**Best Practices: Design of Mixed Finance Programs**

Recognizing the important impact that the Mixed Finance program can have in defining the physical form of communities and the quality of life of residents, Public Housing Authorities (PHAs) should carefully consider the design of projects included in their Mixed Finance Development Proposals. A key goal of the Mixed Finance program is to provide high-quality housing for all residents, which is well located, well designed and blends seamlessly with the neighborhood, includes buildings that are energy-efficient and environmentally friendly, and incorporates principles of healthy design, including livability, furnishability, visitability, and accessibility. PHAs are encouraged to offer units and amenities that are comparable to the surrounding community. The following discussion of best practices is provided to help PHAs achieve these important goals. While accessibility notes are requirements, Public Housing Authorities are encouraged to consider how the following best practices can be incorporated into their development plans. PHAs are also encouraged to share this information with their partner developers, architects, and broader community.

**Accessibility**

Housing constructed under the Mixed Finance program must address the needs of persons with disabilities to assure that all residents benefit from the program. The HUD architect will review plans to ensure that all new construction and rehabilitation of existing buildings is done in compliance with federal accessibility requirements, including the following:

1. [24 CFR 905.606 (a)(5)](https://www.ecfr.gov/current/title-24/subtitle-B/chapter-IX/part-905/subpart-F/section-905.606): “A PHA must provide sufficient information for HUD to determine that dwelling units and other public housing facilities meet accessibility requirements specified at §905.312 of this part, including, but not limited to, the number, location, and bedroom size distribution of accessible dwelling units (see 24 CFR 8.32 and 24 CFR part 40).”
2. Section 504 of the Rehabilitation Act of 1973
3. The Fair Housing Act and its implementing regulations at 24 CFR part 100
4. Title II of the Americans with Disabilities Act and its implementing regulations at 28 CFR part 35
5. The Architectural Barriers Act of 1968 and its implementing regulations at 24 CFR part 40, as applicable.
6. Uniform Federal Accessibility Standards (UFAS) (through HUD regulations under part 8), 1988.
7. Fair Housing Act Design Manual, 1996, revised 1998.
8. Americans With Disabilities Act Accessibility Guidelines, 2010.

PHAs should consult PIH Notice 2010-26: <http://www.hud.gov/offices/pih/publications/notices/06/pih2010.26.pdf> for an overview of all pertinent laws and implementing regulations related to accessibility for persons with disabilities and FR-5784-N-01: Nondiscrimination on the Basis of Disability in Federally Assisted Programs and Activities: <http://www.gpo.gov/fdsys/pkg/FR-2014-05-23/pdf/2014-11844.pdf>.

**Architectural Review Process**

All Mixed Finance activities, which include construction or rehabilitation, must meet or exceed local building codes, as determined through the local permitting process. HUD will also undertake an architectural review to ensure plans promote Mixed Finance design guidelines, as well as address Federal accessibility requirements. Each Mixed Finance project is assigned a HUD Architect. The HUD Architect will work in partnership with the grantee and the grantee’s architect to assure the best possible design for each individual Mixed Finance project.

To assist in this review, the HUD Architect must receive the following information from the grantee as early as possible in the design process to allow for input to be easily incorporated in the plans.

1. Site Plan: should show the layout of proposed buildings; should consider orientation to the sidewalk to provide ‘eyes on the street’; sidewalks should be buffered from adjacent streets using shade trees and greenway providing connections to public recreational areas; parking areas should have appropriate lighting; public and private spaces should be clearly defined.
2. Building Plans: must show the location, type and mix of accessible and visitable units.
3. Sections and Elevations: must identify wall and roof materials.
4. Unit Plans: must show the livability of the spaces within the dwelling unit by providing adequate floor area for the number of residents, furniture, and circulation spaces.
5. Energy efficiency/green design features: identify the nationally or regionally recognized green standard – LEED, EarthCraft, Enterprise Green Communities, etc. – to which units will be constructed and discussed.

