

# Evacuation Preparedness Of Public Transportation And School Buses In Rural Coastal Communities

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# Why Study Rural Areas?

- Emergency transit use information is readily available for urban areas but lacking in rural locations
- 40% of the country's transit dependent population live in rural areas
- Rural areas are underserved by public transportation

# Why Include School Buses?

- Widely available in rural areas
- Often the only means of rural public transportation
- Easily accessible and recognizable

# Objective

**To assess the emergency preparedness of public transportation and school buses in rural coastal communities in the Gulf Coast region.**

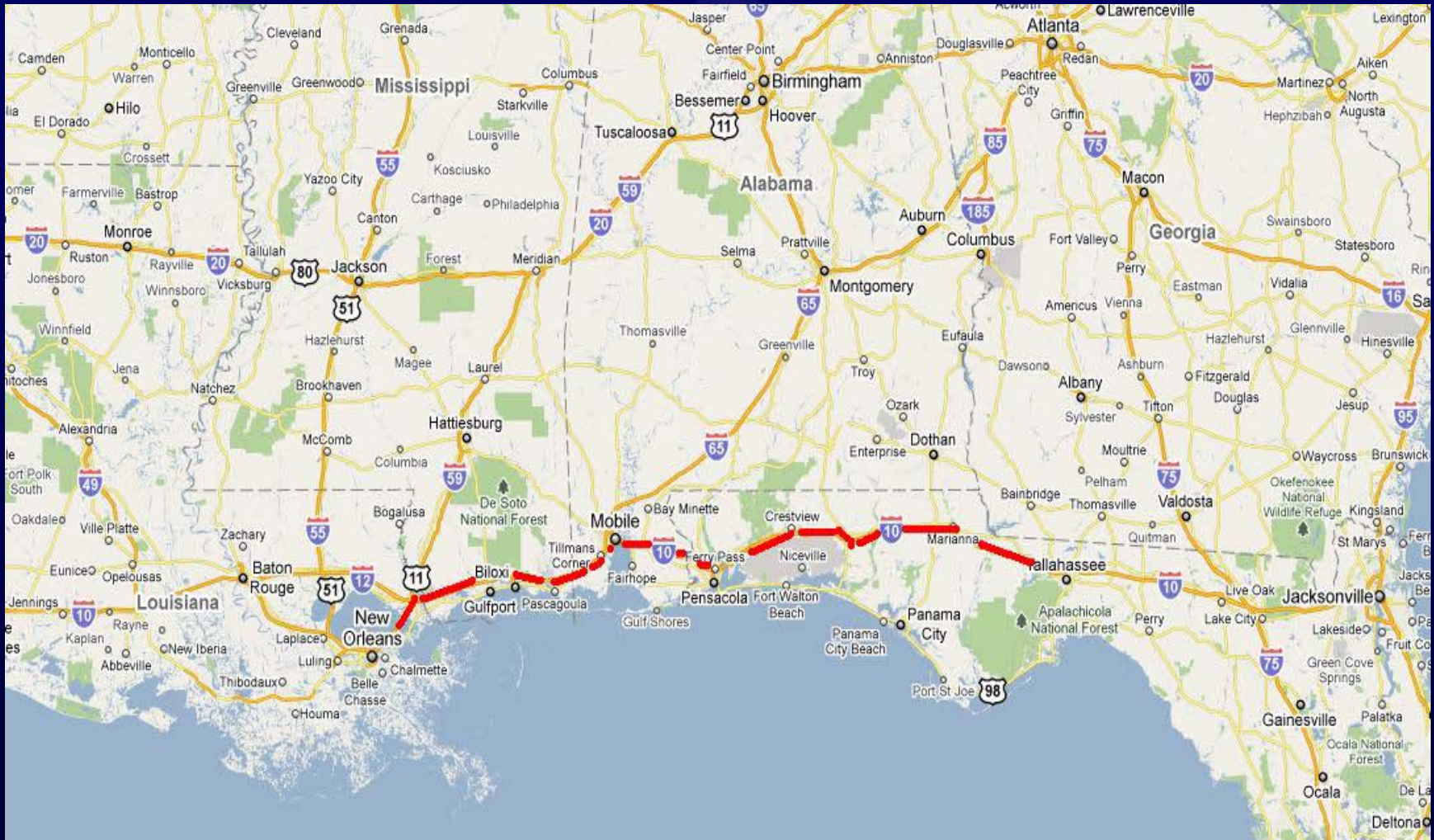
- The assessment focuses on:
  - **how adequately transit systems are prepared**
  - **what role they can play in the event of an emergency/evacuation**

# Transit's Role in Evacuation

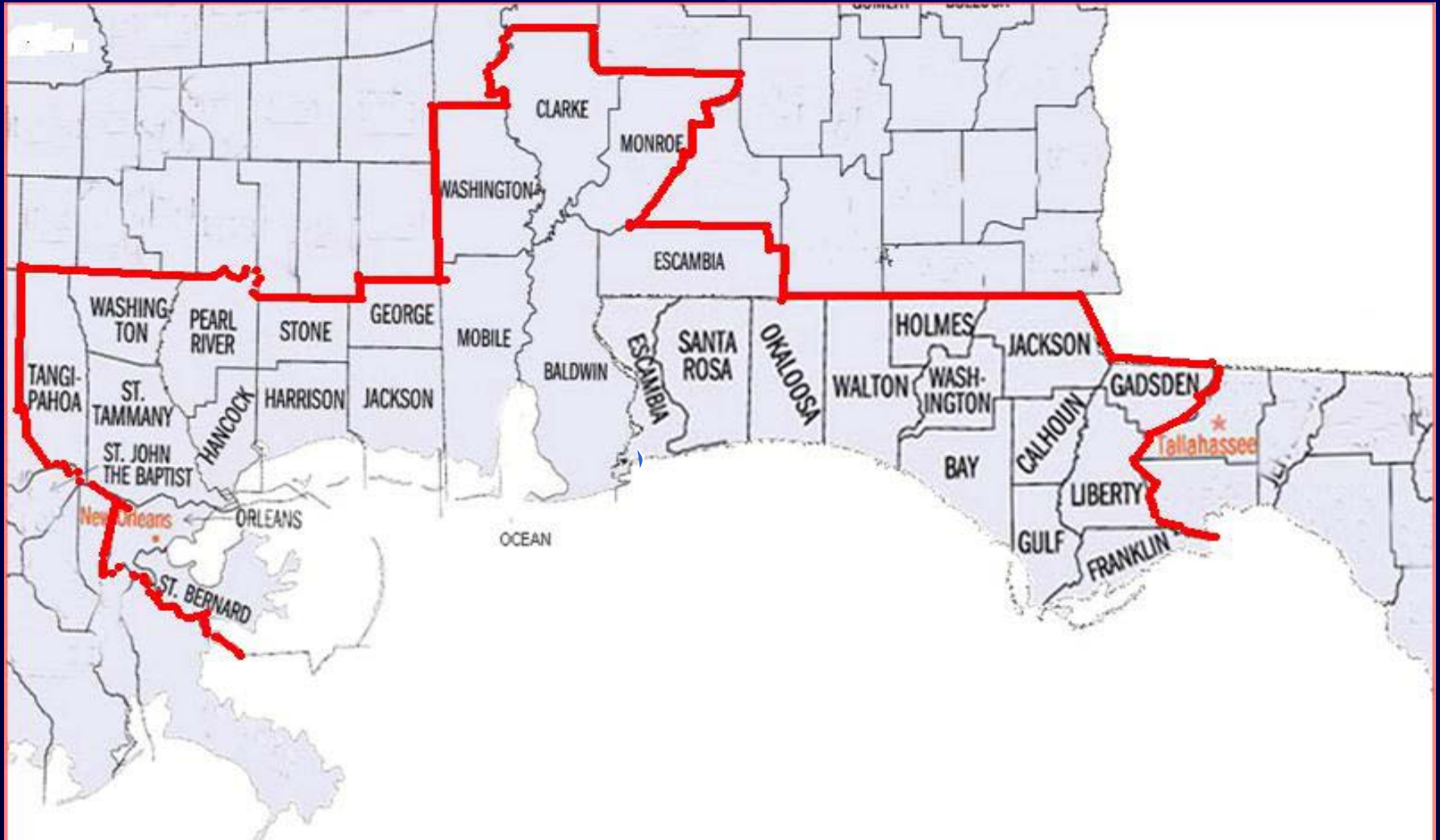
Public transportation can perform multiple roles in four tasks of emergency management planning:

