

RESILIENCY SURVEY

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Overview of Presentation

1 Background

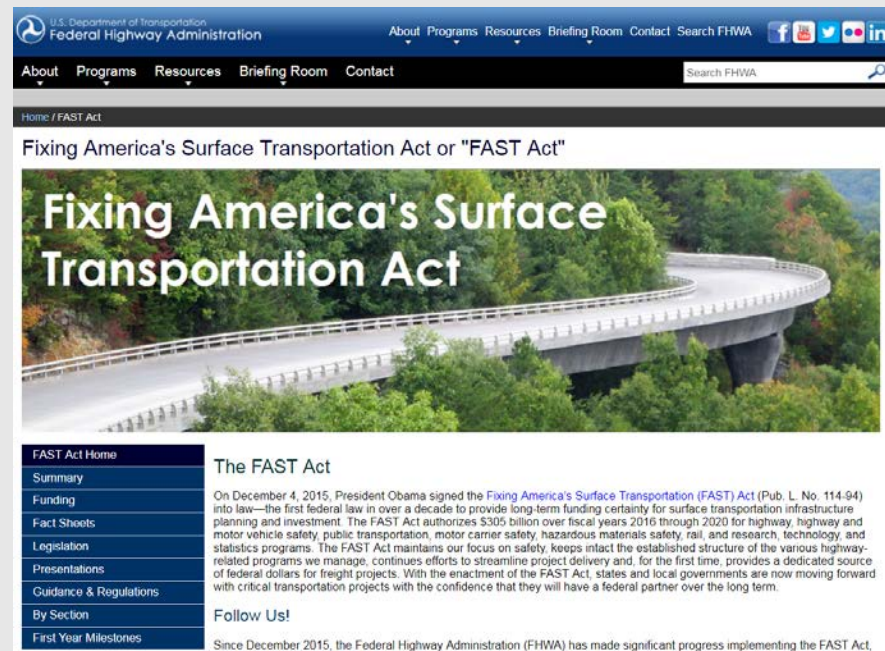
2 Methods

3 Participation

4 Results

5 Key Takeaways

- FAST Act - 2015
 - Requires transportation planning agencies (TPAs) to consider resiliency in the planning process
 - MTP must assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters
- How are TPAs responding?
- We should do a survey!



Methods

- Web survey of TPAs to document best practices in planning for resiliency
- Focus on enhance planning for resiliency of regional transportation systems to climate change and extreme weather events
- Survey disseminated to numerous TPAs over a 3-moth field period
 - February 11, 2019 through May 9, 2019
- 57 TPAs (MPOs) provided complete and usable surveys



The Fixing America's Surface Transportation (FAST, 2015) Act requires transportation agencies to take resilience into consideration during the transportation planning processes. The updated metropolitan and statewide transportation planning regulations include a requirement that the metropolitan transportation plan assess capital investment and other strategies that reduce vulnerability of the existing transportation infrastructure to natural disasters.

This survey is an effort to identify best practices in planning for resiliency. The results of the survey will be documented and shared with local planning agencies in an effort to enhance planning for resiliency of regional transportation systems to climate change and extreme weather events. Your participation in completing this survey is very important for understanding how metropolitan planning organizations (MPOs) include resilience in the transportation planning process. Your responses will be treated confidentially and will be used solely for the purpose of this study.

Thank you in advance for your help on this important project.

It will take approximately 20 minutes to complete the survey. If you have any questions regarding the survey, please contact Jolanda Prozzi at j-prozzi@ttimail.tamu.edu.

Sincerely yours,

Jolanda Prozzi
Division Head: Environment and Air Quality
Program Manager: Environment and Planning
Texas A&M Transportation Institute



Has your MPO defined resilience goals
for your regional transportation system?

