

#### Task Force Meeting #4

Date: Tuesday, April 26, 2022

Time: 9:00 AM - 11:00 AM

Location: Virtual via GoToMeeting

- Sarah Kraum (Space Coast Transportation Planning Organization (Space Coast TPO))
- Laura Carter (Space Coast TPO)
- Steven Bostel (Space Coast TPO)
- Mary Raulerson (Kittelson & Associates, Inc. (KAI))
- Sigal Carmenate (KAI)
- Chris Bame (KAI)
- Task Force invitees and attendees list attached

#### Introduction:

The purpose of this meeting was to familiarize the Task Force members with the network analysis results, maps, and tables so that they can conduct a review prior to the office hours scheduled for 1 and 2 weeks after Task Force Meeting #4. The meeting agenda included introductions and meeting purpose, a refresher on the network analysis methodology, a review of results, a homework assignment, next steps, and an open discussion.

#### Meeting Notes:

The meeting discussion was guided by a PowerPoint presentation, and feedback from the Task Force was given via the Chat Box on GoToMeeting and by Task Force participants unmuting themselves and voicing their comments. Key discussion points from the meeting are listed below.

- Task Force Members asked how the Transportation Resiliency Master Plan (RMP) is going to be used, and whether it will solely be for the purpose of obtaining funds or as a tool for another use.
- Brevard County just approved thirteen "Peril of Flood" policies focusing on resiliency to flooding impacts, and they would like to explore of the Transportation RMP could help support those policies.

• The City of Melbourne completed a resiliency plan which included a transportation component that quantified the impact of sea level rise and flooding on corridors. They will share the plan with the Space Coast TPO.

The agenda, presentation, and the invitees/attendees lists are attached.

Invitees				
Name	Attended			
Abigail Morgan	City of Cocoa	Ν		
Alexis "Lexi" Miller	Satellite Beach	Y		
Alix Bernard	Cocoa - Planning	Ν		
Amanetta Sommerville	Environmental Protection Agency (EPA)	Y		
Bob Musser	Port Canaveral	Y		
Brenda Defoe-Suprenant	Cape Canaveral	Y		
Bryant Smith	Cocoa - Public Works	Y		
Casey Lyon	Florida Department of Transportation (FDOT)	Y		
Channing Maiolo	FDOT	Y		
Corrina Gumm	Brevard County - Public Works	Ν		
Courtney Barker	Satellite Beach	Y		
Daniel Martoma	West Melbourne	Ν		
Darcie McGee	Brevard County - Natural Resources	Y		
Don Kean	Brevard County	Ν		
Duane De Freese	Indian River Lagoon Council	Ν		
Eddy Galindo	Titusville	Y		
Edward Fontanin	Brevard County - Utilities	Ν		
Elizabeth Mascaro	Melbourne Beach	Ν		
	Florida Sea Grant/University of Florida (UF) /			
Holly Abeels	institute of Food and Agricultural Sciences (IFAS)	Y		
	Extension			
Jane Hart	Brevard County - Planning	Y		
Jared Francis	Cocoa Beach	Y		
Jason Mahaney	Grant-Valkaria	Y		
Jeffrey Ball	Brevard County - Planning	Ν		
John Cooper	Rockledge	Ν		
John Scott	Brevard County - Emergency Management	Ν		
Loo Angoloro	Florida Department of Environmental Protection	Ν		
Leo Angeleio	(DEP)	IN		
Lisa Morrell	Malabar	Ν		
Lori Cox	East Central Florida Regional Planning Council	Ν		
LOIT COX	(ECFRPC)			
Marc Bernath	Brevard County	Ν		
Mark Ryan	Indian Harbour Beach	Ν		
Michael Casey	Indialantic	Ν		
Mike McCabe	MTWCD	Ν		

Invitees				
Name	Attended			
Ntale Kajumba	EPA	Ν		
Rose Lyons	Brevard County	N		
Steve Fitzgibbons	St. Johns River Water Management District	v		
	(SJRWMD)	T		
Steve Shams	FDOT	Y		
Suzanne Sherman	Palm Bay	N		
Tara McCue	ECFRPC	Y		
Todd Corwin	Melbourne	Y		
Tom Frick	SJRWMD	N		
Zac Eichholz	Cape Canaveral	N		





TASK FORCE MEETING #4

APRIL 26, 2022

VIRTUAL VIA GOTOMEETING

9:00 AM - 11:00 AM

## AGENDA

- Introductions and Meeting Purpose
- Refresher on Methodology and Results
- Homework
- Next Steps
- Open Discussion





## INTRODUCTIONS

- Study Team
  - Space Coast TPO
  - Kittelson & Associates
- Task Force Members
  - Name
  - Agency/Organization





## WHERE WE ARE & YOUR ROLE



## **REFRESHER ON METHODOLOGY AND RESULTS**



### **FLOODING**

Data Source: FEMA 100-Year flood inundation

**Definition:** The FEMA 100-year floodplain dataset represents areas with a **1 percent annual chance of flooding based on historic occurrences.** The area covered parts of Brevard experiencing flooding during regular rainfall events and those flooded as the result of severe storms.



