

Questions submitted by John Hammerstrom April 6, 2012

Answers are in red unless otherwise noted

Question 1

For the purposes of calculating clearance times, 30% of Site-Built Homes, 35% of Mobile Homes and 15% of Hotel/Motel units are considered "vacant," which means there is no evacuating traffic associated with approximately 19,000 units in Monroe County: 14,000 Site-Built Homes, 3,000 Mobile Homes and 2,000 Hotel/Motel units (2010 numbers).

With regard to the Site-Built and Mobile Homes, it seems likely that many are either rentals or second homes and that it would be reasonable to expect some traffic from them for a major hurricane, and prudent to include some portion in our clearance time calculations.

I can understand "vacant" with regard to Hotel/Motel units, but would you try to help us understand what is meant by "vacant" with regard to Site-Built and Mobile Homes and perhaps try to provide some method to estimate an appropriate percentage of those "vacant" dwelling units that should be included?

Response:

The model uses vacancy information from the Census. Census is the best available information that we have. Here is a link to a Census publication regarding residency rules that may provide a better understanding as to how the Census gathers occupancy information.

http://www.census.gov/population/www/cen2010/resid_rules/resid_rules.html

Question 2

Which statutes would need to be changed to increase Monroe County's Clearance Time limit of 24 hours?

Is there any "limit" to increasing the "limit?" For example, can our Clearance Time "limit" be increased to 96 hours? Is there a data and analysis or other fact-based validation required before an arbitrary number can be adopted?

Do the clearance-time limit examples of other counties have any relevance to Monroe County, or does the Area of Critical State Concern or Coastal High Hazard provisions make comparisons irrelevant? Part of the relevance question would seem to be: Do the other counties have any consequences for failure to achieve a clearance time under their limit?

If comparisons ARE relevant, are there other clearance-time limits in the state that are 30 or 36 hours (or greater) and tied to growth management?

Is a recommendation to increase Monroe County's Clearance Time limit one of the options that should be included in the MOU?

Response:

Statutes which would need to be changed: Sections 163.3178 (9), 380.0552 (9)(a)2. Florida Statutes

Is there any limit to increasing the limit? Section 163.3178 (9)(b) states, “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.” Monroe County established their level of service for out of county evacuation prior to the deadline in statute. If the statute were to change to allow an increase in evacuation time, local governments would be required to amend their comprehensive plans in order to increase their level of service standards. Section 163.3177 (f) requires that elements of the comprehensive plan be based on relevant and appropriate data. Therefore, changes to the evacuation time could not be arbitrary; amendments to the comprehensive plan would need to be based on data supporting the amendment.

Currently there is no sanction associated with failing to achieve a clearance time adopted in the comprehensive plan. If a local government proposes a future land use map change that would increase residential density in the Coastal High Hazard Area (CHHA), the local government/applicant would need to demonstrate that the additional population would not impair the hurricane evacuation clearance time beyond the adopted level of service standard adopted in the comprehensive plan or mitigate for the development’s impact to hurricane evacuation. However, the local government could build in the CHHA to the current residential densities as entitled on the future land use map.

There is one county with an adopted level of service for hurricane evacuation clearance time that is greater than 30 hours. Pasco County’s adopted level of service time is 55 hours. The next highest is Hillsborough County with an adopted level of service time of 28 hours. Most counties in Florida have adopted level of service times that are less than 24 hours.

Rules 28-18, 28-19 and 28-20, Florida Administration Code specifies “*The memorandum of understanding shall stipulate, based on professionally acceptable data and analysis, the input variables and assumptions, including regional considerations, for utilizing the Florida Keys Hurricane Evacuation Model or other models acceptable to the Department of Community Affairs to accurately depict evacuation clearance times for the population of the Florida Keys.*” The MOU establishes the input variables for running the model – it does not include recommendations to the Administration Commission. DEO will make their recommendations in November.

Question 3

Would you ask (Richard Ogburn?) to verify my calculations below? Numbers are rounded off for clarity. $4,600 + 17,000 + 14,000 + 11,000 + 22,500 = 69,100$ which is very close to the actual 2010 total of 69,124.