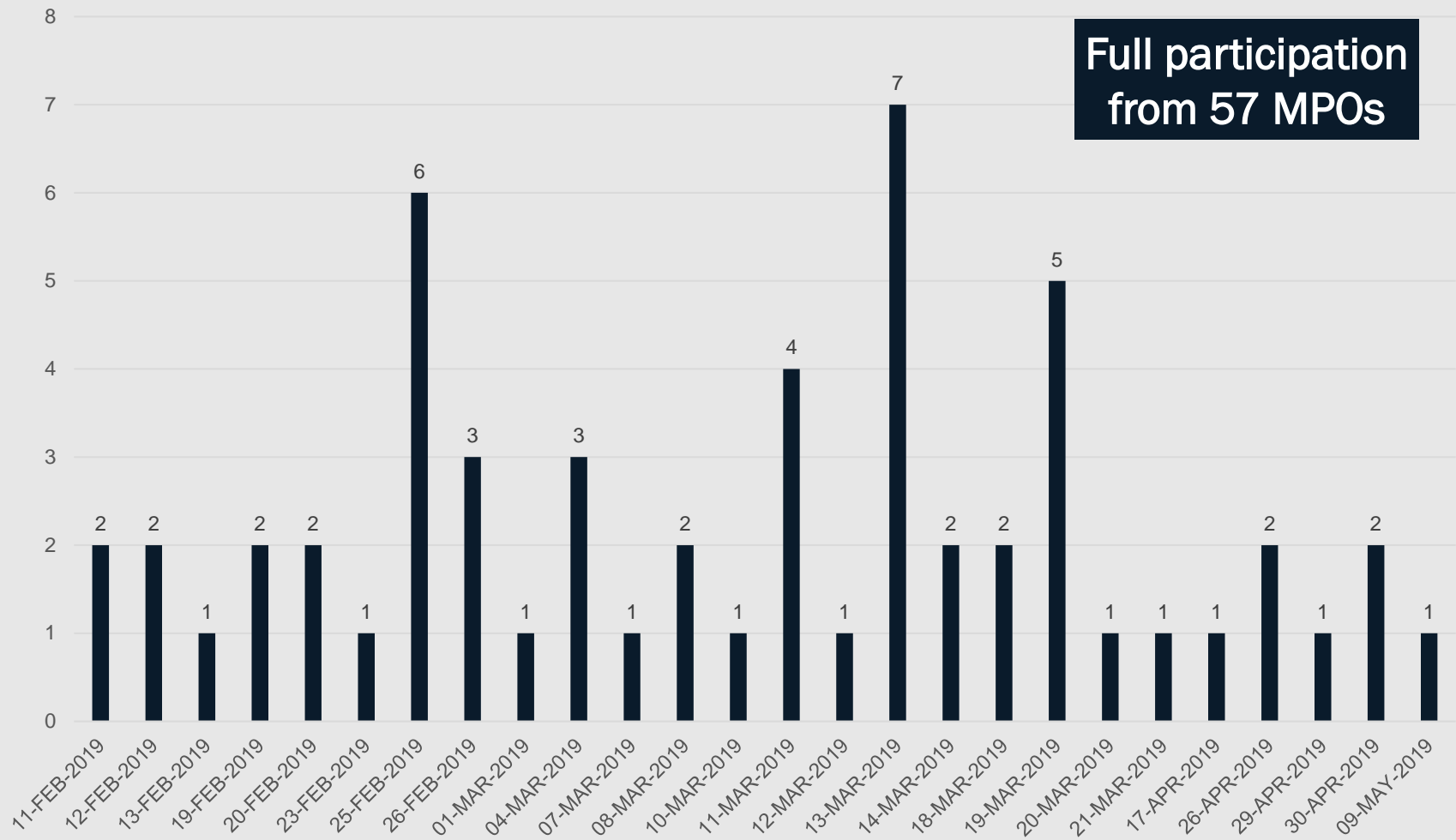
Yes

No



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Participation



Resiliency – Definitions, Goals and Metrics

Resiliency Definition

One third had defined resiliency

- Reasons for not defining resiliency:
 - About half stated it is a work in progress
 - About one in ten stated it is on radar but not a priority
 - About one in ten stated that while not formally defined, their MTP includes elements of resiliency

Resiliency Goals

One in three had defined resiliency goals

- Reasons for not defining resiliency goals:
 - Three of ten stated it is a work in progress
 - One in five stated it will be in next MTP
 - One in five stated that it is on radar but not a priority

Resiliency Metrics

One fifth had defined resiliency metrics

- Reasons for not defining resiliency metrics:
 - About one in four stated it is a work in progress
 - 15 percent stated it was on radar but not a priority
 - 13 percent stated it will be in next MTP
 - 13 percent stated more Federal guidance is needed

Bottom Line

- About one in ten (12 percent) have defined resiliency, identified resiliency goals, and developed resiliency metrics to measure progress toward resiliency goals

“We don't have the resources to do this type of work in a way that would result in a more meaningful or robust actions to improve resiliency. Given the work we have done to date and the challenges of the data, analysis tools and wide range of possible results, I would expect our updated plan will include broad language and policies suggesting owners of the transportation system should include this type of planning and analysis. Also the regional plan may include suggested actions/strategies but measure when and how those actions could make a significant difference is beyond our current resources.”

“We are a small MPO and currently have only two FTEs. However, as stated previously we plan to address resiliency in a meaningful way in the near future. This will include a fulsome discussion in our upcoming 2045 RTP.”