- (1) Mitigation
- (2) Preparedness
- (3) Response
- (4) Recovery

# Study Area



# Study Area

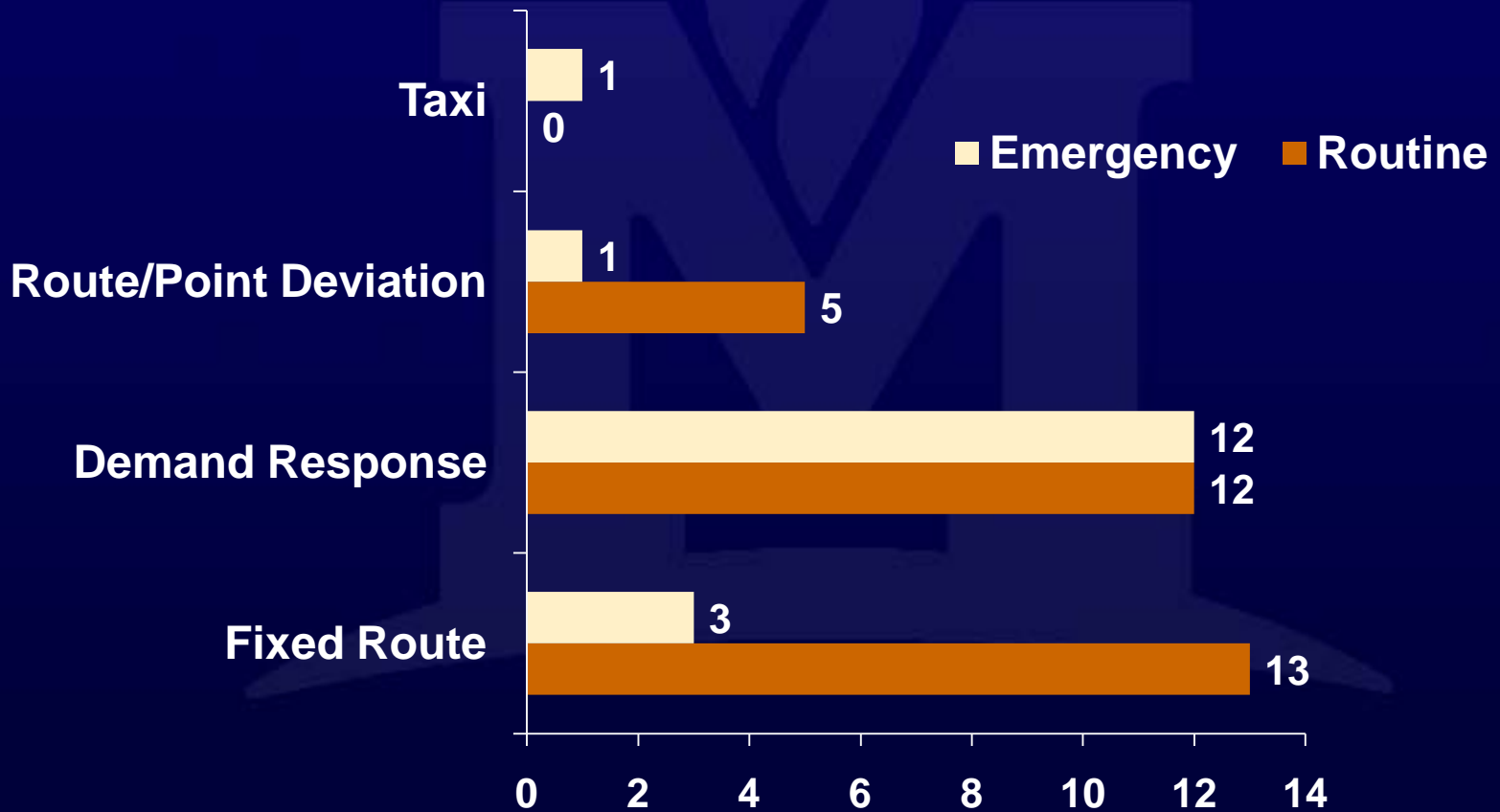


24 counties and 4 parishes along the I-10 corridor from Florida to Louisiana

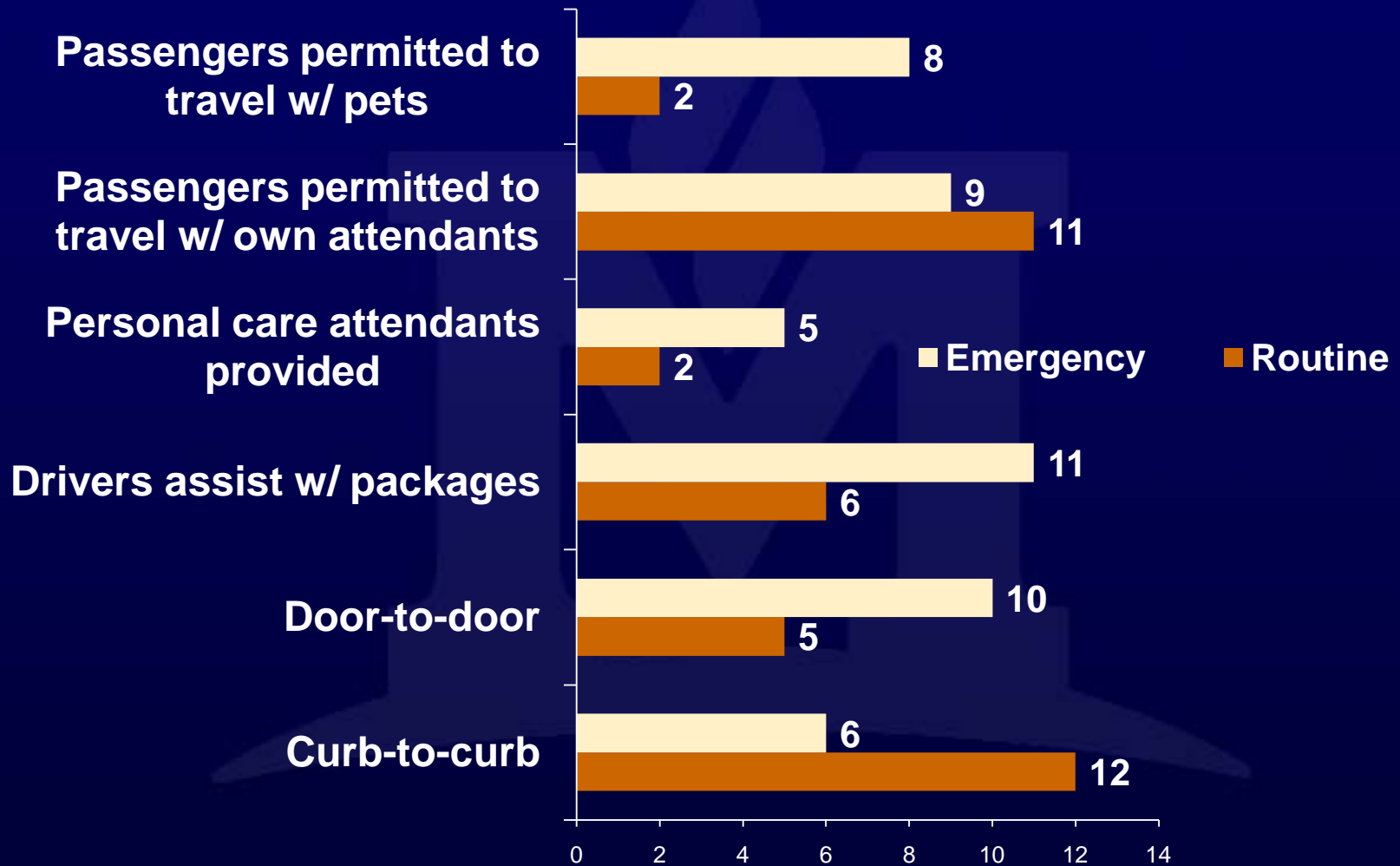
# Survey Methodology

- Survey was distributed to 46 public, private and school transportation agencies within the study area
- 24 surveys were returned (52% response rate)
- Major topics
  - **Transit Services Provided in Rural Areas**
  - **Communication Systems Used for Transit**
  - **Emergency Event Issues**
  - **Employee Issues**
  - **Evacuation Preparation**
  - **Transit Expenditure and Evacuation Assessment of Needs/Coordination**

