

Hurricane Evacuation Clearance Workshop June 8, 2012 Minutes

Welcome and Opening Remarks

Barbara Powell from the Department of Economic Opportunity brought the meeting to order and introduced Mayor Peter Worthington of the City of Marathon to welcome the group.

Mrs. Powell proposed changes to the Agenda to allow Work Group member Annalise Mannix to speak since she was unable to stay the duration of the meeting. Other announcements included the intent to post an email on the Department of Economic Opportunity's Florida Keys Hurricane Evacuation website to cure a potential Sunshine Law violation that occurred when Ms. Mannix sent an email to the Monroe County Board of County Commissioners and copied Work Group member Commissioner Sylvia Murphy. The email from Ms. Mannix expressed her concerns regarding: 1) traffic flow rates, 2) vehicle usage rates and 3) behavioral studies.

Mrs. Powell noted that Bob Shillinger, Assistant County Attorney for Monroe County, had previously requested, via email, changes to the April 30th minutes regarding his presentation on a Sunshine violation. Mrs. Powell asked if there were any other corrections to the April 30th meeting minutes before approval. Mr. Hammerstrom requested that the minutes reflect the economic impact of hurricane evacuation (\$3 Million impact during a week day and \$8 Million on a weekend).

Annalise Mannix Presentation

Ms. Mannix stated that the traffic flow rates utilized in the hurricane evacuation model for the Florida Keys were too low. Ms. Mannix indicated that the population may start evacuating days in advance of a hurricane storm event. Regarding the behavioral studies, Ms. Mannix had issue with how residents in Mobile Homes and Recreational Vehicles were surveyed. She also stated that assuming people won't drive at night was incorrect.

Ms. Mannix indicated that further research should be done to make sure double-counting does not occur. Ms. Mannix was not convinced that new construction equates to new permanent residents since more homes are being used as second homes and vacation rentals. She also felt that the 10 ft. shoulders should be counted in the model as a functional evacuation lane and recommended a contra-flow plan on the 18-mile stretch.

John Hammerstrom Presentation

John Hammerstrom's slide presentation provided an overview of the assumptions that are part of the Memorandum of Understanding (MOU), reinforced that the task of the Work Group was to choose reasonable input parameters and to compare the resulting clearance time to the statutory limit of 24 hours, and he expressed his apprehension that the group would instead "...start with a clearance time of 24 hours or less and then define the inputs and assumptions to achieve that time."

Mr. Hammerstrom quoted Jonathan Rizzo, Warning Coordination Meteorologist at the National Weather Service, Key West, "The science of weather forecasting, including track, intensification, wind field and storm surge does not support the assumption that Monroe County will always have 48 hours in which to carry out a phased evacuation," James Franklin, Branch Chief of the National Hurricane Center, Hurricane Specialist Unit, "While Average Track Errors for Atlantic hurricanes have been cut in half over the past 15 years, there has been virtually no change in average intensity forecast errors over that period. Rapid intensification is particularly difficult to forecast. Accurate forecasts of storm surge 48 hours in advance are complicated by a lack of ability to forecast changes in storm structure and size, where almost no forecast skill exists. The structure or distribution of a storm's wind field is one of several critical factors in determining the amount of surge that a particular location will experience," and Andrew Devanas, Science and Operations Officer of the National Weather Service, Key West, "Hurricanes Wilma, Rita, Ivan and Dennis all intensified from tropical storm to evacuation-inducing Category 3+ strength in less than 24 hours - and none of those intensifications were forecast."

It was Mr. Hammerstrom's opinion that mobile home residents and tourists should be modeled as evacuating with the site-built units because "...forecasting tools are inadequate to reliably evacuate tourists 48 hours ahead. History tells us that sometimes 24 hours is insufficient." Mr. Hammerstrom discussed the 20,135 dwelling units the US Census considered vacant and the fact that none are included in the MOU clearance time calculation. He referred to the census statement that 75% of the vacant units are occupied "seasonally, recreationally or occasionally" and it was his opinion that "...many 'vacant' dwelling units will generate evacuation traffic because they are second homes in need of hurricane preparation by mainland owners, or simply because they are occupied as 'seasonal, recreational or occasional' units."