“Small agencies have significant challenges both budgetary and staff related in defining, measuring and developing resilience plans”

Preparedness for Climatological Trend/Event Impact on RTS

Identified Climate Factors & Assessed Vulnerability

44 percent had identified climate factors and assessed vulnerability of RTS to these factors

- Reasons for not doing so:
 - Three of ten state it is a work in progress
 - About one in four state a lack of resources (FTEs or funding or both)

Identified RTS Critical Elements

Seven of ten had identified RTS critical elements

- Reasons for not doing so:
 - Three of four state it is a work in progress
 - 18 percent stated it was on radar but not a priority
 - About one in ten stated responsibility for this lied elsewhere

Determined Response to Event

One third had determined response to extreme weather event

- Reasons for not doing so:
 - One third state it is a work in progress
 - Three of ten stated responsibility for this lied elsewhere

Determined Likelihood of Event

One third had determined likelihood of extreme weather event

- Reasons for not doing so:
 - One fourth stated this responsibility lied elsewhere
 - One of five state it is a work in progress
 - 16 percent state a lack of resources (FTEs or funding or both)

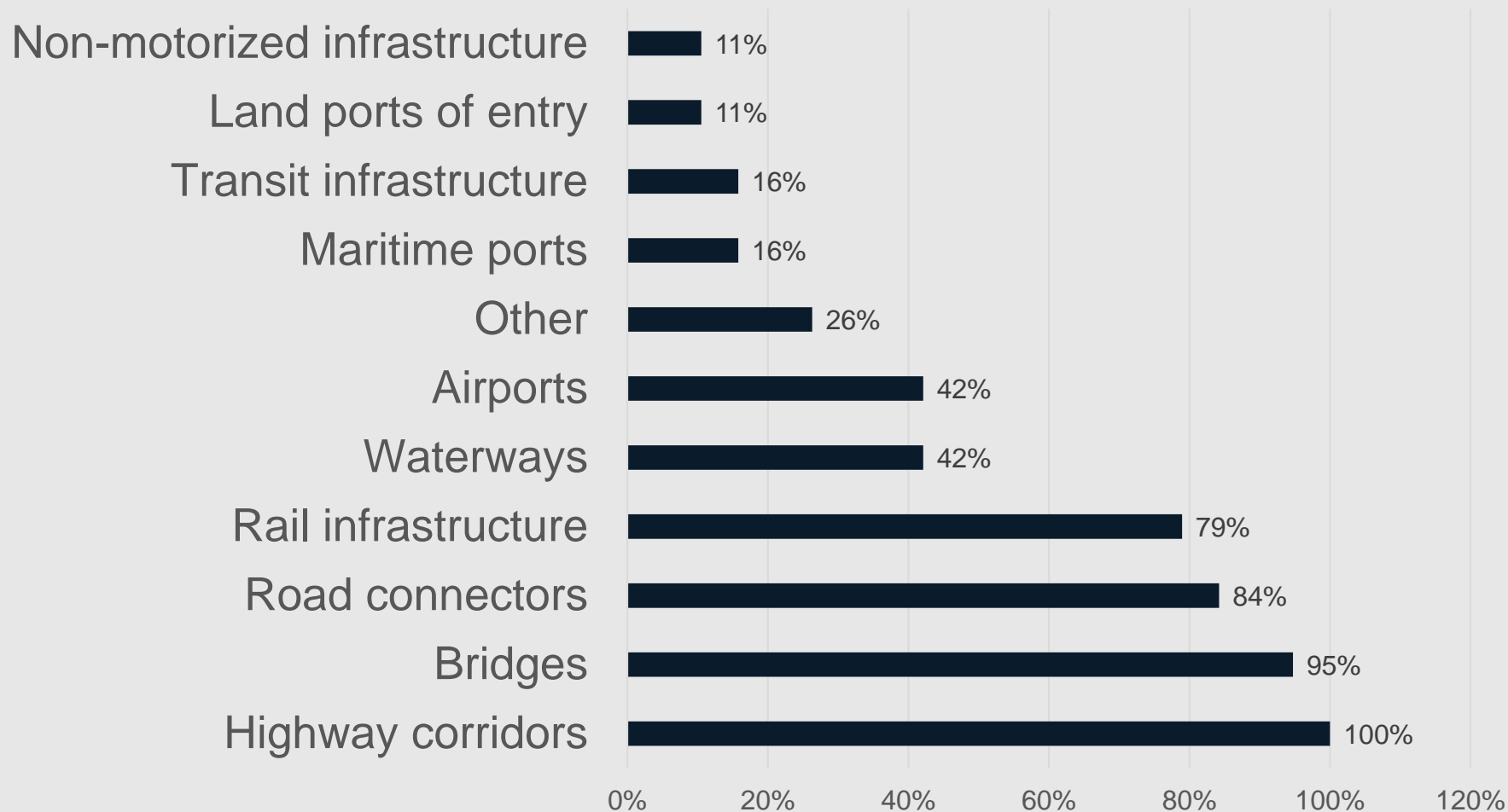
Bottom Line

- About one ten (11 percent) have (1) identified & characterized climate factors that might impact RTS & assessed vulnerability of their RTS to climate change/extreme weather events, (2) identified critical elements of their RTS, (3) determined how their RTS will respond to an extreme weather events, and (4) determined the risks/likelihood of extreme weather events occurring.

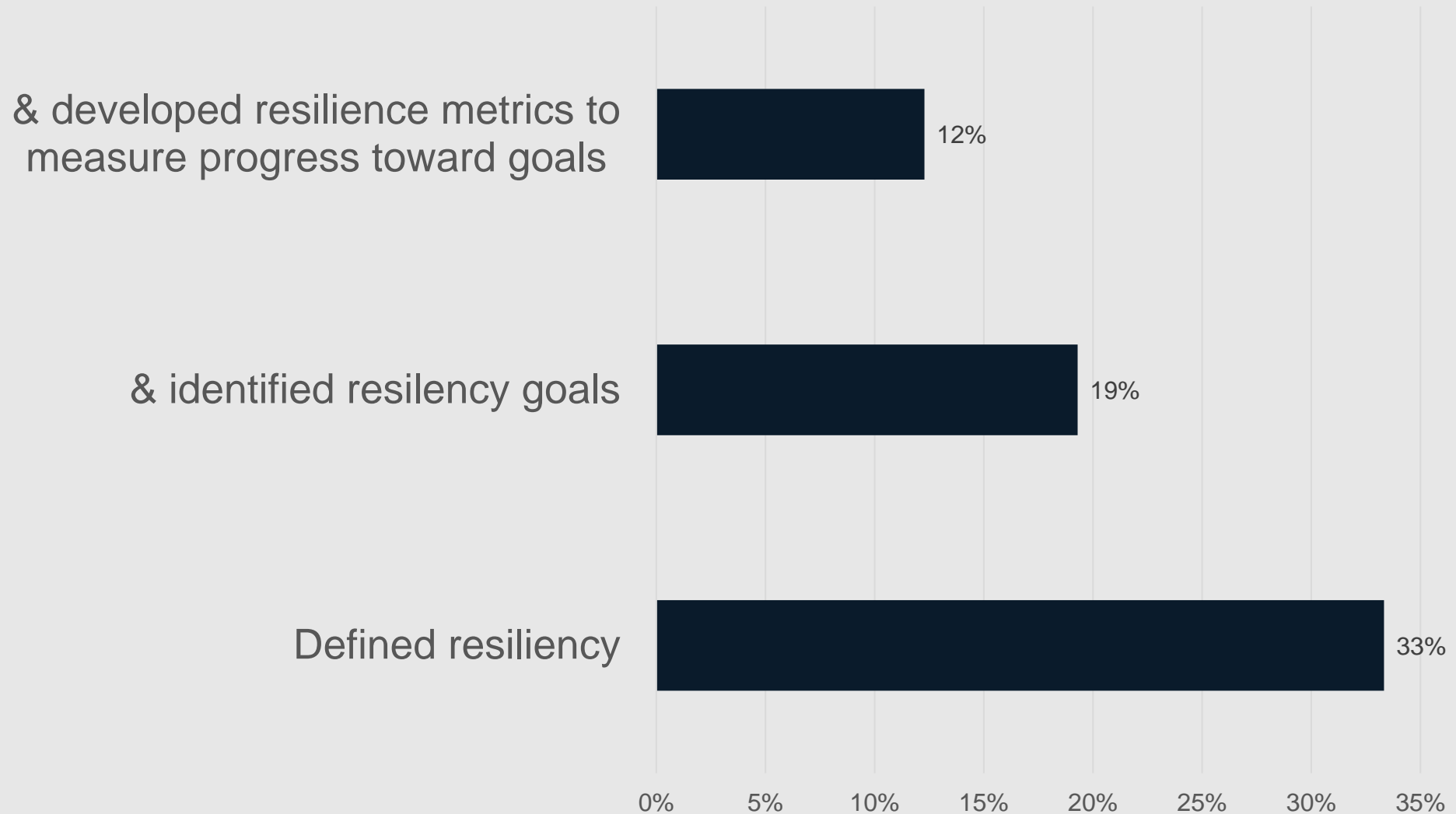
Climate Factors

- 76 percent of organizations identified precipitation as climate factor of most significant concern.
 - Note: Survey was fielded during the wettest 12 month period in recorded US history
 - Not surprising that most commonly used type of data used to assess impact of extreme weather events was FEMA floodplain data
 - Similarly, not surprising that most needed type of data to assess impact of extreme weather events was hydrological data

