Presentation for
The CREATE Symposium on Economic and Risk Assessment of Hurricane Katrina
Los Angeles, CA
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RISK, PREPARATION, EVACUATION, & RESCUE – KATRINA’s LESSONS
PROJECT COLLABORATORS

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PRESENTATION

• Study Methodology
• Perceived Risk
• Preparation
• Evacuation
• Rescue
• Lessons Documented
SURVEY GROUPS

1. Land Lines
2. Personal Interviews on-site
3. Cell Phones
HH Density by Census Tract

Yellow < 160 HH per sq. mi.
Orange 160-270 HH per sq. mi.
Red > 270 HH per sq. mi.
PERCEIVED RISK

“Rational” decision-making

vs.

Intuition
Previous Hurricane Experience:

- Telephone: 77
- Personal: 56
- Cell Phone: 73
Evacuated in at least one Hurricane
House In Flood Plain

- Telephone: 46
- Personal: 45
- Cell Phone: 46
Did Not Know Elevation Pre-Hurricane

- Telephone: 15
- Personal: 45
- Cell Phone: 16
PRE-HURRICANE PREPARATION

From a 12-point check-off list to

“Do nothing”
Telephone Group: Preparation:

- Boarded Up House: 38.5%
- Elevated Belongings: 40.4%
- Bought Food/Water: 18.3%
- Withdrew Money: 10.1%
- Filled Vehicle: 13.8%
- Bought Generator: 3.7%
- Bought Extra Gas: 5.5%
- None: 18.3%
Personal Interviewees - Preparation:

- Boarded Up House: 45.5%
- Elevated Belongings: 37.7%
- Bought Food/Water: 35.5%
- Withdrew Money: 22.2%
- Filled Vehicle: 12.2%
- Bought Generator: 8.8%
- Bought Extra Gas: 6.6%
- None: 32.7%
Cell Group - Preparation:

- Boarded Up House: 42.2
- Elevated Belongings: 40.9
- Bought Food/Water: 22.7
- Withdrew Money: 28.8
- Filled Vehicle: 1.5
- Bought Generator: 0
- Bought Extra Gas: 21.2
- None: 0
EVACUATION

How to make a decision if it’s VOLUNTARY
KATRINA – SEQUENCE OF EVENTS

8/26 – Emergency Declaration
8/27, 10:00 am – Reversible Lanes
8/27, 5:00 pm – Voluntary Evac.
8/28, 8:00 am – Category 5
8/28, 10:00 am – Mandatory Evac.
8/28, by Noon – 50% Evacuation
8/28, by nightfall – 80% Evac.
KATRINA –
SEQUENCE OF EVENTS

Monday,
8/29, 6:00 am – Landfall, Cat. 4
8/29, 8:00 am – 1st Levee Breech
8/29, Noon – power, commo. failure
8/29, 4:00 pm – 4th Levee Breech
9/01, eve. – 1st bus reaches Houston
Evacuated Before 8/28/05

- Telephone: 35
- Personal: 12
- Cell Phone: 32
Evacuated Before Noon
8/28/05

- Telephone: 63
- Personal: 28
- Cell Phone: 62
Key Factor In Decision To Leave: Direct Order

- Telephone: 2
- Personal: 36
- Cell Phone: 0
Key Factor On Decision NOT To Leave: Transportation
Key Factors On Decision To Leave: **TV Coverage**

- **Telephone**: 27
- **Personal**: 13
- **Cell Phone**: 17
Key Factors On Decision To Leave: Family Decision

- Telephone: 27
- Personal: 28
- Cell Phone: 35
Telephone Group Method of Evacuation

- Personal Vehicle: 78
- Rode With Someone Else: 8.3
- Walked: 0
- Public Bus/Van: 0
- Train: 0
- Plane: 0
- Military Vehicle: 0
- Boat: 1
Personal Interviewees - Method of Evacuation

- Personal Vehicle: 46.4%
- Rode With Someone Else: 14.2%
- Walked: 9.8%
- Public Bus/Van: 10%
- Train: 10%
- Plane: 11.6%
- Military Vehicle: 10%
- Boat: 19.6%
Cell Group - Method of Evacuation:

- Personal Vehicle: 87.5%
- Rode With Someone Else: 6.1%
- Walked: 0%
- Public Bus/Van: 3%
- Train: 0%
- Plane: 1.5%
- Military Vehicle: 0%
- Boat: 1.5%
After the storm passed, approx. 10% of residents – about 50,000 - were rescued from Superdome, Civic Center, homes or other buildings
More Evacuees

After the storm passed, an additional 10% of residents evacuated on their own or stayed in New Orleans w/o services.
Rescued After 8/29/05

- Telephone: 3
- Personal: 10
- Cell Phone: 9
Rescue Transport: Other

- Telephone: 33
- Personal: 28
- Cell Phone: 67
POST - KATRINA and RITA POPULATION RELOCATION
<table>
<thead>
<tr>
<th>Parish</th>
<th>Pct.</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jefferson</td>
<td>8.3%</td>
<td>37,000</td>
</tr>
<tr>
<td>Cameron</td>
<td>20.7%</td>
<td>2,000</td>
</tr>
<tr>
<td>Plaquemines</td>
<td>28.7%</td>
<td>8,000</td>
</tr>
<tr>
<td>Orleans</td>
<td>64.8%</td>
<td>279,000</td>
</tr>
<tr>
<td>St. Bernard</td>
<td>94.8%</td>
<td>61,000</td>
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</table>
SOCIO-ECONOMIC DATA ON THE SURVEY GROUPS
Percent with Acute or Chronic Health Issues

- Telephone: 40%
- Personal: 26%
- Cell Phone: 37%
LESSONS DOCUMENTED

- Realistic knowledge base
- Worst case scenarios
- Plan evacuation NOW
- Cascading effect
- Crisis communications
- Expect the unexpected
An Interesting Website

http://www.nola.com/katrina/graphics/flashflood.swf