**Livability and Furnishability**

The long-term marketability of housing developments, whether apartments, townhomes or single-family homes, is affected not only by their size, but also by the livability of their units. The following guidance is provided to assure that housing units provide adequate space in each room; that units can comfortably accommodate the anticipated number of occupants; that units provide basic amenities for daily activities; and that units meet basic furnishability principles. However, HUD understands that each project is different and therefore project design must take into consideration such factors as the local market, financial feasibility, unit mix, income mix, location, comparability with other units in the area, etc**. High rise family buildings shall have three bedroom, four bedroom and five bedroom units on the first three floors and studios, one and two bedroom units on the remaining or upper floors. If there are community spaces or commercial spaces on the first floor, place the larger units on the second, third and fourth floors of the building. All exterior play spaces at grade or on the roof shall have southern exposure in mid- and high-rise buildings.**

The furnishability principles listed below are intended to assure the livability of rooms within a dwelling unit by providing adequate floor area for furniture, adequate circulation space for convenient access to furniture or appliances, adequate storage space, and adequate allowances for doors opening and closing. HUD architects will use these principles when reviewing projects. PHAs should work in partnership with their HUD architect starting early in the process to produce the best possible design for the project and its residents. Note that projects must also meet applicable building codes in their locality.

**Living Areas**

Living and dining areas should be sufficient to provide adequate space based on the number of people that will be residing in the unit. Units with more bedrooms, and thus more people, should have larger living areas that accommodate furnishings that will serve the number of residents in the units. The living area should also include adequate space for a dining table that will accommodate a resident in a wheelchair.

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| **Living Areas** | Suggested Minimum Width | Comments |
| ***Living Room*** | 12 feet | Minimum width in all living rooms or spaces. |
| ***Dining Area***  |  |  |
|  a) 1 & 2 bedroom units | 9 feet |  |
|  b) 3 & 4 bedroom units | 12 feet | Allow a rising space of 48 Inches to wall or furniture behind the edge of the table. |

**Bedrooms**

Bedrooms should be of adequate size to accommodate bedroom furnishings, such as a bed, dresser, as well as night stands next to the bed. While bed sizes will vary among residents, master bedrooms should be able to accommodate larger beds than smaller bedrooms that will most likely be for children. Thought should also be given to the size and layout of bedrooms in accessible units**. There shall be a minimum of 36 inches for an accessible route on three sides of a queen, double or single size bed for disabled residents to maneuver. There shall also be 48” between the foot of the bed and dresser in accessible units. Windows shall be operable from a wheelchair. Review UFAS A4.2.4 and Fig. A3 for Dimensions of an Adult-Sized Wheelchair.**

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| Bedrooms | Suggested Minimum Width | Comments |
| Master Bedroom a) Queen size bed b) 18” x 60” large dresser c) 2 nightstands | 12 feet  | Clearance:  a) 36” for circulation b) 36” between bed & wall c) 48” in front of dresser or closet. |
| Secondary Bedrooms a) Double bed (queen preferred) b) 18” x 60” large dresser c) 2 Nightstands | 11 feet | Clearance:  a) 36” for circulation b) 36” between bed & wall c) 48” in front of dresser or closet.  |

**Kitchens**

Kitchens should be designed to serve the number of residents in the unit. For example, kitchens in units with three bedrooms shall provide more base cabinet workspace than kitchens in a one-bedroom unit. Counter space and cabinets should be sufficient for cooking and storage. Major appliances such as dishwashers, garbage disposals and microwaves shall be provided and again be in line with unit size. **Accessible units shall provide sufficient space and exceed the minimum required dimensions for maneuvering within the kitchen. All base cabinet and pantry shelving shall be on rollers with touch release hardware in accessible units.** **All units shall contain a utility closet for mops, brooms, buckets, vacuum cleaner and other cleaning supplies. Hearing and visually impaired units shall have task lighting mounted under wall cabinets in kitchens. Provide rocker switches in all accessible and senior units. Provide 24” deep shelves over front loaded washers and dryers within the reach range of a person in a wheelchair. Shelves can also be placed on the side walls of the washer-dryer closet. Provide lighting over the island in kitchens.**

