

Instructions and Guidelines for Use of the “WindowProtection-
CostEstimate_Toolkit2006” Spreadsheet

1. This toolkit is for estimating window and door protection costs only. Other types of retrofits will require more detailed architectural & engineering and contractor/vendor analysis of the project. Use of this toolkit is not required for submittal of retrofit projects. It is provided as an aid to assist in determining cost estimates for projects with very limited time for turnaround.
2. The BEST method is to request that a local vendor provide a cost estimate quote, but given the very limited turnaround time this toolkit is provided as an alternative method of estimating the cost of providing window and door protection/shuttering of buildings.
3. Toolkit Tabs: Four methods are provided under worksheet Tabs. Please input only one building per row—do not merge buildings on a campus onto one row.
 - a. Method #1 (Good Accuracy) is the most precise of these three cost estimating methods, but will require someone go out and record the actual dimensions of the exterior glazed areas (windows and doors) of the selected building(s). In the absence of a vendor quote, this is the method most highly recommended by the Division. “Gross Exterior Surface Area requiring Protection” can be calculated by measuring the opening size from wall/window or door interface at top to bottom to determine height measurement, and then side to side to determine width measurement, then multiply the height by the width to calculate gross area. Then add up all of the individual window, door, louver or other openings (or soft spots) gross areas and enter the total into column F. Be sure to convert inches into 10ths of feet: 1” = 0.08’, 2” = 0.17’, 3” = 0.25’, 4” = 0.33’, 5” = 0.42’, 6” = 0.50’, 7” = 0.58’, 8” = 0.67’, 9” = 0.75’, 10” = 0.83’, 11” = 0.92’. With the gross opening area entered into column F, the spreadsheet will calculate cost estimates in the respective row’s column H.
 - b. Method #2 (Medium Accuracy) though closer to probable costs than methods 3 and 4 listed below, this method has some significant limitations. The limitations of this cost analysis method are due to the user determination of “percentage” of the exterior surface areas requiring protection. Most buildings typically have “wall openings” to “solid wall” percentage ratios ranging from about 5 to 35 percent, but most commonly the percentage ratio ranges between 15 and 25 percent. If the selected building(s) appear to have “normal” percentage ratios—that is the ratio between the building’s window and door opening areas to wall areas—then use 20 percent...or adjust upward or downward as needed. Please note, school buildings constructed after the late-1980’s are more likely to have 5 to 15 percent ratio of glazed wall surface area, so the Division recommends use of 10 percent instead of 20 for construction years after 1986. Accordingly, once you have recorded the requested dimensions, simply input the requested data (width and length dimensions of the building, story height (or average of heights if multi-story), number of stories, and the estimate of the percentage ratio of the exterior wall surface

- area of all building faces to be protected). The spreadsheet will then calculate a cost estimate in column N.
- c. Method #3 (Low Accuracy) simply requires the gross floor area per story of a building in square feet, number of stories and rough estimate of the percentage of the exterior wall surface area to be protected (of all faces combined). Simply input the requested data and the spreadsheet will calculate the cost estimate in column L. Please note: This method generates a very rough estimate with many assumptions.
 - d. Method #4 (Least Accuracy; Preset Cost Estimates) provides a spreadsheet with preset gross floor areas and estimated percentages of wall surface area that need protection. Simply select the floor area that most closely matches your site-specific situation. Where the selected gross floor area row and percentage opening column cross, select the cost estimate. This spreadsheet uses a procedure similar to Method #3 and assumes a cost per square foot of wall area to be protected of \$66.50 per square foot.
 - e. Note that in each case that \$66.50 per square foot of wall area to be protected is given. An alternative cost per square foot can be input based on local building industry knowledge and conditions. Also note that the spreadsheet calculations include a 20 percent increase in surface area to account for edge overlaps on walls at the perimeter of openings.

If there are any questions please call Dean Griffin at 850-413-9954 or Danny Kilcollins at 850-413-9859.