Mr. Hammerstrom stated that the proposed MOU accounts for only 38% of the County's total dwelling units since the Work Group's proposed input parameters excludes all 20,135 dwelling units considered "vacant" and all tourist units and mobile homes based on the presumption that there will be 48 hours in which to execute a two-phased evacuation.

Mr. Hammerstrom suggested that the draft MOU should include Tourist and Mobile Home residents in the clearance time calculation and should include 25% of those units considered vacant by the US Census. Since it was required by Florida Administrative Code to include "regional considerations", he asserted that the clearance time for Monroe County should therefore include the influences of neighboring counties. Mr. Hammerstrom presented his recommendations for a revised MOU that he had drafted. The members of the Work Group did not make a motion to accept his recommendations.

Mayte Santamaria Presentation

Mayte Santamaria, Assistant Planning Director for Monroe County, gave a presentation based on alternative strategies to mitigate for hurricane evacuation impacts in the Florida Keys. Some of the potential strategies are as follows:

- Revision to the rate and distribution of building allocations
 - Distribution based on vacant land analysis within jurisdictions
 - Decrease annual allocation rate to allow for the ability to buy more land and allow for long term land acquisition

- Roadway Improvements
 - Acknowledge these type of projects are costly and controversial
 - Additional lanes may conflict with community character and are prohibited by Monroe County Comprehensive Plan policies in areas with 4 lane highways in the Upper Keys
- Adopt comprehensive plan policies which would allow for the transfer of building allocations across Monroe County sub-areas and across other local governments' jurisdictional lines
 - Would help with limited allocations
 - May negatively impact affordable housing deficit in the Florida Keys
- Re-designate vacant platted lots near US 1 as strictly non-residential land uses (such as commercial/office, etc.)
- Request federal government designate all eligible vacant lots within the Keys as Coastal Barrier Resource Units (CBRS)
 - Provide limitations on obtaining federal funds or subsidies for future development

Ms. Santamaria stated that there could be an evaluation to the current 24-hour clearance time to see whether it is still appropriate for the Florida Keys since forecasting ability has improved since it was adopted into the Florida Statutes and local law. She also recommended the reconsideration of the current phased policy adopted by the local governments to see if the policy is still relevant for the Keys and whether revision is necessary.

Monroe County has 8,758 privately-owned, vacant lots and the local governments should consider mechanisms to accelerate and fund land acquisition while balancing the private property rights and fairness for future development. Ms. Santamaria indicated there may be long-term maintenance issues. A solution would include locating additional funding sources for the County's Land Authority.

Other mitigation strategies included research and construction of hurricane shelters within Monroe County located outside the Coastal High Hazard Area (CHHA). Funding for shelter development could come from fees from future development in the Keys. Ms. Santamaria presented maps of potential locations outside of Tier I and the CHHA.

Scenario Discussion - Barbara Powell and Jeannine Kelsick

Scenarios M3, M4, M5 and M11

Scenario M3: This scenario assumes 44,630 existing site-built units, projected allocation of 3,540 and 1,248 mobiles homes to convert to site-built units over the 10-year period. The scenario provided an evacuation clearance time of 24 hours and 30 minutes.

Scenario M4: This scenario assumes 43,760 existing site-built units, projected allocation of 3,540 and 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M3 by removing 870 units which were double counted (military housing). Mrs. Powell indicated that the scenario shows the location bias of units located within

the Key West region and how the location of 870 units¹ at the beginning of the evacuation stream affects clearance time by 30 minutes. This scenario provided an evacuation clearance time of 24 hours.

Scenario M5: This scenario assumes 43,760 existing site-built units, projected allocation of 3,540 units and 1,248 mobiles homes to convert to site-built units over the 10-year period, and coning north of Jewfish Creek Bridge. This scenario provided an evacuation clearance time of 24 hours.

Scenario M11: This scenario assumes 43,760 existing site-built units, projected allocation of 3,190 with only 30 new units located at Key West and 1,248 mobiles homes to allocation over the next 10 years. This scenario produced an evacuation time of 23 hours.

Scenarios M6-M13

Scenario M6: This scenario assumes 44,630 existing site-built units, projected allocation of 1,770 units (a 50% decrease in the current allocation), and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario provided an evacuation clearance time of 24 hours.