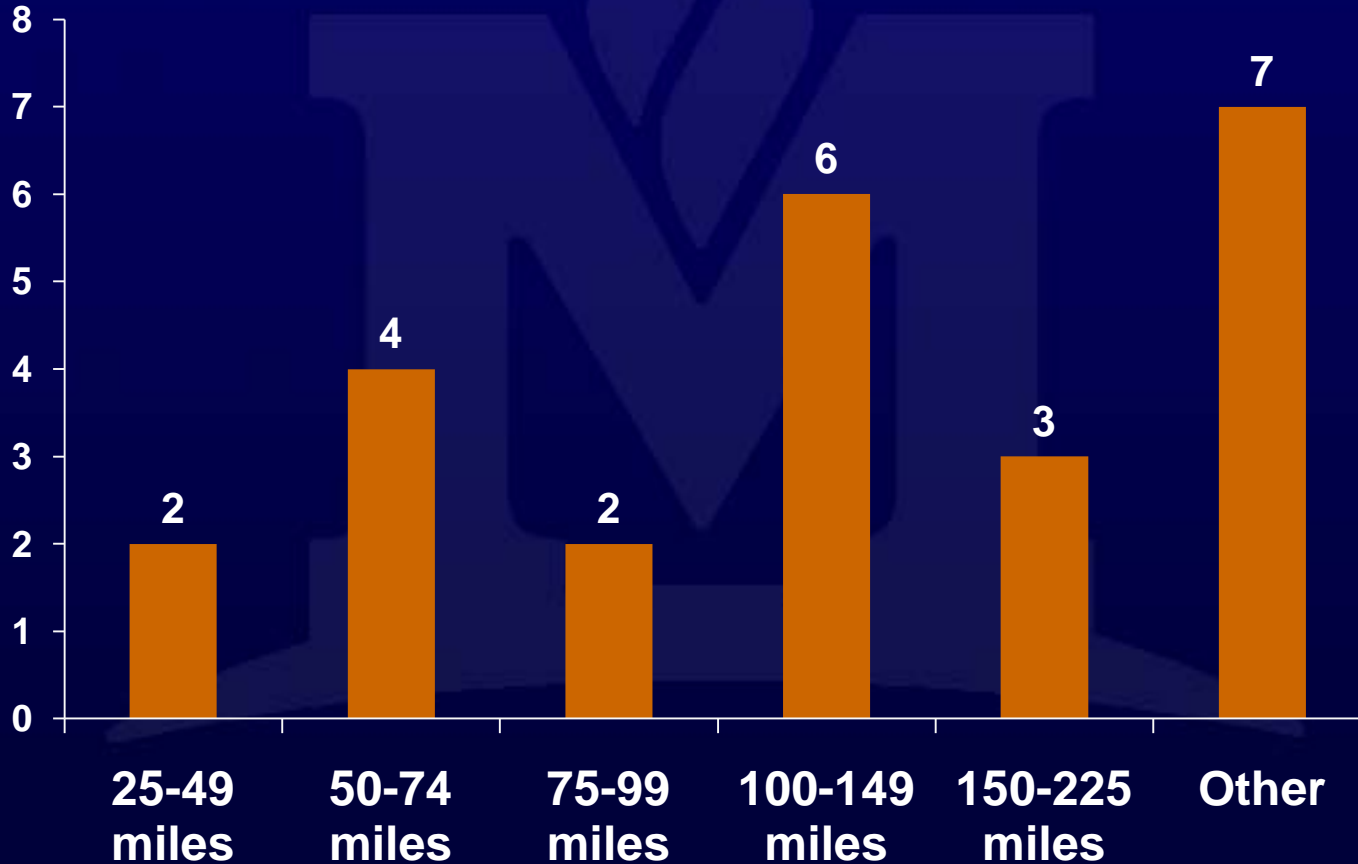
# Modes of Transit Delivery



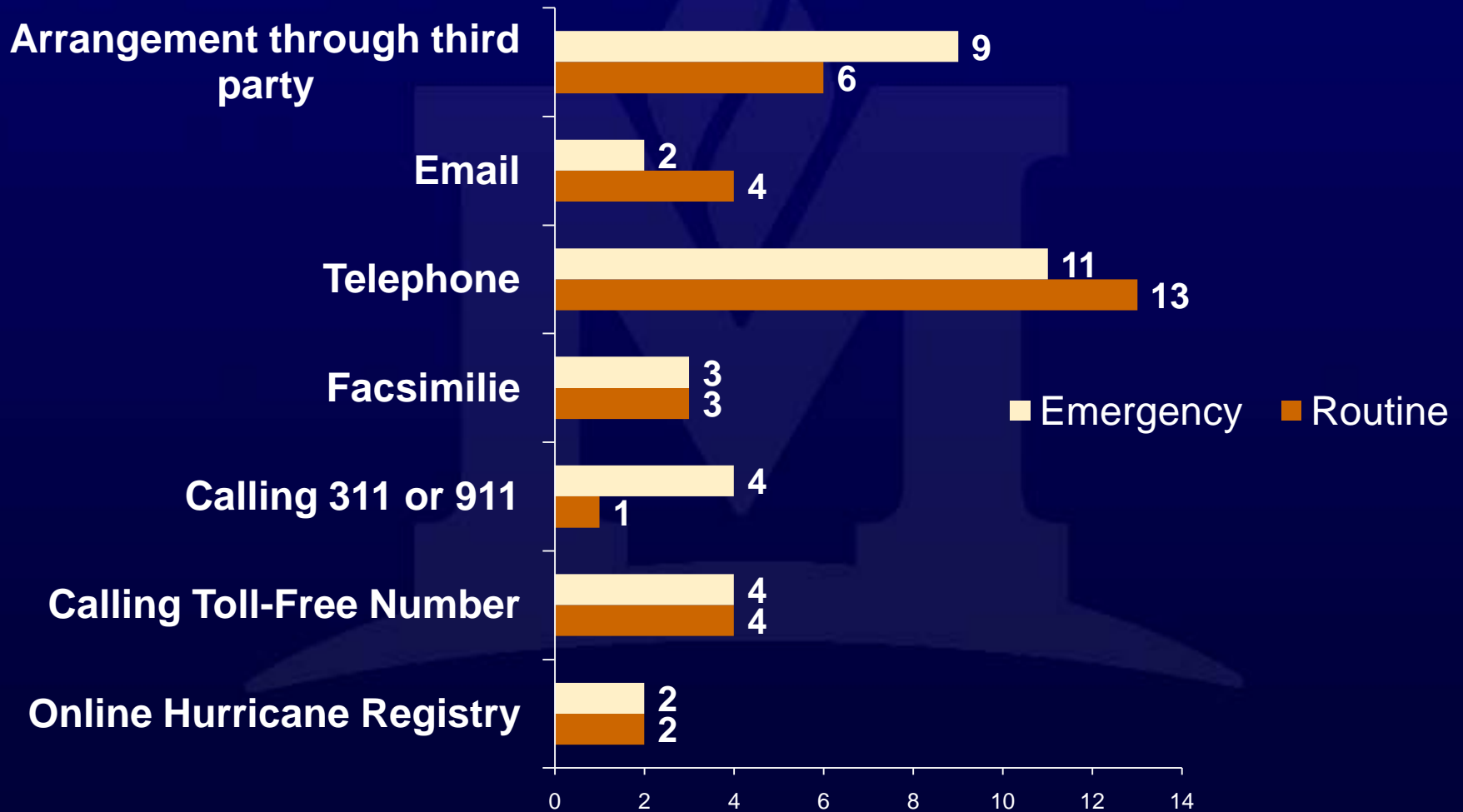
# Level of Passenger Assistance



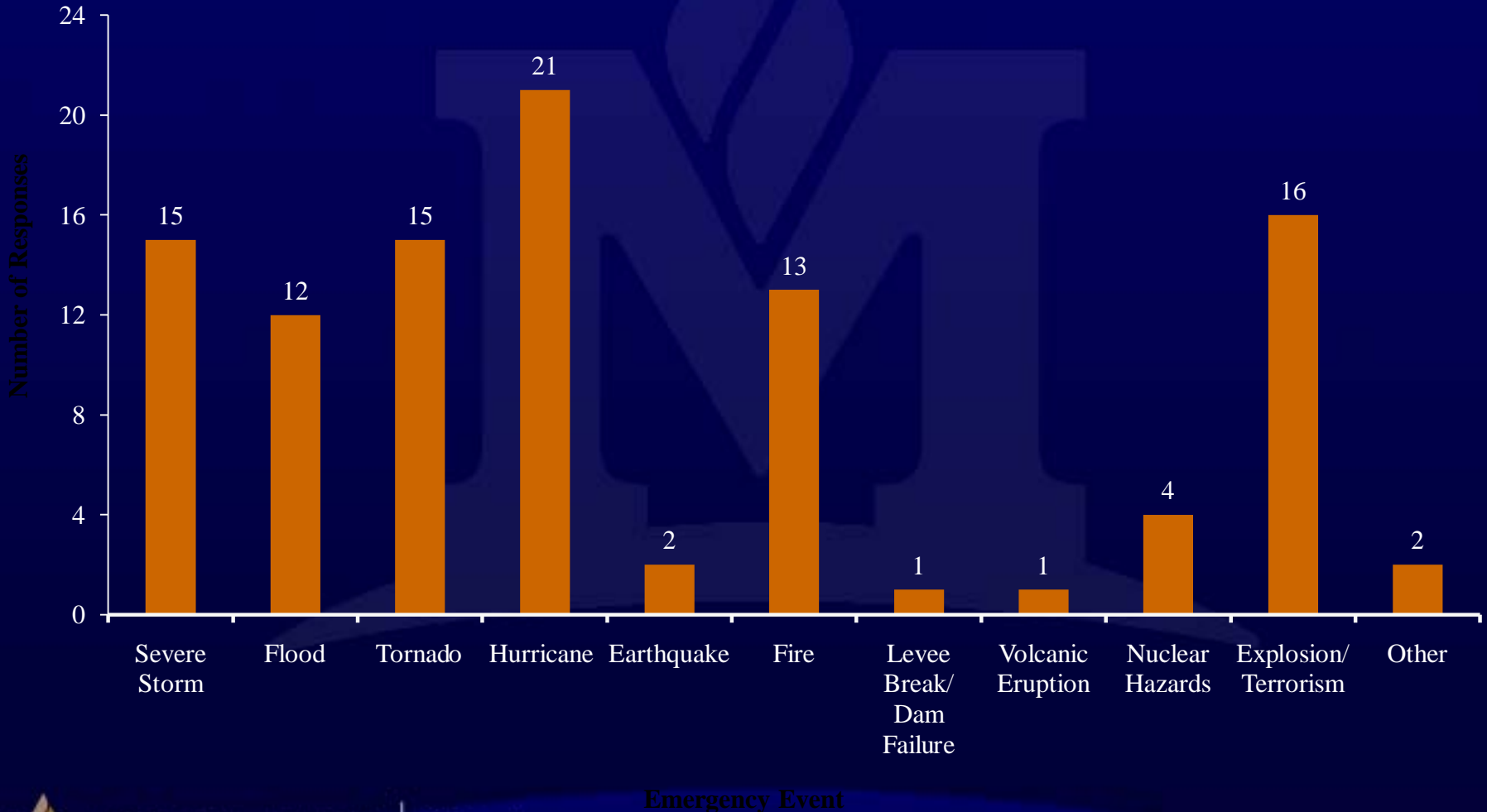
# Maximum Travel Distance



# Communication Sources for Riders



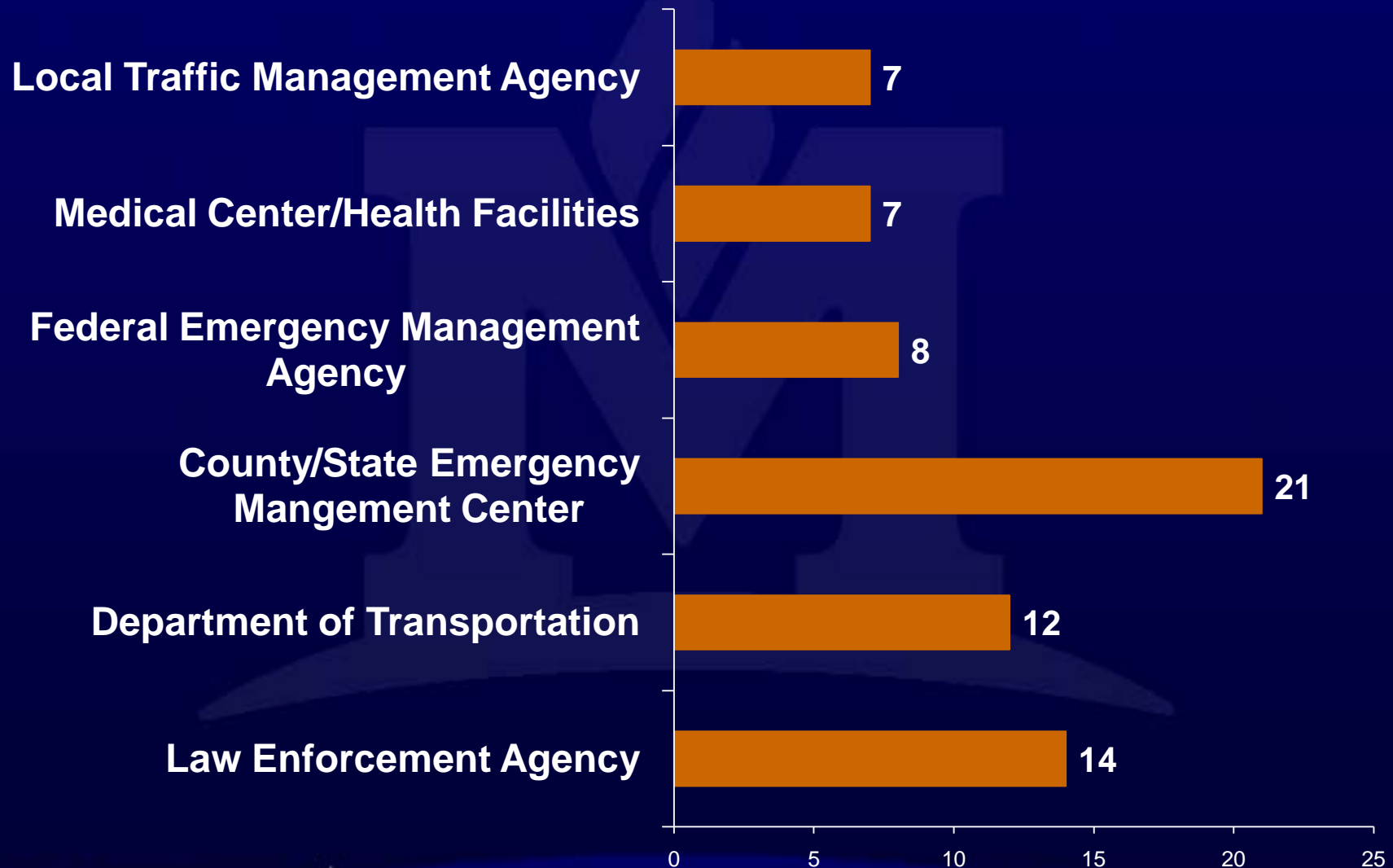
