routes due to future emergency events
  - Restoring/replacing evacuation routes in poor condition or not designed to meet demand in an emergency event
  - Ensuring access or service to critical destinations (hospitals, emergency services facilities, major employers, critical manufacturing, ports, utilities, federal facilities, etc.)

### Resilience Improvement Grants

- Can be used to improve surface transportation, community resiliency, coastal infrastructure, and natural infrastructure
- Funding: \$980M total FY22-26
  - This includes \$175M for FY22-23 (per year) and \$210M for FY24-27 (per year)
  - Limited to 40% of funding for new capacity and 10% for planning/pre-construction
- Eligible projects include:
  - Community resiliency projects that allow continued operation or rapid recovery of surface transportation, such as:
    - Serving critical local, regional & national need, including evacuation routes
    - Providing access or service to hospitals and other medical or emergency service facilities, major employers, critical manufacturing centers, ports and intermodal facilities, utilities, federal facilities, etc.
  - Resurfacing, natural infrastructure, upgrading surface transportation, etc.



# The PROTECT Program

## Additional Funding Details

- The PROTECT Program includes an 80% federal share under the Formula Program and Competitive Grants (cost share for planning grants and tribes can be 80-100%)
  - Up to 10% reduction in non-federal share if entity has a resiliency plan
  - Non-federal share reduced by 7% if applicant develops and prioritizes a resiliency improvement plan
  - Non-federal share reduced by 3% if applicant incorporates resiliency in their transportation plan
- Non-federal share may include federal funds other than those apportioned here
- Grant funding contingencies are included in the program, in which at least 25% of total funding are allocated to rural areas and at least 2% to tribes