Scenario M7:

This scenario assumes 43,760 existing site-built units, a projection of 1,770 units (a 50% decrease in allocation) 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M6 by removing the double count of military housing units associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

Scenario M8: This scenario assumes 44,630 existing site-built units, a projection of 2,660 (a 25% decrease in allocation), and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario provided an evacuation clearance time of 24 hours.

Scenario M9: This scenario assumes 43,760 existing site-built, 2,660 projected units (a 25% decrease in the current allocation) and an estimate of 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario differs from Scenario M8 by removing the double count of military housing units associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

Scenario M10: This scenario assumes 43,760 existing site-built, 3,009 projected units (15% decrease in the current allocation), 1,248 mobiles homes to convert to site-built units over the 10-year period. This scenario also assumes the removal of the military housing double count associated with Naval Air Station Key West. This scenario provided an evacuation clearance time of 24 hours.

¹ This number has since been revised as of July 13, 2012 to 912 military units, pursuant to further correspondence with Naval Air Station – Key West.

Scenario M12: This scenario assumes 44,630 existing site-built units, a projected allocation of 3,540 and 1,248 mobile homes to convert to site-built units over the 10-year period, and including one additional functional lane (i.e. 10-foot shoulder) from Key West to MM 106.3, the junction of Card Sound Road and US 1. There are portions of US 1 that already have 2 functional evacuation lanes. This scenario assumes the addition of a 10-foot shoulder to be used as a functional evacuation lane in areas with only one functional evacuation lane, with coning on bridges. This scenario produced an evacuation time of 23 hours and 30 minutes.

Scenario M13: This scenario assumes 44,630 existing site-built units, a projected allocation of 3,540 and 1,248 mobile homes to convert to site-built units over the 10-year period, and the 10 foot shoulder enhancements planned in the Florida Department of Transportation Work Plan projected through 2016 with coning on bridges adjacent to shoulder improvements. This scenario produced an evacuation time of 23 hours and 30 minutes.

Scenarios 1, S1 through S4 and M1 through M2

Scenario 1: This scenario assumes a simultaneous evacuation of site-built units, mobile homes, tourist units, and military. This scenario provided an evacuation clearance time of 35 hours and 30 minutes.

Scenario S1: This scenario assumes 44,630 existing site-built units. This scenario provided an evacuation clearance time of 23 hours.

Scenario S2: This scenario assumes 44,630 existing site-built units and 3,540 projected units for 10 years. This scenario provided an evacuation clearance time of 24 hours.

Scenario S3: This scenario assumes 44,630 existing site-built units and 1,770 projected units (a 50% decrease in current allocations) for 10 years. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

Scenario S4: This scenario assumes 44,630 existing site-built units, a projected allocation of 2,660 units (a 25% decrease in current allocation) for 10 years. This scenario provided an evacuation clearance time of 23 hours and 30 minutes.

Scenario M1: This scenario assumes 44,630 existing site-built units and 8,134 mobile homes evacuate at the same time. This scenario provided an evacuation clearance time of 25 hours and 30 minutes.

Scenario M2: This scenario assumes 44,630 existing site-built units and 8,134 mobile homes evacuate at the same time with a projection of 3,540 units for 10 years. This scenario provided an evacuation clearance time of 27 hours. Mrs. Powell pointed out that if the local governments of the Florida Keys do not order mobile homes to evacuate early as a mitigation strategy that the Keys is over their statutorily defined 24-hour clearance time limit. From this point, Mrs. Powell started the discussion regarding mitigation strategies for the Florida Keys.

Mitigation Recommendations – Barbara Powell

Before discussion began, John Hammerstrom had a question regarding the coning of 2 functional lanes north of Jewfish Creek Bridge which was used in some of the hurricane scenario evacuation analyses. Mrs. Powell and Lou Caputo, Chief of the Law Enforcement Bureau for the Monroe County Sheriff's Department, explained the scenario represented a worse case-operational scenario.