# Planning For Emergency Events



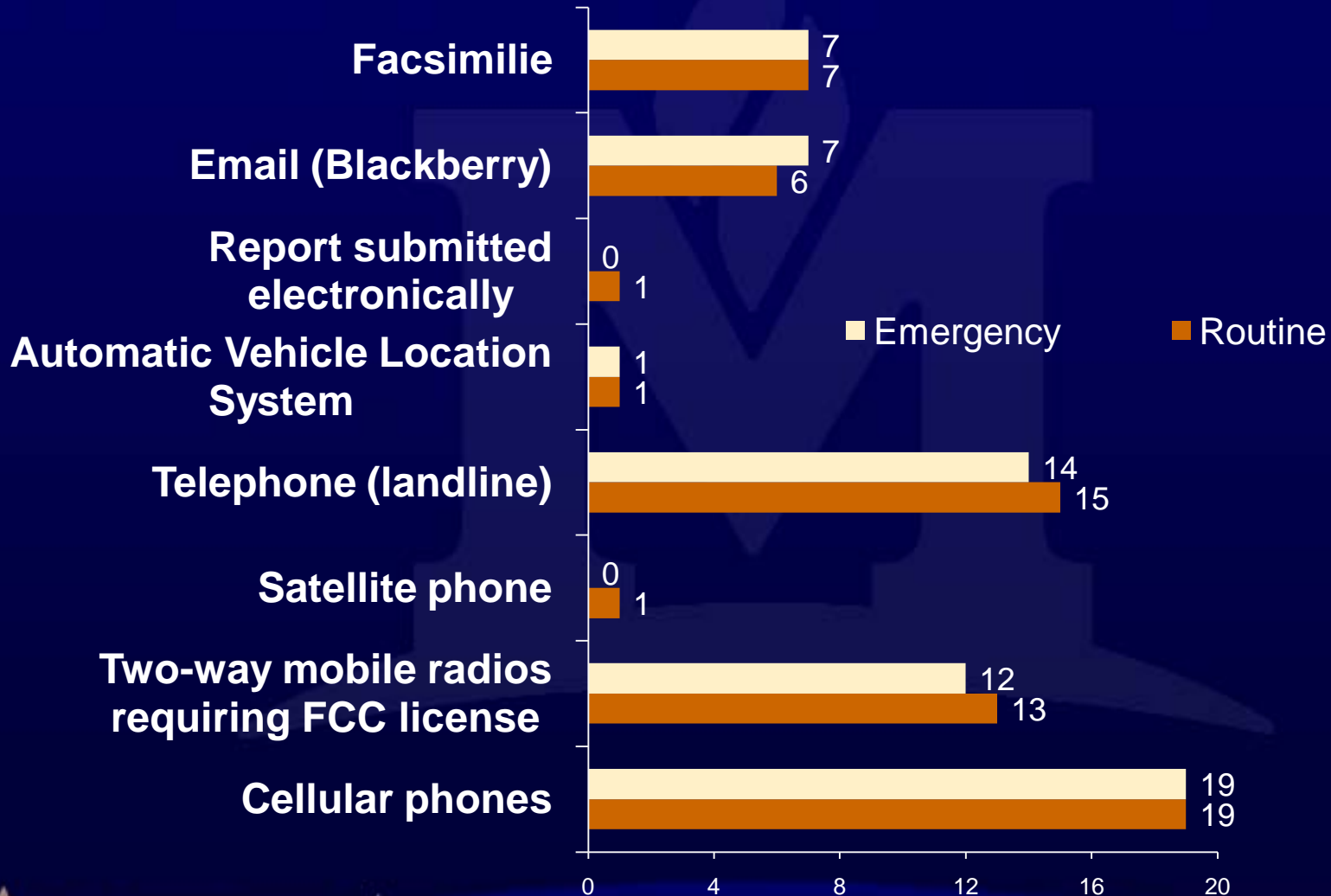
# Vehicle Fleet

Vehicle Type	Total Passenger Capacity (No. of Seats)	Total Number of Vehicles	Total Number of Wheelchair Accessible Spots
• Cars	599	35	
• Sport Utility Vehicles (SUVs)	47	6	1