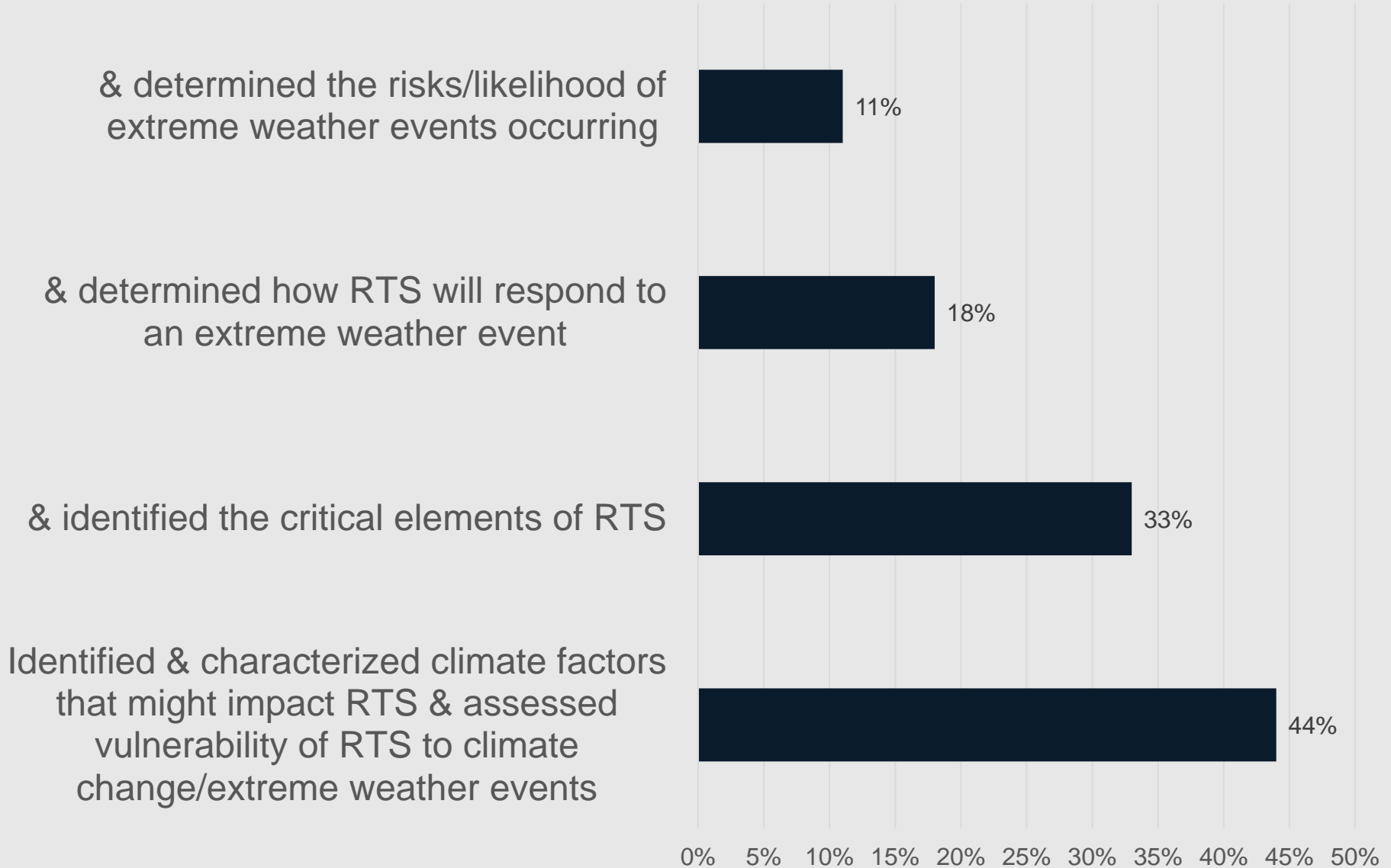
RTS Element Vulnerability



Key Take Away – Resiliency Preparedness



Key Take Away – Extreme Weather Event Preparedness



Questions or Comments?