Rebecca Jetton from the Department of Economic Opportunity encouraged the Work Group to focus on the hurricane evacuation scenarios that were presented and to start a dialog on which scenario the Work Group members would agree on for the purposes of the MOU. Barbara Powell explained that the vote would be taken from signatories of the MOU only, which consists of the representatives for the six (6) local governments within the Florida Keys, the Department of Economic Opportunity and the Florida Division of Emergency Management. Additionally, Mrs. Powell indicated that the members appointed to represent the cross sections of the

population would have a chance to speak in the afternoon before the final recommendations are agreed upon by the signatories.

Rebecca Jetton stated that the recommendations made by the Work Group are advisory to each local government and the elected officials will consider each issue when they conduct public hearings to execute the MOU. Ms. Jetton recommended that each representative indicate which hurricane evacuation scenarios the signatories would support. Daniel Samess, President of the Florida Keys Federation of Chambers of Commerce, suggested that discussion should focus on those scenarios which are 24 hours or below and allows for the greatest allocation feasible to sustain services and the economy as well as proper growth management.

Mayor Pete Worthington recommended including coning of Jewfish Creek Bridge and an additional functional lane on Card Sound Road. Chief Caputo indicated issues with Card Sound Road and Richard Ogburn, Director of Research at the South Florida Regional Planning Council, stated that the bottlenecks for evacuation are not north, but towards the Lower and Middle Keys such as at Snake Creek Bridge.

Mayor Worthington made a motion to discuss and vote on using the existing roadway network on Card Sound Road to make two northbound lanes during a hurricane evacuation scenario. Irene Toner, Emergency Management Director for Monroe County, and Chief Caputo indicated that Card Sound Road has been studied and that Card Sound Road is too narrow to add an additional functional lane for use in a hurricane evacuation scenario. There are public safety considerations due to accidents that have occurred during previous evacuations. Additionally, at Florida City, there are 3 lanes, not 4, exiting out of the Florida Keys which would make merging difficult if both Card Sound Road and US 1 had 2 functional lanes each. This would cause a significant bottleneck without getting a 4th lane in Florida City. The motion failed.

Commissioner Sylvia Murphy commented that the Work Group should consider decreasing allocations per year, not overall, by extending the planning horizon past 10 years.

Councilman Clark Snow, City of Layton, discussed Scenario M5. Mayor Pete Worthington mentions looking at Scenario M11 which is the full allocation but provides Key West with 30 allocations, not 90. Don Craig, Planning Director for the City of Key West, provided that the City has 84 vacant, buildable lots, but also has an affordable housing deficit. Mr. Craig pointed out that, with the mixed-use zoning in place, that Key West could issue 90 allocations per year and didn't believe that 30 annual allocations would be enough.

Commissioner Murphy and Commissioner Teri Johnston, City of Key West, recommended moving allocations across jurisdictions and sub-areas. Commissioner Murphy discussed Scenario M10, stating that the need for units is usually not where the allocations are located. Christine Hurley, Planning Director for Monroe County, indicated that the reluctance to support an allocation for 90 allocations in Key West may be based upon the fact that Key West hasn't had any allocations for the past 10 years. Ms. Hurley suggested that Key West provide the Work Group with their housing needs in order to revise the assumptions needed for hurricane evacuation modeling. Mr. Craig indicated that Key West needs 250 allocations for affordable housing as well as for their vacant lots. Mr. Craig indicated that Key West would need time to do a proper analysis for their housing need and cannot provide a number at the moment.

Mayor Ron Sutton, City of Key Colony Beach, motioned to end discussion and to call for a vote for Scenario M5. The motion failed.

Commissioner Murphy motioned for discussion and vote on Scenario M10, seconded by Councilman Snow. Councilman Don Achenberg, the Village of Islamorada, stated that the Village will not sign a MOU with a decrease in allocation for Islamorada. The motion failed.

Councilman Achenberg motioned to discuss and vote for Scenario M11, which is seconded by Mayor Worthington with an amendment to be accommodating to Key West's affordable housing issue. Commissioner Johnston stated that Key West would not support Scenario M11. The motion for Scenario M11 fails.