• Minivans	470	34	16
• Standard 15-passenger vans	750	51	21
• Converted 15-passenger vans ( <i>e.g.</i> , raised roof, wheelchair lift)	395	59	90
• Light-duty bus (body-on-chassis type capacity between 16-24 passengers)	1117	61	52
• Medium duty bus (body-on-chassis type capacity over 22 passengers)	1191	28	35
• <b>School bus (yellow school bus capacity between 20 and 76 students)</b>	<b>61640</b>	<b>791</b>	<b>120</b>
• Medium or heavy duty transit bus	840	30	33

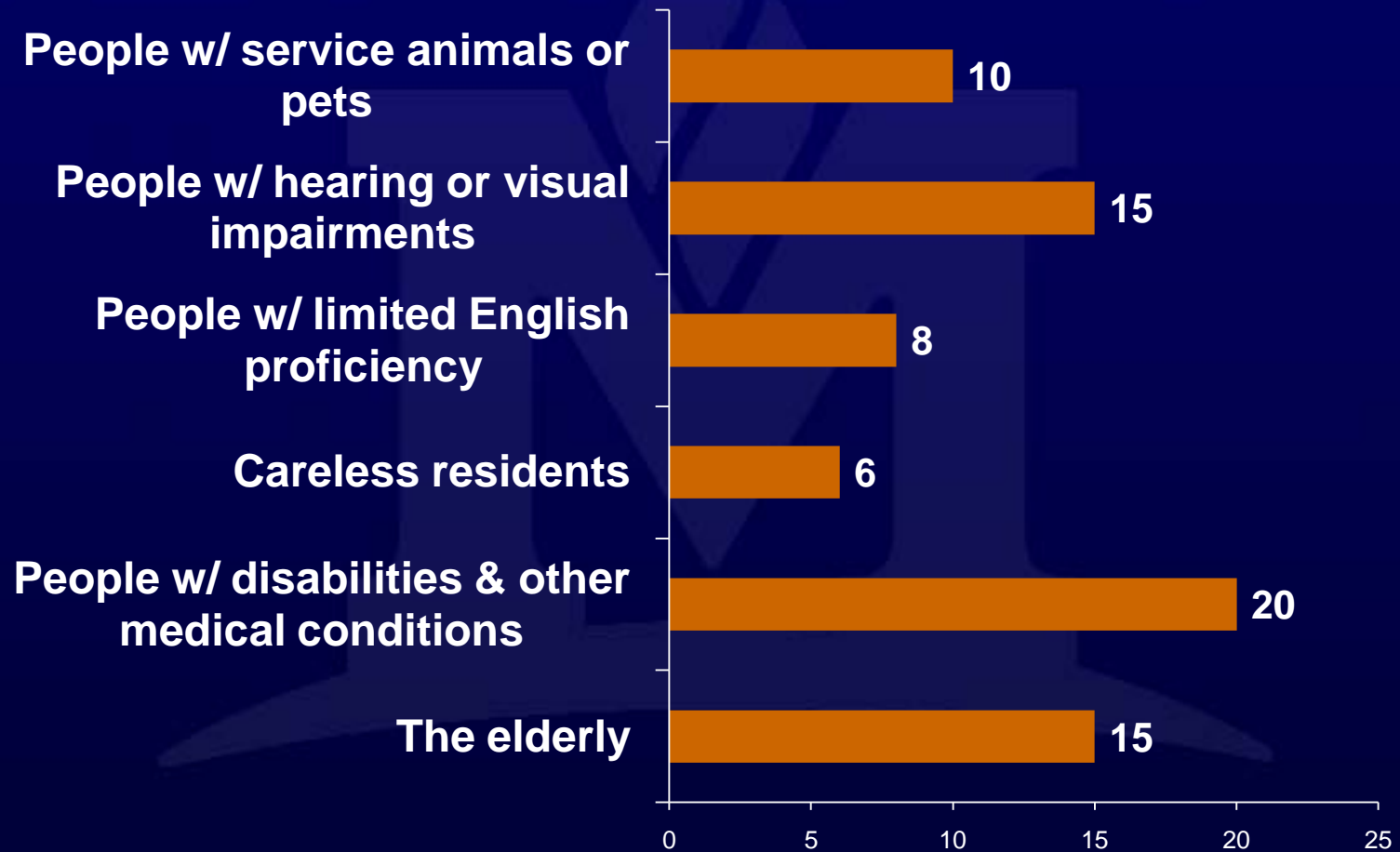
# Established Communication Protocols w/ Agencies



