Winning the War on Preservation
Dispelling the myths about Historic Preservation
Fiction:

Preservation of the old gets in the way of building new
Fiction:
Preservation costs too much & is just one of those things we do when the economy is at its best
Fiction:

Preservation gets in the way of building “Green” & environmentally sound new construction.
Fiction: Preservation ordinances are a conspiracy to take away my property rights!
Fiction:

New construction keeps more money in the local economy.
Fiction:
There’s no way to make old and historic properties Energy Efficient
## Energy Retrofit Case Study

**Circa 1859, Brick House, 7,950 square feet**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window restoration, $950 each x 42</td>
<td>$39,900</td>
</tr>
<tr>
<td>Weatherization &amp; plugging air infiltration</td>
<td>$5750</td>
</tr>
<tr>
<td>Cost of Geothermal system after 30% fed tax credit</td>
<td>$29,400</td>
</tr>
<tr>
<td><strong>Total energy retrofit costs</strong></td>
<td><strong>$75,050</strong></td>
</tr>
<tr>
<td>Original Gas &amp; Electric annual cost ($1,621.17 p/m x 12)</td>
<td>$19,452</td>
</tr>
<tr>
<td>Current Gas &amp; Electric annual cost ($580 p/m x 12)</td>
<td>$6,960</td>
</tr>
<tr>
<td><strong>Gas &amp; electric annual savings</strong></td>
<td><strong>$12,492</strong></td>
</tr>
</tbody>
</table>

**Total years to payback energy retrofit investment = 6.01**
Fiction:

New windows are better than old windows.
STOP
YOU NEED TO REPLACE YOUR WINDOWS IF...

☑ Your windows are 15 years or older.
  - New windows could save you over 20% per year on heating and cooling costs!*

☑ Your windows are difficult to operate.
  - New windows are easy to open, close and clean!

☑ Your windows are drafty or have cloudy glass.
  - New windows eliminate drafts, look great and add value to your home!

BEST SELECTION. BEST PRICES. PERIOD.
YOUR WINDOW EXPERIENCE STARTS HERE!
Let the Numbers Convince You: Do the Math

TUNE-UP STRATEGIES

Storm window over single-pane original window

Double-pane thermal replacement of single-pane window

Low-e glass double-pane thermal replacement of single-pane window

Low-e glass double-pane thermal replacement of single-pane window with storm window

ANNUAL ENERGY SAVINGS

722,218 Btu

625,922 Btu

902,772 Btu

132,407 Btu

ANNUAL SAVINGS PER WINDOW**

$13.20

$11.07

$16.10

$2.29

SIMPLE PAYBACK

4.5 Years

40.5 Years

34 Years

240 Years

$50/$13.20 = 4.5 Years

$450/$11.07 = 40.5 Years

$550/$16.10 = 34 Years

$550/$2.29 = 240 Years

*Cost of 3' x 5' window, installed

**Assuming gas heat at $1.09/therm

U-Value = A measure of air-to-air heat transmission (loss or gain) due to thermal conductance and the difference in indoor and outdoor temperatures.

Source: Keith Haberern P.E., R.A.

Collierville Historic District Commission
To estimate the savings of replacing existing windows with efficiency upgrades, the following information must be known:

- The U-Factor of the existing window (See U-Value table below).
- The U-Factor of the replacement window (See U-Value table below).
- The total area of the windows being replaced (square feet).
- The heating energy cost ($/million Btu).
- The heating plant efficiency (in percent).

**SAVINGS CALCULATIONS**

1. Enter the U-Factor of the existing windows: 1.44
2. Enter the U-Factor of the replacement windows: 1.55
3. Subtract line 2 from line 1: -0.11
4. Add 0.16 to line 3: 0.75
5. Enter the total area of the windows to be replaced: 213.6
6. Multiply line 4 by line 5: 15.75
7. Multiply 0.1 by line 6: 1.58
8. Enter the heating plant efficiency (percent divided by 100): 0.93
9. Divide line 7 by line 8: 1.69
10. Enter the energy cost ($/million Btu): 4.83

**YEARLY SAVINGS**

11. Multiply line 9 by line 10: $76.84/year

**PROJECT COST**

12. Enter the total cost of the window replacement including material, labor and design: $1,600

**SIMPLE PAYBACK**

13. Divide line 12 by line 11: 204.08 years

**WINDOW U-VALUE TABLE**

<table>
<thead>
<tr>
<th>Window System Type</th>
<th>U-Factor*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Glass</td>
<td>1.10</td>
</tr>
<tr>
<td>Single Glass with storm window</td>
<td>0.50</td>
</tr>
<tr>
<td>Single Glass, low E coating</td>
<td>0.91</td>
</tr>
<tr>
<td>Single Glass, low E coating with storm window</td>
<td>0.44</td>
</tr>
<tr>
<td>Insulating Glass (double glass)</td>
<td>0.55</td>
</tr>
<tr>
<td>Insulating Glass (double glass) with storm window</td>
<td>0.35</td>
</tr>
<tr>
<td>Insulating Glass (double glass), low E coating</td>
<td>0.38</td>
</tr>
<tr>
<td>Insulating Glass (double glass), low E coating with storm window</td>
<td>0.32</td>
</tr>
<tr>
<td>Insulating Glass (triple glass)</td>
<td>0.35</td>
</tr>
<tr>
<td>Insulating glass (triple glass) with storm window</td>
<td>0.25</td>
</tr>
</tbody>
</table>

* U-Factor values adapted from the 1985 ASHRAE Fundamentals Handbook.

Fig. 2. Many excellent worksheets are available for calculating payback of replacement windows; this one is produced by the Missouri Department of Natural Resources. Results of payback calculations often reveal grossly overstated claims. Courtesy of the Missouri Department of Natural Resources.