Commissioner Johnston suggested an amendment to Scenario M11 which would allow Key West staff the opportunity to identify the City's housing need and if Key West uses less than their projected need, that they will distribute their unused allocations to the rest of the jurisdictions by regulatory means. The presumed yearly need would be between 30-90 units. Ms. Jetton indicated a need for discussion regarding the equivalency rate that Key West has adopted which may nearly double the allocations for Key West. She stated that the equivalency rate is based on data from 1990 and likely cannot be supported by current demographic and hurricane data. Mr. Craig clarified that the location where the City needs affordable housing allocations does not qualify for the criteria set up for the .55 equivalency rate and Key West has used full allocations for affordable housing unit in some locations. (**Note:** Research indicates there are 7 zoning districts where equivalency ratios are allowed and 9 districts where the equivalency cannot be used).

Councilman Achenberg indicated agreement with Scenario M11 with the new amendment and motions to discuss and vote, but the new amendment fails. Ms. Jetton indicated a reluctance to support the Scenario vote because it did not identify an allocation for Key West. The City's location at the beginning of the evacuation stream and additional development at this location could have a positive or negative impact on evacuation clearance time. A re-vote is suggested for Scenario M5 to resolve this issue. Commissioners Johnston, Murphy, and Councilman Achenberg suggested that such a vote may not allow the transfer of unused units. Ms. Jetton explained the amendment to Scenario M11 is independent of the other scenarios, since allowing the transfer of units can only occur with amendment to the local governments' land development regulations. Mr. Craig indicated that Key West staff will create a building permit allocation system similar to the other local governments in the Florida Keys to ensure that all the allocations are not used up before the planning horizon ends. Mr. Craig also indicated that Key West will negotiate with the other local governments regarding the transfer of units. Mayor Sutton indicated a motion should be made to Scenario M5 with the amendment from Scenario M11.

Mayor Sutton made a motion to rescind the vote for Scenario M11 and the motion passed. After input from Ms. Santamaria and Edward Koconis regarding timing of annual unused allocations and vacant land analysis, Ms. Jetton then made a motion for an amendment that unused allocations from Key West, annually by July 15th, would be transferred to the other local

governments based on the vacant land analysis which is a comparison of each local governments' vacant land percentage to the whole of all the vacant lands in the Florida Keys.

George Garrett, Planning Director for the City of Marathon, indicated that the previous allocation building caps were set up disproportionately and the amendment being crafted for the vote is a potential way of solving the issue. Scenario M5 with the amendment passed.

Commissioner Murphy inquired if the hurricane evacuation modeling scenarios were done assuming bridges were locked down and stoplights are flashing (no set red lights). Jeff Alexander, Director of Emergency Preparedness for Northeast Florida Regional Council, indicated that Commissioner Murphy was technically correct since the TIME Model assumes that traffic uses maximum flow rates. Mr. Hammerstrom and Mr. Ogburn brought up that maximum flow rates were adjusted dependent on factors such as lights and intersections.

Discussion of MOU – Rebecca Jetton

Mrs. Powell reconvened the Work Group to start discussion on the MOU. Discussion for the MOU would be focused on those items that the Work Group was unable to reach consensus on during the April 30th meeting.

Ms. Jetton began with Part One, Section A of the MOU, which is the “Commencement and Completion of Evaluation” language. There were a number of recommendations to include definitions for the terms within the clause, so the glossary from the Statewide Regional Evacuation Study Program (SRESP) was included. Ms. Jetton recommended the following changes that are identified:

“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, as delegated by the Monroe County Board of County Commissioners, issues the evacuation order for ~~site-built units~~ permanent residents under Phase 2 for the evacuation for a ~~hurricane that is classified as a~~ Category 3, 4, or 5 hurricane wind event or Category C-E hurricane surge event and pursuant to Rules 28-18, 28-19 and 28-20, Florida Administrative Code, the termination point for evacuation is U.S. Highway One and the Florida Turnpike in Homestead/Florida City.”

Discussion for this clause included whether there was a definition for permanent residents in the clause since this was an important issue from the last meeting as stated by Commissioner Murphy. Ms. Jetton indicated there was no such definition, but it can be included. An issue was raised that Monroe County may have already adopted a resolution to order both site-built units and mobile homes to evacuate together with an earlier notification period than that in the adopted policy.