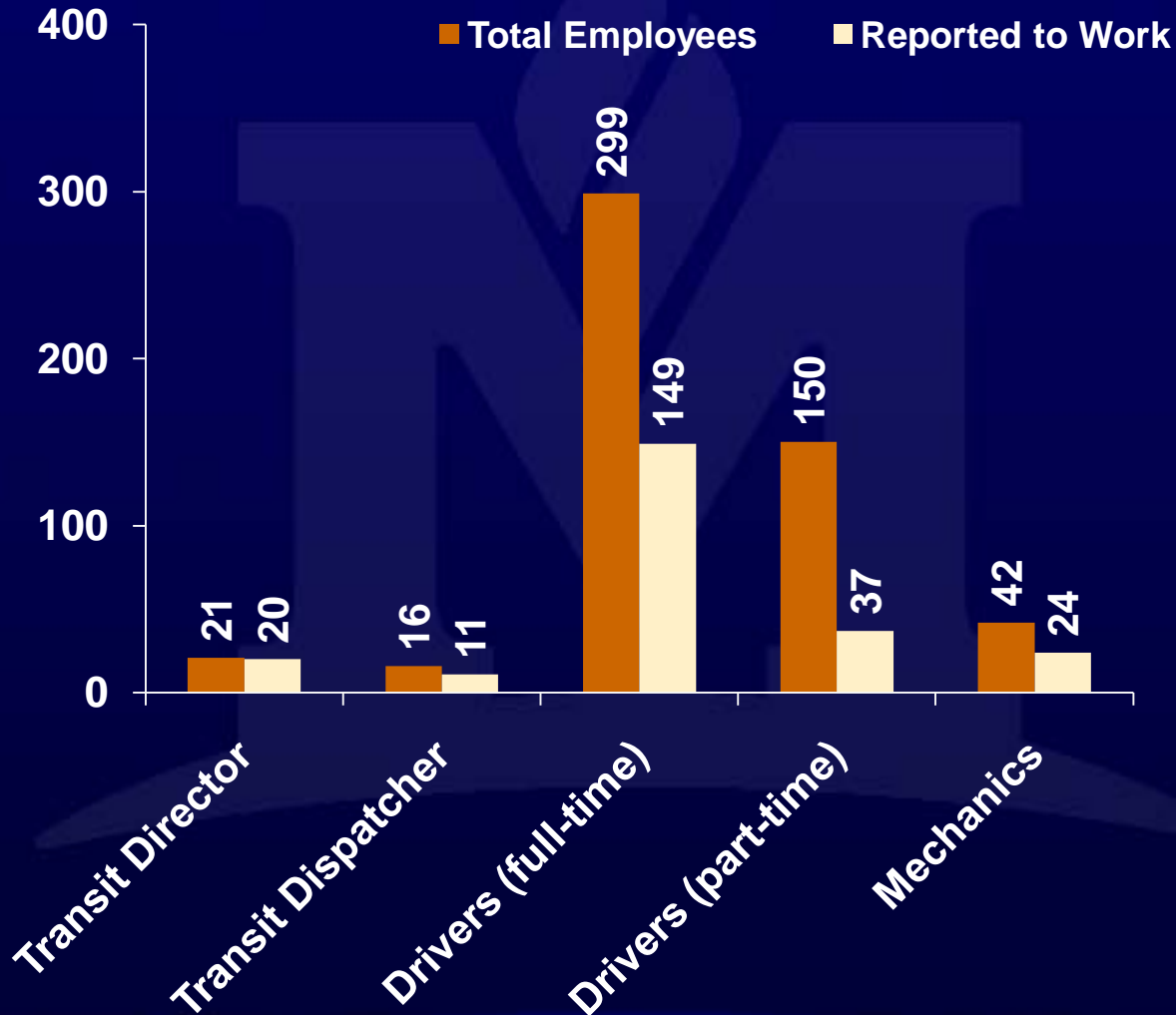
# Communication Systems for Coordination



