

b. If the development currently lacks reliable cost data or has a vacancy rate of 20 percent or higher, then the PHA-wide method will be used to determine projected costs. First, the current per unit cost of the entire PHA will be computed, with total costs divided by the sum of all occupied units and vacant units fully funded under PFS plus 50 percent of all vacant units not fully funded under PFS. For example, if the PHA's operating cost is \$18 million, and the PHA has 4,000 units, of which 3,800 are occupied and 200 are vacant and not fully funded under PFS, then the PHA's vacancy adjusted operating cost is \$385 per unit per month—\$18,000,000 divided by the 3,900 (the sum of 3,800 occupied units and 50 percent of 200 vacant units) divided by 12 months. Second, this amount will be multiplied by the ratio of the bedroom adjustment factor of the development to the bedroom adjustment factor of the PHA. The bedroom adjustment factor, which is based on national rent averages for units grouped by the number of bedrooms and which has been used by HUD to adjust for costs of units when the number of bedrooms vary, assigns to each unit the following factors: .70 for 0-bedroom units, .85 for 1-bedroom units, 1.0 for 2-bedroom units, 1.25 for 3-bedroom units, 1.40 for 4-bedroom units, 1.61 for 5-bedroom units, and 1.82 for 6 or more bedroom units. The bedroom adjustment factor is the unit-weighted average of the distribution. For instance, if the development with 375 occupied units had in occupancy 200 two-bedroom units, 150 three-bedroom units, and 25 four-bedroom units, then its bedroom adjustment factor would be 1.127—200 times 1.0, plus 150 times 1.25, plus 25 times 1.4 with the sum divided by 375. Where necessary, HUD field offices will arrange for assistance in the calculation of the bedroom adjustment factors of the PHA and its affected developments.

c. As an example of estimating development operating costs from PHA operating costs, suppose that the PHA had a total monthly operating cost per unit of \$385 and a bedroom adjustment factor of .928, and suppose that the development had a bedroom adjustment factor of 1.127. Then, the development's estimated current monthly operating cost per occupied unit would be \$467—or \$385 times 1.214 (the ratio of 1.127 to .928). By this example, the development's current operating costs of \$467 per unit per month are not more than 10 percent higher (3.8 percent in this example) than the projected costs of \$450 per unit per month and no additional justification of the cost reduction would be required.

B. Modernization

Except for some voluntary conversion situations as explained in paragraph E. below, the cost of modernization is the initial revitalization cost to meet viability standards. (For purposes of this cost methodology, the term "viability standards" refers to new housing construction or rehabilitation that meets local housing codes. In the absence of a local code, PHAs shall refer to the Public Housing Modernization Standards Handbook (Handbook 7485.2) or the International Existing Building Code (ICC) 2003 Edition.)

Costs may include costs for demolition and modernization (where the latter also includes the costs, if any, of relocating tenants during the modernization period). Any proposed demolition should be assumed to occur during the initial year of the 20-year (or alternative) period. Modernization costs may be assumed to occur during years 1 through 4, consistent with the level of work proposed and the PHA's proposed modernization schedule. For example, if the initial modernization outlay to meet viability standards is \$21,000,000 for 375 units, and there is no demolition involved, a PHA might incur costs in three equal increments of \$7,000,000 in years two, three, and four (based on the PHA's phased modernization plan). In comparing the net present value of public housing to voucher costs for required conversion, a 20-year period will normally be used. However, when revitalization would be equivalent to new construction, the PHA must compare costs over a 30-year period.

C. Accrual

The cost of accrual (*i.e.*, replacement needs) will be estimated by using the portion of the latest published HUD unit total development cost limits for the area that HUD attributes to housing construction costs (HCC), and applying it to the development's structure type and bedroom distribution after modernization, then subtracting from that figure half the per unit cost of modernization, then multiplying that figure by .025 (representing a 40-year replacement cycle). For example, if the development will remain a walkup structure containing 200 two-bedroom, 150 three-bedroom, and 25 four-bedroom occupied units, and if HUD's HCC limit for the area is \$50,000 for two-bedroom walkup structures, \$70,000 for three-bedroom walkup structures, and \$80,000 for four-bedroom walkup structures, and if the per unit cost of the modernization is \$56,000, then the estimated annual cost of accrual per occupied unit is \$800. This is the result of multiplying the value of \$32,000 (the cost guideline value of \$60,000 minus half the modernization value of \$56,000) by .025. The first year of accrual for the development is \$300,000 (\$800 times 375 units) and should be assumed to begin in the year after modernization is complete. Accrual—like operating cost—is an annual expense and will occur in each year over the 20-year (or alternate) period.

D. Overall Cost

1. The overall cost for continuing to operate the development as public housing is the net present value of the stream of 20-year projected costs, including annual post-revitalization operating costs, modernization costs in the years these costs are assumed to occur, and estimated annual accrual costs. In calculating net present value, the sum of all costs in each future year is discounted back to the current year using the OMB-specified real discount rate. The real discount rate is already adjusted to take into account the effects of inflation.

2. For example, if the sum of costs in year 20 is \$2,325,000, and the real discount rate is 2.8 percent per year, the discounted cost is \$1,363,143. This is obtained by

multiplying the year 20 costs by the discount factor for year 20. The discount factor for year 20 is derived by dividing 1 by $(1 + 0.0285)$ raised to the 19th power, *i.e.*, $1/(1 + 0.0285)^{19}$. The discount factor for year 19 would be $1/(1 + 0.0285)^{18}$ and so on. The sum of the discounted costs for 20 years is the net present value to be compared to the net present value of voucher costs. The comparison should be expressed on a per unit per month basis.

3. To assist PHAs in completing the net present value comparison, and to ensure consistency in the calculations, HUD has developed a spreadsheet calculator (described above) that is available for downloading from the HUD Homepage. Sample pages from the spreadsheet calculator are provided as a part of this proposed rule, showing data for the example used here to illustrate the cost comparison methodology. Using PHA data and property specific inputs (to be entered by the housing agency), the spreadsheet will discount costs as described above and will generate net present values for the time period specified by the PHA depending on the scenario being tested.

E. Adjustment for Shorter Remaining Useful Life (Used Only for Voluntary Conversion—See Subpart B of This Part)

Where a PHA demonstrates that it is reasonable to use a remaining useful life of 15 years rather than 20 or 30 years, the PHA will calculate the net present value of public housing costs over this shorter period and compare such costs to the net present value of voucher costs over the same number of years. The use of a shorter time period is limited to those developments being assessed for voluntary conversion. Under required conversion, a longer period (20 or 30 years, depending on the extent of revitalization) is applied because the focus is on the developments' long-term viability and the public housing phase-out period itself may extend up to five years (or ten years, by exception).

II. Public Housing—New Budget Authority (Used Only for Voluntary Conversion—See Subpart B of This Part)

This cost analysis shall be conducted in a manner similar to the net present value analysis, except that costs will not be discounted. In this case, costs will be inflated for each future year, and the sum of the undiscounted costs will be compared. This second comparison carries out the language of the statute and reflects the appropriation of funding needed to carry out the proposed actions.

III. Tenant-Based Assistance

A. The estimated cost of providing tenant-based assistance under Section 8 for all households in occupancy shall be calculated as the unit-weighted averaging of the monthly costs based on the higher of the average gross rent for voucher units occupied by recent movers, or the applicable Section 8 payment standard for the jurisdiction or designated part of the FMR area; plus the most recent administrative fee applicable to the units (depending on housing choice voucher program size) as published by HUD for the year used for calculating public