Ms. Jetton stated that, previously, when the Monroe County Comprehensive Plan was found “not in compliance” in the 1990s, the Final Order instituted the 24 hour time frame for evacuation for the Florida Keys. At that time, it was thought that the evacuation clearance time was over 30

hours. In 1999, Miller Consulting, Inc. found that the evacuation clearance time was 25 hours and 52 minutes. Following that assessment, mitigation strategies such as the phased evacuation approach which included mobile homes leaving earlier than site-built units was adopted to balance development and public safety. All the local governments have adopted the phased evacuation approach. The phased evacuation does not imply that mobile home residents are not permanent residents, but that mobile homes are more vulnerable to potential wind damage. Mayor Worthington agreed. Jeff Alexander further indicated that the term “permanent residents”, for the purposes of the SRESP, was to identify those residents who reside in permanent residential structures, not mobile residential structures such as mobile homes and other related structures. This is important to take note in the Florida Keys, in which mobile home residents are more than likely to evacuate than those in permanent structures in Category 1 and 2 hurricane storm events and have to differentiate the different population types for phased evacuation. It did not have any bearing on defining a population. Ms. Jetton recommended changing “permanent residents” to “site-built units” in the commencement clause.

Ms. Jetton stated that if Monroe County would like to change the phasing time of site-built units and mobile homes, then that would require a comprehensive plan change and would affect the MOU and all the other local governments because hurricane evacuation ties all the communities together.

Ms. Jetton indicated that the clause being discussed could possibly be removed since it was placed into the MOU for clarity. The Work Group decided to remove the language and place it as an exhibit to the MOU.

Christine Hurley indicated that Monroe County has taken up this issue on the phased evacuation and requested that DEO staff conduct another scenario run to understand the results of ordering site-built units and mobile homes to leave at the 36 hour point. (**Note:** Research indicates that Scenario M1 includes an evacuation of mobile homes and site built units together with a clearance time of 25 hours and 30 minutes. Since the transient and military evacuation stream would have started at the 48 hour point (12 hours earlier) there would still be some evacuating traffic impacting mobile homes and site built units leaving at the 36 hour mark. The model is not structured to accommodate a scenario such as this because the model does not take into consideration the time of an evacuating order without further modification to the software to understand traffic volumes generated by the model. Such a modification has been requested by DEO for the model. Scenario 1 includes hotels, mobiles, and site built units and the clearance time is 35 hours and 30 minutes. The evacuation time for the mobiles and site built units leaving at the 36 hour interval would result in a clearance time between 25 hours and 30 minutes and 35 hours and 30 minutes, both exceed the 24 hour target.)

Ms. Jetton discussed Vehicle Usage assumptions in the MOU and added additional references including the community college contribution to the evacuation stream. Ms. Jetton indicated that the data in the MOU had been revised by attaching the specific data from each Traffic Evacuation Zone, including roadway capacities and number of lanes based upon data from the Florida Department of Transportation.

Mr. Hammerstrom pointed out that the glossary from the SRESP contains the definition for “Out-of-County” clearance time and that is different from what is being identified for the Florida Keys. Ms. Jetton pointed out that the definition from Section 163.3178(9), Florida Statutes, is the definition that should be used for the hurricane evacuation modeling.

Ms. Jetton discussed the traffic evacuation stream and if the model should utilize Monroe County traffic or a regional evacuation. Mayor Worthington, Councilman Snow and Commissioner Johnston agree that “Out-of-County” for Monroe County should only be used since the County cannot control development in other areas. Mr. Hammerstrom asked Jeff Alexander to explain the definition of clearance time.

Mr. Alexander described:

- Clearance time to Shelter: All in County trips have reached their destination within the County. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety **AND** that point is in the County, has reached their shelter.
- In-County Clearance Time: All in County trips have reached their destination **AND** all out of county trips have left the Evacuation Zone; **AND** traffic originating from outside the County that pass through the Evacuation Zone has also cleared the Zone. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety **AND** that point is in the County, has reached their shelter **AND** the Evacuation Zone is clear.
- Out-of-County Clearance Time: All in County trips have reached their destination **AND** all out of county trips have left the County; **AND** traffic originating from outside the County that passes through the County has also cleared the County. This does not mean all traffic movement in the County has ended; rather it means that everyone going to a point of safety has reached their shelter or left the County.
- Regional Clearance time is the highest time for an Out of County clearance time in the designated region. Monroe County is part of a region, so it would be the time it takes for the last car to leave the region which is when the last car leaves through Broward County.