- To calculate an “Official” Clearance Time for Growth Management purposes, a portion of the county’s total dwelling units is converted to a number of vehicles, which, using the Statewide Regional Evacuation Study Program (SRESP) Transportation Interface for Modeling Evacuation (TIME) model, is converted into a Clearance Time. Below pertains to Category 3.
- 69,000 total dwelling units in Monroe County (2010)
- 4,600 (occupied, participating) mobile home dwelling units are removed from the clearance time based on the 48-hour assumption ($4,645 = 9,002 \times 64.5\% \times 80\%$)
- 17,000 “vacant” site-built and mobile homes are removed from the clearance time based on census info ($17,419 = 14,224 + 3,195$)
- All Hotel/Motel units - 14,000 - are excluded from the clearance time based on the 48-hour assumption (13,665)
- For a Category 3, 11,000 site-built and mobile homes are excluded because they are expected not to “participate.” $10824 = ((32,213) \times 30\%) + ((5,807) \times 20\%)$
- For a Category 3 storm, 22,500 occupied, participating site-built homes are converted to the number of vehicles evacuating.
- The number of vehicles is converted to a Clearance Time by the “model.”

Response

Note: the numbers provided by Richard Ogburn do not reflect the 2010 Census updates contained in the model. The current numbers used in the model are as follows:

	Occupied	Vacant	Total
Site-built	28,053	16,577	44,630
Mobile Homes	4,576	3,558	8,134
Transient Units	9,540	4,125	13,665

Answer from Richard Ogburn:

Numbers are rounded off for clarity. $4,600 + 17,000 + 14,000 + 11,000 + 22500 = 69,100$ which is very close to the actual 2010 total of 69,124. The areas highlighted in yellow contain Mr. Ogburn’s response.

- To calculate an “Official” Clearance Time for Growth Management purposes, a portion of the county’s total dwelling units is converted to a number of vehicles, which, using the Statewide Regional Evacuation Study Program (SRESP) Transportation Interface for Modeling

Evacuation (TIME) model, ~~is converted into~~ generates a Clearance Time. Below pertains to Category 3.

- 69,000 total dwelling units in Monroe County (2010) – The sum of the estimates for 2010 = 69,124 (46,457 site-built homes + 9,002 mobile homes + 13,665 hotel/motel rooms). To the extent that hotel/motel rooms (based on the lodging database of the Department of Business and Professional Regulation) capture some of the “vacant” site-built homes, there is some double counting.
- 4,600 (occupied, participating) mobile home dwelling units are removed from the clearance time based on the 48-hour assumption ($4,645 = 9,002 \times 64.5\% \times 80\%$) – The participation rates for mobile home residents are 85% for Category 3, 90% for Category 4, and 95% for Category 5 (see Volume 1-11, Appendix III-C), so the correct total is 4,936 for a Category 3 storm.
- 17,000 “vacant” site-built and mobile homes are removed from the clearance time based on census info ($17,419 = 14,224 + 3,195$) – The total number of vacant units should be $17,439 = 14,244 + 3,195$, according to 2000 Census vacancy rates. Some of these may be counted in the hotel/motel room count, to the extent that “vacant units” according to the Census obtain a lodging license from DBPR.
- All Hotel/Motel units - 14,000 - are excluded from the clearance time based on the 48-hour assumption (13,665) – which, in turn, is based on the policies adopted in local comprehensive plans
- For a Category 3, 11,000 site-built and mobile homes are excluded because they are expected not to “participate.” $10824 = ((32,213) \times 30\%) + ((5,807) \times 20\%)$ – The total should be 10,534 ($32,213 \times 30\% = 9,664 + 5,807 \times 15\% = 871$).
- For a Category 3 storm, 22,500 occupied, participating site-built homes are converted used to estimate the number of vehicles evacuating. The correct number is 22,549 ($32,213 \times 70\%$).
- The number of vehicles is converted used, along with a response curve, to generate a Clearance Time by the “model.”