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| ***Kitchen*** | Suggested Minimum Size | Comments/ Notes |
| a) Counter space | 18 inches of clear counter space on each side of each appliance and fixture; 24 to 36 inches required for 3, 4 and 5 bedroom units. | Provide an island for extra cabinet storage in all L-shaped kitchens. Kitchen islands shall be a minimum of 36” x 60”. Accessible units shall show the eating section of the island at a height of 30” x 15” deep. Show lighting above the island. |
| b) Width | 48 inches between base cabinets or appliances. opposite each other in galley or L- shaped kitchens or 60 inches or more between all U-shaped kitchens. |  |
| c) Appliances | Refrigerators shall be sized according to unit size. Provide cut sheets of all Kitchen appliances.  | New construction and rehab units shall include dishwashers; garbage disposals; washer/dryers in all senior and family units. |
| **Accessible Kitchens** |  | Provide side by side refrigerators and ADA compliant dishwashers in all accessible units. |

**Closets**

Thought should be given to providing adequate closet space and general storage closets throughout the unit to allow residents the ability to store clothes, cleaning products and other items out of living/sleeping areas. Clothes closets shall be provided in bedrooms and be large enough to accommodate a normal amount of clothing for two residents. A storage place or mud room for coats/shoes/boots shall be considered at front and rear of units, particularly in cold climates. A closet for brooms/mops, cleaning supplies, etc. and pantry for food storage canned goods, etc. shall be provided. In addition, consideration should be given to bulk storage closets or space to store outdoor items, such as bikes, sleds, lawn chairs, holiday decorations, etc., should be provided so items are not left to sit outdoors or on balconies. Add exterior lockable storage at grade, porches and balconies.

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| **Closets** | Suggested Minimum Size | Comments |
|  |  | All storage closets should increase in square footage or area as the number of bedrooms increases. |
| Entry Closets |  |  |
|  a) 1 & 2 bedroom units | 2 feet by 3 feet |  |
|  b) 3 & 4 bedroom units | 2 feet by 6 feet |  |
| Bedroom Closets |  | Shall be located in or adjacent to the bedroom, not in the hall or bathroom. |
|  a) Master bedroom | 2 feet by 8 feet |  |
|  b) Secondary bedrooms | 2 feet by 6 feet |  |
| Linen Closets with doors and sliding shelves in deep closets in accessible units. |  | Shall be provided in the bathrooms of all senior & accessible units. Linen closet shelving can also be located in a bedroom closet. |
|  a) 1 & 2 bedroom units | 1 ½ feet by 2 feet |  |
|  b) 3 & 4 bedroom units | 3 feet by 2 feet |  |
| Pantry, Utility and Bulk Storage Closets. |  | Shall be located in or adjacent to the kitchen, hall, etc. |
| Exterior Bulk Storage Closets. | Minimum depth of 30” x width of balcony or patio. | Provide tenant exterior storage on patios and balconies or in a parking garage. |

**Bathrooms**

The number of bathrooms provided shall be directly related to the number of bedrooms. Bathrooms shall not open onto kitchens, dining and living areas. Accessible units shall comply with UFAS and Fair Housing Act Design Manual and other federal requirements. Provide visitable bathrooms at the first floor of all townhouse units. Guests shall not enter a resident’s bedroom to use their private bathroom. If a bathroom is entered from a resident’s bedroom, the bathroom shall have a separate entry from the semi-public or hall of the unit. This design is especially important for one or two bedroom accessible units.

