MOU Assumptions and variables
The adopted level of service for out-of-county hurricane evacuation is maintained for a Category 5 storm event as measured on the Saffir-Simpson scale.

For those local governments that have not established a level of service for out-of-county hurricane evacuation by July 1, 2008, by following the process in paragraph (a), the level of service shall be no greater than 16 hours for a Category 5 storm event as measured on the Saffir-Simpson scale.
This subsection shall become effective immediately and shall apply to all local governments.

The Keys local governments adopted their level of service standard for evacuation prior to July 1, 2008.
Chapter 380.0552(9)(a)2., F.S.

- Protect public safety and welfare in the event of a natural disaster by maintaining a hurricane evacuation clearance time for permanent residents of **no more than 24 hours**.

**Principles for Guiding Development**

- Provide adequate alternatives for the protection of public safety in the event of a disaster
- Ensure population of keys can be evacuated
Assumptions/variables

• Modeling for worst case scenario Hurricane Category 5 Event

• Evacuation time cannot exceed 24 hours
Commencement and Completion of Evacuation

• For the purposes of hurricane evacuation clearance time modeling purposes, clearance time shall begin when the Monroe County Emergency Management Coordinator issues the evacuation order for Phase II of the evacuation for a hurricane that is classified as a Category 3, 4, or 5 wind event or Category C-E surge event...
Transient Units modeled and data sources

Transient units: 13,665
Occupied: 9,540
Vacant: 4,125

The data source for the number and type of units and vehicular use is the Statewide Regional Evacuation Studies Program and the Department of Business and Professional Regulation. The data source for occupancy of transient units is the Smith Travel Research Data for 2011.
Mobile Units

- 8,134 mobile home units
- 4,576 occupied
- 3,558 vacant

The data source for the number and type of units, the vehicular use and occupancy of the units is the 2010 Census Survey supplemented by the American Communities Survey 2006-2010
Site built units

- 44,630 units
- 28,053 occupied
- 16,577 vacant units.

The data source for the number, type, occupancy, and vehicular use is the 2010 Census supplemented by the American Communities Survey 2006-2010 and the Statewide Regional Evacuation Studies Program.
Response Curve

12 hours for all unit types as utilized in the Statewide Regional Evacuation Studies Program.
Participation

- Tourist units: 100%
- Mobile homes: 100%
- Site-built homes:
  - 70% for a Category 3 event
  - 80% for a Category 4 event
  - 90% for a Category 5 event
Occupancy Rate Mobiles

Average Occupancy Rate

- Key West: 80.4%
- Lower Keys: 68.0%
- Middle Keys: 52.2%
- Upper Keys: 42.0%

Based on 2010 Census/American Communities Survey
Average Occupancy Rate

- Key West: 81.2%
- Lower Keys: 67.1%
- Middle Keys: 49.7%
- Upper Keys: 54.9%

Based on 2010 Census/American Communities Survey
## Hotel Occupancy

<table>
<thead>
<tr>
<th>Months</th>
<th>Key West</th>
<th>Monroe County w/o Key West</th>
<th>Key Largo</th>
<th>Marathon</th>
<th>Islamorada</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>85.1%</td>
<td>71.7%</td>
<td>73.8%</td>
<td>74.8%</td>
<td>63.3%</td>
</tr>
<tr>
<td>July</td>
<td>90.5%</td>
<td>75.9%</td>
<td>77.8%</td>
<td>79.0%</td>
<td>67.5%</td>
</tr>
<tr>
<td>August</td>
<td>77.7%</td>
<td>61.3%</td>
<td>62.2%</td>
<td>64.8%</td>
<td>53.1%</td>
</tr>
<tr>
<td>September</td>
<td>63.2%</td>
<td>45.3%</td>
<td>47.9%</td>
<td>44.9%</td>
<td>40.3%</td>
</tr>
<tr>
<td>October</td>
<td>74.7%</td>
<td>52.8%</td>
<td>55.9%</td>
<td>52.9%</td>
<td>46.1%</td>
</tr>
<tr>
<td>November</td>
<td>85.2%</td>
<td>63.5%</td>
<td>67.3%</td>
<td>62.3%</td>
<td>58.5%</td>
</tr>
<tr>
<td>Hurricane Season (Average)</td>
<td>79.4%</td>
<td>61.8%</td>
<td>64.2%</td>
<td>63.1%</td>
<td>54.8%</td>
</tr>
</tbody>
</table>
## Vehicle Usage Rates Mobile Home

<table>
<thead>
<tr>
<th>Location</th>
<th>Usage Rates</th>
<th>Cars per household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key West</td>
<td>90%</td>
<td>1.10</td>
</tr>
<tr>
<td>Lower Keys</td>
<td>75%</td>
<td>1.55</td>
</tr>
<tr>
<td>Middle Keys</td>
<td>80%</td>
<td>1.52</td>
</tr>
<tr>
<td>Upper Keys</td>
<td>85%</td>
<td>1.56</td>
</tr>
</tbody>
</table>
# Vehicle Usage Rates Site-built

<table>
<thead>
<tr>
<th>Location</th>
<th>Usage Rates</th>
<th>Cars per household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key West</td>
<td>90%</td>
<td>1.21</td>
</tr>
<tr>
<td>Lower Keys</td>
<td>75%</td>
<td>1.43</td>
</tr>
<tr>
<td>Middle Keys</td>
<td>80%</td>
<td>1.51</td>
</tr>
<tr>
<td>Upper Keys</td>
<td>85%</td>
<td>1.49</td>
</tr>
</tbody>
</table>
## Vehicle Usage Special Population

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida Keys Community College</td>
<td>100 vehicles</td>
</tr>
<tr>
<td>N.A.S. Key West</td>
<td>2,025 vehicles</td>
</tr>
</tbody>
</table>
Vehicle Usage Hotels

1.1 cars per unit
Highway Capacity

• Maximum Sustainable Traffic Flow Rates per Functional Evacuation Lane for Hurricane Evacuation Purposes
Evacuation Stream

- Monroe County only
Evacuation Procedure

• Approximately 48 hours in advance of tropical storm winds, a mandatory evacuation of non-residents, visitors, recreational vehicles (RV’s), travel trailers, live-aboard boats, state parks and camp grounds (transient and non-transient), and military personnel

• Approximately 36 hours in advance of tropical storm winds, a mandatory evacuation of mobile home residents, special needs residents, and hospital and nursing home patients

• Approximately 30 hours in advance of tropical storm winds, a mandatory phased evacuation of permanent residents:
Phased Evacuation

- Tourists Ordered to Evacuate
  - 48 by 7 am
  - 42 by 1 pm
  - 36 by 7 pm
  - 30 by 1 am
  - 24 by 7 am
  - 18 by 1 pm
  - 12 by 7 pm
  - 6 by 1 am
  - 0 by 7 am

- Mobile Home Residents Ordered to Evacuate
  - 36 by 7 pm
  - 30 by 1 am
  - 24 by 7 am
  - 18 by 1 pm
  - 12 by 7 pm
  - 6 by 1 am
  - 0 by 7 am

- Site-built Home Residents Ordered to Evacuate
  - 30 by 1 am
  - 24 by 7 am
  - 18 by 1 pm
  - 12 by 7 pm
  - 6 by 1 am
  - 0 by 7 am

- Predicted Tropical Storm Force Winds
  - 0 by 7 am