

# Chapter Five:

## Observations and Lessons Learned

This case study captures MAHP operations as temporary housing activities are winding down and permanent housing and demobilization activities are beginning. Even at this early stage, it is possible to make preliminary observations and suggest lessons for future implementers of disaster housing programs. This chapter is organized around AHPP's key evaluation research questions:

- ◆ How viable and livable are the MAHP units and how did they affect quality of life for those who lived in them?
- ◆ How did MAHP's approach to the project and organizational capacity affect implementation and participant outcomes?
- ◆ How were units accepted by community stakeholders and to what extent did community response affect program implementation?

### **How viable and livable are the MAHP units and how did they affect quality of life for those who lived in them?**

Both components of the AHPP evaluation are ongoing. The building sciences evaluation is still in progress and requires that at least some units complete the entire use cycle, from design to demobilization, before final conclusions can be reached on physical performance. Additional insights on the effect units have on quality of life for residents will come from the first participant survey, scheduled for fall 2008, and a second follow-up survey in summer 2010. In the interim, it is possible to identify some lessons about the process of designing,

manufacturing and installing units, as well as to report on stakeholder perceptions of quality of life issues.

### **Technical and quality requirements should be established in advance**

Many of the technical adjustments that MAHP had to make in unit design and installation were an inevitable part of new product development. Although the chosen manufacturers had experience with mobile homes or modular housing, each had to establish a new production line, adjust manufacturing tasks and materials and develop new quality management protocols. Installers were also required to respond to installation requirements that were more stringent than those typical of mobile home installations. Finally, MAHP's expectations in terms of workmanship and aesthetics appeared to exceed the norm.

Presumably all of these challenges could be mitigated in the future by having standard designs and specifications, as well as standing agreements with manufacturers prior to a disaster. Although a nationwide standard might be possible for the units, some adjustments in installation specifications would likely be needed to accommodate local topographic and soil conditions.

### **Consider options for meeting special needs**

The MAHP units resulted in important improvements to the quality of life of individuals with mobility impairments. To reduce complexity and at the same time be

responsive to households with special needs, one MAHP staff member suggested that the interiors of all units be made compliant with UFAS, but that ramps be installed only for those occupants that actually need them. This could reduce some of the complications of unit assignment and might prevent some of the special needs requests that MAHP received which were actually attempts to obtain larger units. However, it could also make the units more expensive.

Another staff member suggested that only a small portion of units should be built fully UFAS compliant and that the remainder of Cottages could be made "accessible-lite," by installing bathroom grab bars and making other minor adjustments that would be valued by elderly households and those with minor mobility impairments.

MAHP's experience suggests that similar disaster housing programs must carefully consider the best approach for meeting residents' accessibility needs. Whether it be maximizing universal design concepts, manufacturing adaptable units or developing a percentage of fully accessible units, program implementers will have to balance the needs of residents with the potential cost and schedule implications that result from these approaches and design types.

The confusion and frustration that MAHP encountered related to UFAS could be remedied by establishing clear and consistent UFAS requirements for units that are designed to meet longer-term temporary needs. Implementing organizations must receive very clear, timely guidance from federal and

state officials during the design stage, before construction begins.

### **Analyze and address "right-sizing"**

Careful thought needs to be given to how unit types and sizes are assigned. MAHP's initial disaster-oriented right-sizing policy is not suitable for a recovery period of one or more years. Immediately after a disaster the need for shelter makes the smaller units that are easier to transport and install more acceptable. For longer-term temporary housing, two- and three-bedroom units are likely to be a better match for families of three people or more, even though these units are more difficult to transport and install.

A policy that ties the type and size of a unit assigned to the length of time a household is expected to occupy the unit makes sense. However, estimating recovery timeframes early on would be challenging and making decisions based upon early data could lead to misunderstandings and claims of favoritism.

It is also important to note that not all small, one-bedroom units are the same. Even though the Park Model was developed as a direct replacement for a travel trailer, the quality of life for residents of trailers and Park Models was quite different. Anecdotal evidence from MAHP staff and participants indicates a significant improvement in quality of life upon the move from a trailer to a Park Model. Participants appreciated the larger unit and full-size kitchen and bathroom, as well as the higher ceilings and additional storage. The participant survey in fall 2008 will ask

questions that compare participant experiences with both units.