Discussion continued on whether modeling efforts should include only Monroe County traffic or include traffic for the entire region. Discussion began with past hurricane storm events which included multiple counties conducting evacuations. Irene Toner provided an example of Hurricane Ike. Ms. Toner stated that Monroe, Miami-Dade and Broward were planning evacuations, so the choice was made to evacuate Monroe County earlier than the other two though the other counties ultimately decided not to evacuate because of changes in storm conditions. The signatories choose to keep modeling only for Monroe County traffic.

Ms. Jetton moved to the phased evacuation policy under Section H of which no changes were recommended. Edward Koconis discussed the participation rates (100%) used for mobile homes. Jeannine Kelsick explained that the model was modified to use site-built unit characteristics instead of mobile home characteristics. Richard Ogburn stated there isn't a significant difference

between the number of vehicles generated by site built or mobile homes. The difference comes with the occupancy rates. Mr. Koconis indicated the MOU should be revised to only list the participation rates being used for hurricane evacuation modeling purposes for the Keys and that those rates can be up for further study.

Returning to discussion regarding the adopted phased evacuation policy, Andrew Sussman from the Florida Division of Emergency Management suggested that the policy in the MOU be removed. He suggested adding a statement under Section H that references the evacuation procedures as adopted by the local governments' comprehensive plan so the MOU does not have to be revised when a local government revises their comprehensive plan.

Ashley Monnier from Naval Air Station Key West provided comments regarding the military's past procedures for evacuation. Ms. Monnier indicates that further coordination would be needed with the chain of command. Mr. Sussman stated that emergency operation procedures are separate from growth management policy decisions. Christine Hurley supported Mr. Sussman's recommendation on referencing an exhibit that would contain the phased evacuation procedure from the comprehensive plan policy. The signatories agreed on the revision.

Work Group Comment

Mrs. Powell requested comments from the Work Group members who are not signatories of the MOU. John Hammerstrom restated his assertion that modeling assumptions may not include enough dwelling units for evacuation purposes. None of the other members had comments.

Public Comment

Naja Girard from Last Stand commented that she cannot support the assumptions used for hurricane evacuation modeling. Ms. Girard is happy about discussions about mitigation strategies such as sheltering.

Ron Miller from Key Largo commented that allocations should be phased out for areas without takings liability and the allocations should be maintained at the same level for those areas with takings liability. Mr. Miller indicated that Monroe County has comprehensive plan language which prohibits the movement of allocations across sub-areas of the County to control potential bottlenecks that may occur during hurricane evacuation. Mr. Miller referenced a study for Monroe County to look at entitled Monroe County 2010-2030 Population Projections which was accepted by the Department of Community Affairs in 2011.

Final Recommendations for MOU

Mrs. Powell turned the conversation back to the signatories of the Work Group for final recommendations. After hearing additional comments from the public and other Work Group members, Mrs. Powell asked if the signatories had any other changes they would like to see reflected in the MOU. No changes were announced. The motion passed. Mrs. Powell indicated that this MOU is for the assumptions and inputs for hurricane evacuation modeling and that the attorneys from all the local governments, Department of Economic Opportunity and the Florida Division of Emergency Management will review the MOU. Christine Hurley indicated that the

MOU should include language to reflect the amendment to Scenario M5 decided this morning, of which the signatories of the MOU agree.

Ms. Jetton asked if there were any other recommendations from the Work Group for mitigation strategies. Mayor Pete Worthington stated that more information is needed regarding day and night evacuations, coning for Card Sound Road and Jewfish Creek Bridges and identifying bottlenecks and other roadway issues. Mayor Worthington recommended more emphasis on evacuating vulnerable populations in RVs, boats and mobile homes early enough. Ms. Jetton recommended additional discussion with DEM regarding preparedness education funding. Commissioner Johnston recommended use of public transportation to help with evacuations, especially for those worried about evacuating at night. Mr. Craig suggested that sheltering in-place should be looked at for the Florida Keys.

The Work Group members were thanked for their participation and the meeting was adjourned.