### **SEA LEVEL RISE**

Data Source: 2100 NOAA High Curve

**Definition:** The NOAA 2100 High Curve **reflected the transportation impacts** depicted by the Space Coast TPO SLR VA and related work completed by Space Coast TPO local partners.



### **STORM SURGE/WIND**

Data Source: Hurricane Category 3

**Definition:** It was determined that **category 3 hurricane storm surge/winds reflected a reasonable impact** on transportation infrastructure in Brevard County.



### FIRE

**Data Source:** Use the top class "Very High" from 2020 Wildfire Hazard Potential (WHP) dataset, and a half-mile buffer based on Florida Forest Service Smoke Sensitive Buffers

**Definition:** The dataset is built upon spatial datasets of wildfire likelihood and intensity, spatial fuels and vegetation data, and point locations of past fire occurrence. Smoke management is critical to preserving visibility on roadways. A half-mile buffer around wildfire hazard potential areas was used.



### **SHORELINE EROSION**

Data Source: Corridors 50 feet from water bodies based on spatial data available

**Definition:** A **50 foot buffer** from the Indian River Lagoon, Banana River, and Atlantic Ocean **aligned with the impact historical cases of roadway being washed away** and the future outlook of erosion impacts.

## DEFINING IMPORTANT CORRIDORS IMPACTED BY SHOCKS/STRESSORS

- Vulnerability the magnitude of shocks/stressors impact to different parts of transportation corridors
- Criticality determining which impacted roadways serve a critical function or destination to develop mitigation strategies for





## VULNERABILITY ANALYSIS METHODOLOGY

- Determined amount of corridor being impacted by shocks/stressor (length in miles)
  - > 0 &  $\leq$  ¼ mi impacted as "Vulnerable"
  - > ¼ mi impacted as "Most Vulnerable"
- Vulnerability to Fire uses a modified methodology
  - >¼ mi overlapping with "Very High" wildfire hazard potential as "Most Vulnerable"
  - Otherwise, > ¼ mi overlapping with Smoke Buffer wildfire hazard potential as "Vulnerable"





## **PROCESS TO DETERMINE VULNERABILITY**





## **IDENTIFYING VULNERABLE SEGMENTS OF THE CORRIDOR**



### **2,346 ft = 0.44 mi** vulnerable along corridor (Most Vulnerable)



## **VULNERABILITY CRITERIA**

Not Vulnerable	Vulnerable	Most Vulnerable
None of the corridor is within the impact area of the shock/stressor	<pre>&gt; 0 &amp; ≤ 1/4 mile of the corridor is within the impact area of the shock/stressor</pre>	> 1/4 mile of the corridor is within the impact area of the shock/stressor



## **VULNERABILITY CRITERIA (FIRE)**

Not Vulnerable	Vulnerable	Most Vulnerable
<pre>≤ 1/4 mile of the corridor is within the impact area of the shock/stressor</pre>	> 1/4 mile of the corridor is within the smoke impact area	> 1/4 mile of the corridor is within the Very High impact area of fire



## TRANSPORTATION DISADVANTAGED (TD) POPULATIONS

Criteria considered:

- 1. Overburdened renters
- 2. Population under age 18 in a single-parent household
- 3. Population with a disability
- 4. Population under age 10
- 5. Population over age 75
- 6. Workers without vehicle access
- 7. Population with limited English proficiency
- 8. Low-income population
- 9. Communities of Color (All races and

ethnicities beside White Non-Hispanic)



## **VULNERABLE POPULATION**

- Vulnerable Population must meet one of the following criteria:
  - Top 20% of corridors serving any one of the five populations:
    - Poor and Struggling
    - Zero Car Households
    - Persons of Color
    - Households Including a Person with a Disability
    - Persons Over 65
  - Maximum TD Population score along the corridor is > 2
- Most Vulnerable Population:
  - Top 20% of corridors serving > 1 of the five populations





## **PROCESS TO DETERMINE VULNERABLE POPULATION**





**4,910 people** who are poor or struggling live in a Census Block Group within 1 mile of this corridor

## **VULNERABLE POPULATION CRITERIA**

Not Vulnerable	Vulnerable	Most Vulnerable
Maximum <b>TD Population</b> Score < 2 along the corridor AND	Maximum <b>TD Population</b> Score > 2 along the corridor <b>OR</b>	Top 20% of corridors serving
Corridor does not serve the Top 20% of vulnerable	Top 20% of corridors serving one of the of vulnerable	population groups
population groups	population groups	