### **Housing providers should carefully consider how many different types of units are optimal**

As part of its program approach, MAHP chose to test a variety of unit designs and sizes and to purchase units from a variety of manufacturers. Although this was a worthy strategy for a pilot, it made implementation more complex. Several MAHP staff suggested that having as little variation in unit type as possible would facilitate program implementation. Finding the right balance between variety and complexity is an important challenge. For example:

- ◆ The fact that MAHP units came in various colors was considered a plus by many stakeholders. The colors helped the units fit in better with the local architecture and helped to avoid an institutional look. But the color variations led inevitably to requests for specific colors.
- ◆ Having three different models (Park, Cottage, Eco-Cottage), three bedroom sizes and UFAS compliant and non-UFAS compliant units made tracking and assigning units more complex than if there were fewer options. However, having these options permitted MAHP to better meet participants' needs and the pilot program's goals.

Certain options or amenities may be valued differently in other locations and at different stages of a disaster response, but the need to strike a balance applies in all cases. It also appears that planning entities should, to the

extent practicable, understand the anticipated needs of the population by using experiences during past disasters and data on the demographic characteristics of households that live in areas at particular risk, such as the Gulf Coast. This preparation could help inform preliminary decisions about bedroom sizes and accessible units.

### **Unit designs should consider both temporary and long-term uses**

Assuming that some long-term temporary units may become permanent, implementers should consider carefully how the unit compares to the standards the community will return to once the emergency period ends. Square footage requirements in local codes became a stumbling block for MAHP in transitioning units from temporary to permanent housing. Manufacturing larger units would undoubtedly create its own issues, including making them less feasible for temporary housing (i.e. transporting the units and installing them on lots with minimal space due to debris). However, designing temporary housing units to which additional rooms can be added easily, as MAHP partners are doing, or units that are easily combined seem to be promising approaches.

It is not clear how quickly an assessment can be made of the length of time temporary housing will be needed and whether some form of modular housing will be needed to support long-term recovery of the housing stock. Both MAHP staff and local officials suggested that travel trailers or Park Model units could be used for an immediate response during which longer-term recovery

needs are assessed. The smaller units could then be replaced with Cottages if it appears temporary occupancy will be for an extended period or if the units are expected to support permanent recovery efforts. Repeating unit installation for a single family is not optimal, but may be preferable to providing enhanced units for short-term needs. In large disasters, it may be possible to make some decisions about unit needs quickly enough to avoid the duplication. For example, when housing and neighborhoods are completely devastated by storm surge similar to Katrina, it is reasonable to assume that recovery will take more time and that larger units may be more appropriate.

### **Residents need training on unit features and amenities**

Both maintenance personnel and housing advisors recommended better education for occupants about the workings of the units and appliances during the move-in process. For example, some applicants had not previously owned microwave ovens and others had never operated a fire extinguisher. MAHP staff and participants reported that confusion about how to correctly operate the air conditioning system was a significant issue. Housing advisors were trained to assist the residents in some areas. However, in retrospect, MAHP's maintenance coordinator believes more training for residents could have reduced the maintenance workload. Additional training might also have eased stress for the residents.

## How did the grantee's approach and capacity affect implementation and outcomes?

### A combination of disaster response and recovery expertise is needed

Mississippi's experience suggests that the type of agency selected to administer a temporary-to-permanent housing effort is an important consideration and that one agency may not be able to cover all the bases. MEMA's thorough understanding of the temporary housing objective and the initial focus on simulating disaster conditions helped drive the organization's performance and enabled MAHP to field over 2,800 units quickly and effectively.

Despite the clear success of the program, MEMA Director Mike Womack acknowledged that "housing" and particularly permanent housing is not MEMA's area of expertise and speculated that a State emergency management agency might not always be the best organization to manage the temporary-to-permanent component of recovery operations.

MEMA has in-depth emergency housing expertise and PBS&J brought project management and engineering skills to the table. As MAHP transitioned into the permanent housing phase, a different set of experience and skills were needed. Planning for permanent placement was peripheral until early 2008. MAHP staff indicated, in hindsight, that intensive planning about permanent housing issues should have begun at program start-up. Because it had less experience in housing and community development, MEMA may not have fully

understood the lead time that the permanent housing process would require.

