

Coastal Bend Hurricane Evacuation Study

Study Update

**Plymouth Annex Building
Sinton, Texas**

March 27, 2019



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Agenda

- Introductions & Opening Remarks 8:30 am
- Behavioral Study Update 8:45 am
- Vulnerability Analysis Process 9:15 am
- BREAK 9:45 am
- Evacuation Zone Confirmation 10:00 am
- Evacuation Scenario Development 10:15 am
- Wrap-up & Questions 11:45 am



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Scenario Development

Scenario Inputs

- Resident Behavior
 - Response Rate
 - Response Time
 - Destinations
- Seasonal Population
 - Response Rate
 - Response Time
- Roadway Operations
 - Evaculane
 - Contraflow
 - Incidents
 - Background Traffic
- “All Scenario” Inputs
 - Percent private vehicles
 - Percent using public transit





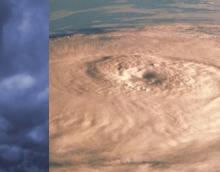
Scenario Development

Resident Behavior

- Storm impact and timing ‘dials’
- Behavior study
- Rely on local knowledge/expertise
- Possible vs. Practical # of scenarios



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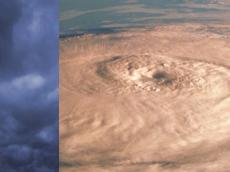
Scenario Development

Resident Behavior

- Response Rate
 - Percent of population leaving area by private vehicle
- Response time
 - Time lapse between evacuation call and last person entering roadway system



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Scenario Development

Response Rate

(percent of population that leave area)

➤ Variations

- Storm Impact/Intensity
- Zone



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Scenario Development

Response Rate - Example

(percent of population that leave area)

IMPACT	EVACUATION ZONE				CBSA Not in Zone
	A	B	C		
High	100%	100%	100%		50%
Moderate	85%	80%	75%		40%
Low	65%	60%	50%		20%



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Scenario Development

Response Time - Examples

(last person enters roadway system in the evacuation area)

- Fast (5 hours)
- Medium(24 hours)
- Slow (2-day)



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Scenario Development

Response Rate & Time

- Coupled to form ranges of demand



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Scenario Development

Response Rate & Time - Examples

- Coupled to form ranges of demand
 - “Worst Case” – high rate and medium/quick time
 - “Normal” – moderate rate and medium/quick time
 - “Low” – low rate and slow/medium/quick time



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Scenario Development

Destinations

- Behavioral Survey
- Universal to all scenarios



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Scenario Development

Seasonal Population

- Response Rate Variation
 - Moderate
 - High
- Response Time
 - Fast



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Scenario Definitions

Roadway Operations

- Contraflow **Yes and No**
- Evaculane **Yes and No**
- Traffic incidents **Low & High**
- Background traffic **Low & High**



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Scenario Development

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Scenario Definitions

All Scenario Inputs

- Average persons per vehicle **Behavioral Study**
- % of vehicles towing **Behavioral Study**
- % pedestrians **0%**
- Population not using private vehicle **10%**



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Scenario Definitions

Let's make some decisions on scenarios



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