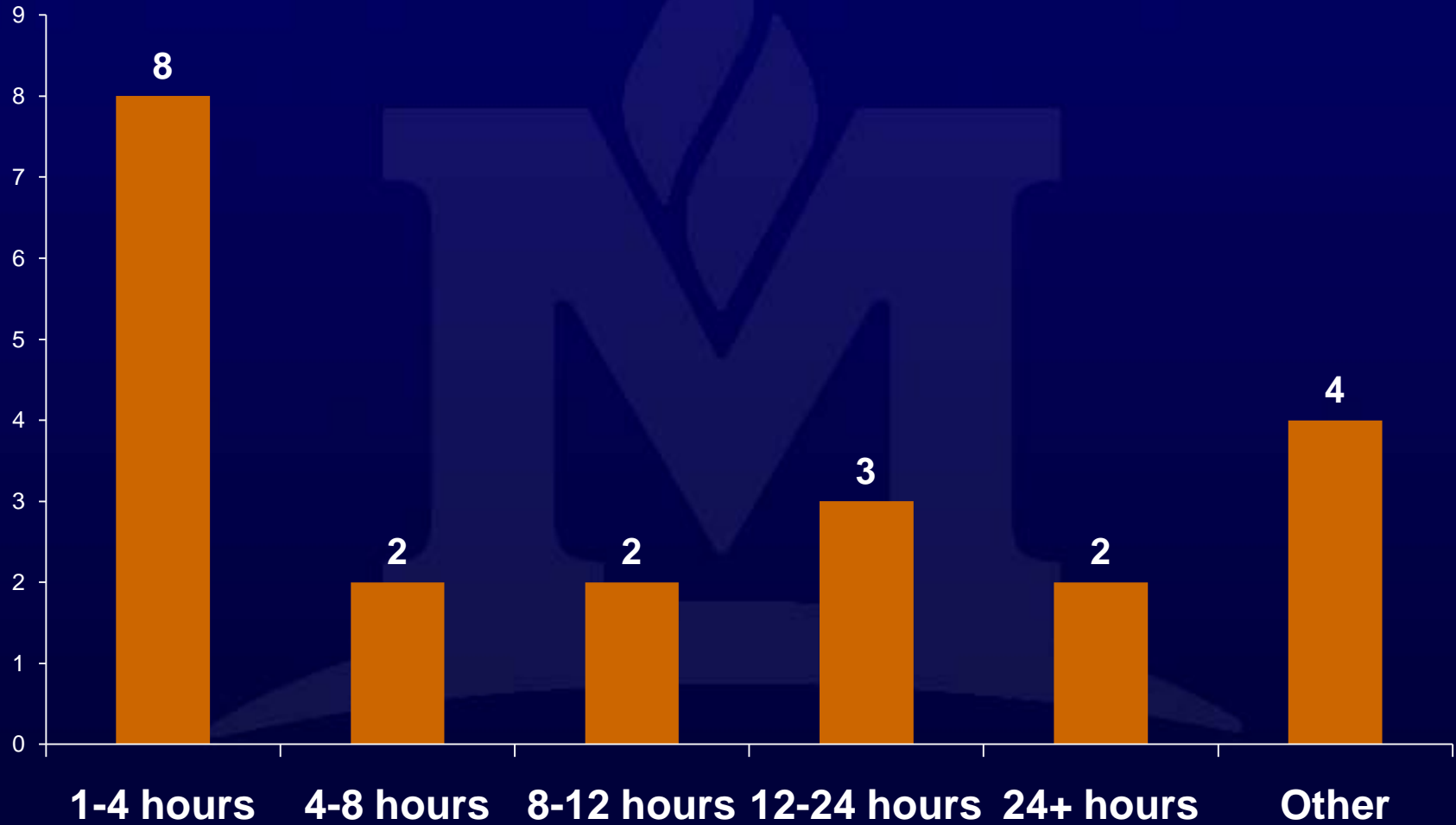
# Employee Training



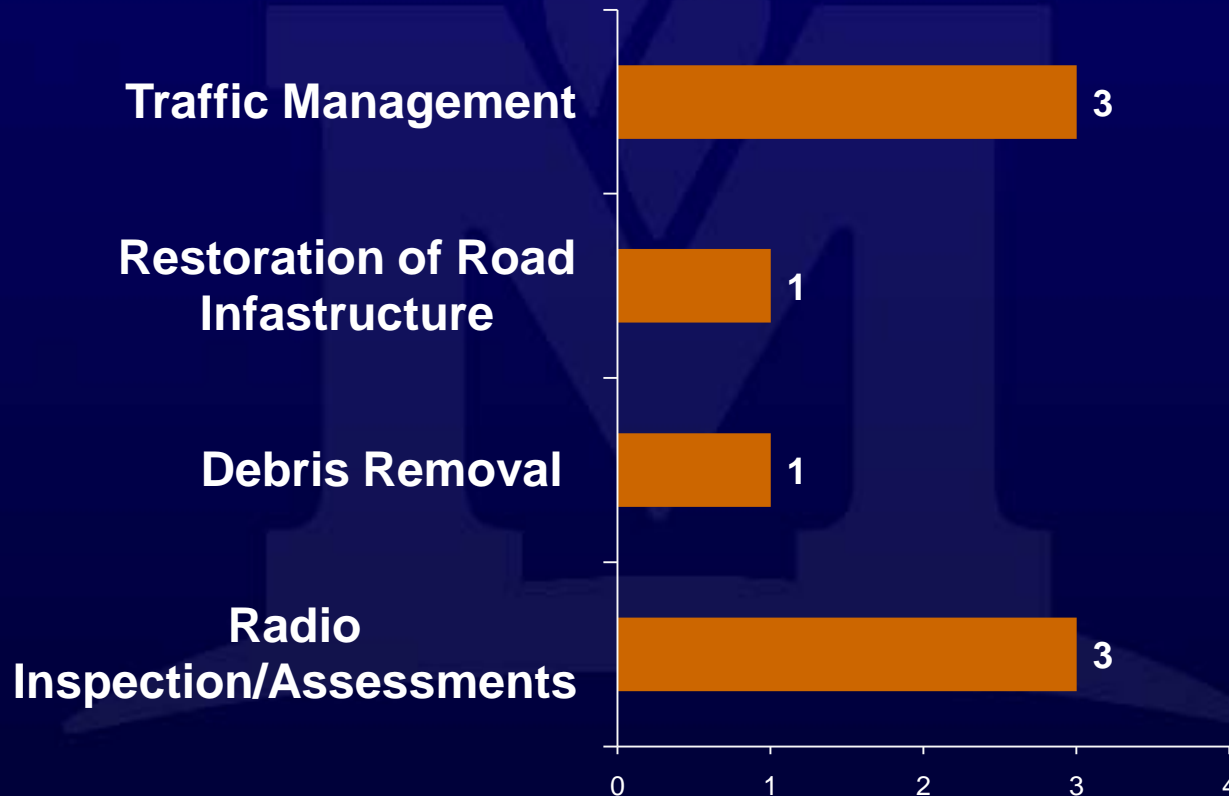
# Employee Issues



# Evacuation Preparation Time



# Reentry Procedures



# Assessment of Needs/Coordination

Barriers/Obstacles	Emergency Management Activity			
	Mitigation	Preparedness	Response	Recovery
Having to plan ahead	6	5	4	4
Lack of operating budget	7	8	5	4
Funding restrictions to provide service	4	4	4	3

# Conclusion

- Respondents fulfilled their assigned role within their own local emergency management operations
- Role is largely limited to the 'preparedness' activity of emergency management
- Transit services are active in improving coordination, conducting regular mock-drills, increasing participation of people and transit, and establishing service aid agreements.
- School bus systems also actively participate in evacuation operation.

# School Bus System

## Advantages:

1. Buses are equipped to deal with issues such as altered bus schedules, traffic congestion, and weather conditions
2. Schools act as shelters, therefore convenient for school bus systems to coordinate an evacuation operation
3. School buses are painted yellow - beneficial for law enforcement agencies to give them priority in traffic
4. Resources such as drivers, school nurses, safety officers, coordinators, and mechanics would be available to supplement emergency services

# School Bus System

## Disadvantages:

- Limited wheel chair accessible spots
- Not equipped with air-conditioning
- Have to rely on local emergency management agencies for passenger information, maps, and directions to pick up locations and shelters
- School buses may be at greater risk of exposure to litigation for inconvenient service during an evacuation

# School Bus System

## Disadvantages:

- If not incorporated into a local emergency management plan, response time and integration into emergency response may be significantly delayed
- The average bus capacity is between 20 and 76 students. Adults take up significantly more space on a school bus than children and therefore capacity would be greatly reduced in evacuation

# Acknowledgements

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<http://curis.msstate.edu/>

# Thank you

- [www.westerntransportationinstitute.org](http://www.westerntransportationinstitute.org)



## Rural matters

Roads that work for people should work for the environment, too.