Similarly, an organization more experienced in housing programs might have been able to streamline some procedures. For example, the separate agreements MAHP used to establish the property owner's right to enter, occupant maintenance responsibilities and pet policies are typically included in residential leases.

Some of the opportunities for permanent use of the Cottages as affordable housing may take longer to accomplish than the MAHP March 2009 schedule will allow. It appears that partnerships between state emergency management agencies and state or local housing and community development organizations could be an effective way of handling the rapid initial deployment of housing units and ensuring the best long-term uses of units. In future programs, the implementation team should consider adding a partner able to administer a longer-term disposition approach.

### The Incident Command System provides an effective framework for organizing complex endeavors

A commitment to the formal Incident Command System structure made roles, lines of authority and the decision-making process clear. The ICS approach enabled the organization to continue functioning well in spite of significant leadership and organizational changes in 2008.

### **Having information systems to support decision-making is important**

A strong management structure, combined with an information management system that provided the data needed to hold staff accountable enabled MAHP leadership to manage daily operations effectively during the temporary housing phase. Detailed daily reports that could be generated by county and by the staff person responsible enabled MAHP to identify the specific status of each case and identify production bottlenecks.

However, MAHP also did not fully understand the types of information that would be needed to develop feasible disposition approaches. Additional data collection was ultimately necessary to understand how disposition could best serve occupants and preserve the units as affordable housing.

### **Using contractor resources effectively aids organizational flexibility**

Through the use of contractors and temporary employees, the MAHP organization remained flexible enough to change along with program needs. For example, during the transition to permanency, PBS&J has been able to move some staff to other projects until the need for operations field staff peaks again during demobilization. Similarly, after most units had been occupied, the housing advisors continued to be the primary link with participants but changed their focus from site approvals to working with families to develop permanent housing plans and linking clients with needed community services.

### **Future programs should incorporate a human services strategy**

Although MAHP focused primarily on the engineering, manufacturing and installation challenges of developing a better disaster housing unit, attention was also given to providing services for program applicants. At the program start, management recognized the need for a staff person to help the applicant through the cumbersome process of receiving a unit. As the program progressed, this role shifted from providing logistical help to connecting families with long-term supportive services.

MAHP management and staff reported that they were somewhat unprepared to provide services to households with multiple problems or intensive needs. Although some housing advisors had social work backgrounds, not everyone was trained to provide case management or handle the mental health issues that were more severe after Katrina. In addition, one MAHP manager does not think the program provided support to participants in a way that fostered self-sufficiency. Part of the housing advisor's role was to complete tasks on behalf of the participant (e.g. securing permits, filling out Housing Choice Voucher applications and delivering them to the housing authority), and this may not help participants develop their own coping skills.

In retrospect, several MAHP staff said housing advisors should have received more training to standardize how the role was operationalized in each county, but also in how they approached working relationships with participants. In addition, a community

liaison familiar with the region's social services systems would have been useful to build relationships with partners and inform housing advisors of referral resources in a uniform manner. In spite of being thrust unexpectedly into the role of a social worker, many housing advisors appear to have thrived in their work with participants.

MAHP's experience suggests future implementing agencies should be prepared to serve clients with multiple problems and a human services strategy should be part of a similar temporary-to-permanent housing programs. The strategy should outline how the organization will access experienced staff and the approach to assessing participants' needs and providing ongoing support. Not all program participants will require services, but it is likely that many households will require extra support and guidance in getting back on their feet.

### **State support played an important role in implementation effectiveness**

The involvement of the Governor and support from other State agencies contributed to the program's success. Because MAHP had the attention and support of the State at the highest levels, required organizational resources were available at critical moments. For example, when MAHP's call center was overwhelmed, MEMA staff were assigned to assist. The attention of MEMA's Director and the Governor's staff were also instrumental in working with the local jurisdictions and public education efforts.