## CRITICALITY ANALYSIS METHODOLOGY

### • Critical Function

- Functional Classification
- Annual average daily traffic (AADT)
- Evacuation Route
- Transit Route

- Critical Assets
  - Community Centers
  - Hospitals
  - Government Centers
  - Downtown Areas defined in Bicycle/Pedestrian Master Plan
  - Goods and Services
  - Fire Stations
  - Police Stations

All causeways get 1 additional criticality point. Also, the following roadways providing access to critical regional assets get 1 additional criticality point:

- Port/Airports
- Patrick Space Force Base
- Kennedy Space Center





## **CRITICAL FUNCTION**

- The corridors with an Evacuation Route were considered "Most Critical"
- "Critical Corridors" met one of the following:
  - Corridors with Space Coast Area Transit (SCAT) Route
  - AADT>40,000
  - Functional Class of a Primary Arterial or larger





## **CRITICAL FUNCTION CRITERIA**

Not Critical	Critical	Most Critical	
All other corridors not meeting Critical or Most Critical criteria	Corridors with a SCAT route OR Corridors with a functional classification of a Principal Arterial or larger OR Corridors with an AADT > 40,000	Corridors that are an evacuation route	



## **CRITICAL LOCAL ASSETS**

- Corridors with > 1 critical local asset within 1/2mile were considered "Most Critical"
- The corridors with **one critical local asset** within 1/2-mile were considered **"Critical"**





## **PROCESS TO DETERMINE CRITICAL LOCAL ASSET**





## **CRITICAL LOCAL ASSETS CRITERIA**

Not Critical	Critical	Most Critical
All other corridors	Corridors that have 1 critical local asset within ½ - mile	Corridors that have more than 1 critical local asset within <sup>1</sup> / <sub>2</sub> -mile



## CAUSEWAYS AND CRITICAL REGIONAL ASSETS

 Roadways providing access to critical regional assets and causeways will get 1 point toward the total criticality score





## **CRITICAL REGIONAL ASSETS**

- Port Canaveral
- Patrick Space Force Base
- Kennedy Space Center
- Melbourne Orlando International Airport
- Space Coast Regional Airport



**Critical Regional Destinations** 



## **IDENTIFICATION OF KEY CORRIDORS**



Miles Vulnerable	0.4	0.0	0.0	0.0	0.0	0.0
Vulnerable/ Most Vulnerable	Most Vulnerable	Not Vulnerable				
Score	2	0	0	0	0	0

7

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Vulnerability Score

## **IDENTIFICATION OF KEY CORRIDORS (CONTINUED)**

**IF** Vulnerability Score > 0, consider if the corridor serves vulnerable populations

Vulnerability Score



#### Vulnerable Population



Vulnerable/ Most Vulnerable	-
Score	0



Adjusted Vulnerability Score

## **IDENTIFICATION OF KEY CORRIDORS (CONTINUED)**

**Critical Function** 



Critical Local Asset



Critical/Most Critical	Most Critical	Critical
Score	2	1







## **IDENTIFICATION OF KEY CORRIDORS (CONTINUED)**





## SUMMARY RESULTS



## NUMBER OF CORRIDORS BY VULNERABILITY / CRITICALITY



Most Crit. Crit. -

## NUMBER OF CORRIDORS BY VULNERABILITY SCORE





## NUMBER OF CORRIDORS BY CRITICALITY SCORE



## NUMBER OF CORRIDORS BY TOTAL SCORE





## **REVIEW ARCGIS ONLINE AND RESULTS SUMMARY TABLES**

- Summary tables will be emailed after this meeting
- ArcGIS Online Map: <u>https://arcg.is/0TvOq8</u>



# HOMEWORK



## HOMEWORK QUESTIONS AND DUE DATE

### Let us know...

- Are there corridors missing that you expected to see?
- Are there corridors that are shown as impacted/critical that are surprising?
- How would you anticipate using this data?
- What information is most helpful for you to see?

- Complete within 2 weeks (by May 10)
- Will be holding two office hours to have smaller group discussions and answer any questions:
  - Wednesday, May 4 from 1:30 2:30 pm
  - Tuesday, May 10 from 1:30 2:30 pm



# **NEXT STEPS**



## **NEXT STEPS**

- Integrate any important gaps in results
- Define Mitigation Strategies
- Final Task Force Meeting #5 Sept. 2022
  - Present mitigation strategies and integrate any important gaps





# **OPEN DISCUSSION**





# Thank you!

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