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| ***Bathrooms*** | Shower controls and soap dish shall be mounted on the long wall in all accessible showers, adjacent to the front edge of the folding seat.Linear drains shall be installed in showers rather than in the floor of the bathroom. Provide sliding shelves with touch release hardware in linen closets. | Semi-public bathrooms shall be accessible without going through the bedroom in all units; Shall not be adjacent to or opening onto living, dining or kitchen spaces in all units; no medicine cabinets located above the toilet. All accessible units shall have a minimum clear space of 60” inches diameter to make a 180-degree turn without turning under a lavatory. Bathroom doors opening out shall have a handle located 6” from the hinge side of the door. Provide a lavatory in all bathrooms; no single hospital type sinks in residential bathrooms. |
|  a) 1 & 2 Bedroom Units |  | Provide 1 bathroom in one bedroom units and 1 ½ bath or 2 bathrooms in two bedroom units. |
|  b) 3 Bedroom Units |  | Provide 2 bathrooms. Bathrooms shall be designed as compartmentalized space, with additional fixtures allowing for use by more than one resident at a time; accessible units with 2 bathrooms shall have one bathroom with a tub and the second bathroom with a bath/ shower. as a minimum requirement. Add a built-in soap dish adjacent to all shower controls. |
|  c) 4 & 5 Bedroom and Two-Story Apartment Units |  | Provide 2 ½ or 3 bathrooms. Bathrooms shall be designed as compartmentalized space, if there are 2 or 3 bedrooms on the second floor. Additional fixtures allow for more than one resident to use the bathroom at the same time. |
|  d) 1, 2 & 3 Story Townhouses | Accessible bedroom on the first floor shall be large enough to contain a queen size bed, an 18” x 60” dresser and two nightstands and 36” on three sides of the bed. | 2 bedroom or larger units shall have a visitable ½ bath on the entry level or an accessible bathroom if a bedroom is on the first floor. Each floor, in a 3-story unit, shall have a bathroom.  |

**Site and Exterior Improvements**

Consideration should be given to the appropriate site plan. Walkways, parking lots, and other common areas should be accessible to allow residents and visitors to easily traverse the site and to enter units. Defensible space principals, including placement of buildings and “private” space shall be shown in the drawings. Landscaping should be attractive and appropriate for the local climate. Thought should be given to the placement of facilities such as trash, mailboxes, HVAC, etc. There should be safe and accessible areas for children to play. PHAs are encouraged to consider the principles of New Urbanism in their design.

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| ***Site and Exterior Improvements*** |  |  |
| a) Accessible path |  | Provide an accessible path to the primary entry of all ground floor units for disabled visitors |
| b) Common area facilities on an accessible path  |  | Show walkways, slope and landing dimensions at ramps, accessible parking spaces, van stall locations, mailboxes, play lots, trash enclosures shall be accessible to wheelchair residents. |
|  c) Landscape plans  |  | Use drought resistant plants & water conservation techniques |
|  d) Screening  |  | Screen unsightly items, such as transformers, with appropriate landscaping or architectural screens |
|  e) Quick couplers/hose bibs |  | Locate near trash enclosure or front and rear of ground floor units. |
|  f) Private space |  | New units should have private exterior space in the form of a patio, balcony, deck, etc. |
| a) Playlots, Recreational Space for Senior and Family Housing |  | Thought should be given to where young children can play or where older children congregate. Areas should be accessible, safe and integrated into the site, not isolated. All play and community exterior spaces in family and senior housing shall have southern exposure. |

**Further Information**

For further information on design and the design process, contact your Mixed Finance Grant Manager or your Architects, Ron Bedford at Roland.Bedford@hud.gov and Nicole.D.Green@hud.gov In addition, the following provides related information:

 1) “Principles for Inner City Neighborhood Design”

 <https://www.huduser.gov/Publications/pdf/principles.pdf>

 2) Congress for New Urbanism [www.cnu.org](http://www.cnu.org)

 3) “The New Face of Public Housing”

 <https://www.cnu.org/sites/default/files/NewFaceOfAmericanPublicHousing_1.pdf>