## **How did community stakeholders react to MAHP and to what extent did community response affect program implementation?**

### **Barriers to using modular housing are psychological as well as technical**

Even though MAHP emphasized that the Cottages met IRC requirements and qualified as modular housing, leaders in some of the local jurisdictions could not get past "the wheels"—that is the undercarriage used to transport the units. One county supervisor admitted that if the same units had come into the community in two pieces on a flatbed truck, they would have been accepted as modular (permanent) units without question. This does not necessarily mean that temporary-to-permanent units cannot be transported using an undercarriage, but it does suggest a psychological barrier that may have to be overcome in many communities as part of pre-disaster planning or through an aggressive educational process at the time of the disaster. More light may be shed on this topic as other AHPP sites that proposed more traditional modular units bring those units on line. One key step is repeatedly exposing the community to the unit and inviting officials and the public to tour the units. Ideally, a unit should regularly be made available for public view, especially at every emergency preparedness public event.

## **A more comprehensive communications strategy could have been helpful**

Several MAHP leaders stated that despite the significant outreach and the extended MOU negotiations that were conducted, more communication with the community (individual residents and local officials) would have been helpful. Starting permanent housing discussions much sooner would have benefited the permanent housing phase of the program. However, MAHP was faced with a dilemma: to communicate and educate more broadly about permanent housing opportunities might have jeopardized the temporary housing mission and even prevented the program from installing some of the units at all. This suggests that in future disasters a more formal and comprehensive communications strategy would be helpful in addition to as much pre-disaster planning with local jurisdictions as is possible. In addition, a MAHP staff person and local government representative both suggested that the implementing agency bring a jurisdiction's local elected officials and program offices together in one meeting to explain the program, answer questions, plan for possible temporary or permanent developments and offer suggestions for leveraging other resources.

As more nonprofit and for-profit entities began to focus on using the Cottages for permanent housing, some complaints were heard about organizations that seemed to have a "head start" in terms of either allocation of units or receiving funding for installation and infrastructure. In truth, it

appears that these organizations—Habitat, MRHA and Renaissance Corporation—took the initiative to seek out MAHP resources early on and to develop partnerships with the program or the Governor's Office at a time when little interest was being expressed by others. It is not clear that this issue will affect MAHP's performance or outcomes, and MAHP ultimately established a more transparent Letter of Interest process for potential partners. Future implementers should establish an open and formalized partnering process early in the program.

## **Pre-disaster planning for long-term temporary housing is needed**

MAHP and community leaders suggested that pre-disaster planning activities should include a consideration of strategies for addressing both short-term and long-term temporary housing needs and the use of modular units that could transition to permanent housing. Advance discussions and pre-disaster agreements between State and local entities could alleviate local governments' concerns about losing control of the recovery process and expedite appropriate assistance to households in need. Such discussions would also allow communities to review and agree on the design and type of unit used.

Mississippi's experience confirms that providing long-term temporary housing for renters in a major disaster is a special challenge. While homeowners can make their home sites available for placement of the temporary housing, renters do not have this ability. The requirement to pay rent for the



trailer lot may also have been a deterrent to program participation for some renters. Resolving concerns about the design and use of group sites during the pre-disaster planning process could help to address this need.

**Cottages could represent a valuable housing resource and outcomes of future uses should be monitored**

MAHP has produced high-quality units that exceed both the standards set by HUD for manufactured housing and the requirements of the International Residential Code. Local building officials acknowledged the quality of the units and speculated that the two- and three-bedroom models could have a useful life of as long as 30 years.

It is too early to know how many of the Cottages will be sold to individuals or donated to organizations to develop multi-unit housing opportunities. MEMA's current intention is to use normal excess property procedures to dispose of any units that are not purchased or donated. This approach is consistent with MEMA's plan to close-down the program in a timely manner and also reflects the agency's lack of interest in managing a housing program which diverges from their core mission.

It will be important to follow this issue as MAHP winds down its pilot program. If estimates of the life cycle for the Cottages are correct (15 years for the Park Model; 30 years for the Cottages), they are a valuable housing resource. Because the MAHP units are transportable, the opportunity for using them for a future disaster relief effort or for affordable housing outside the immediate disaster area also could be considered.

Even though a formal participant survey has not been completed, it seems apparent that the MAHP units provide residents with important features that positively affect quality of life and that the units could serve as an important bridge from temporary to permanent housing. Pre-disaster planning and coordination among State and local jurisdictions could address major implementation challenges. Furthermore, partnering emergency response agencies with existing planning and housing organizations could ensure the most effective long-term uses of these valuable housing resources.

