

**Preservation
Doesn't Cost**

*** * * * ***

It Pays!!

***Preservation* is about
maintaining or preserving
our built environment. It's as
much about community &
positive economics as it is
about saving our
architectural heritage.**

***Preservation* is an
Outstanding
economic tool for
rehabbing houses
and buildings**

***Preservation* is the strategic ingredient in the revitalization of historic neighborhoods and downtown's.**

***Preservation* almost
always costs less than
new construction &
keeps more money in
your community than
new construction.**

Preservation Creates Jobs

The Federal Historic Rehab Tax Credit alone has created 1.8 million jobs since it was enacted in 1976 - including 58,000 in 2008, at an average cost of \$9,000 per job - compared to \$248,000 cost per job created by the recent stimulus bill.

***Preservation* jobs are the
Ultimate Green Jobs,
jobs that help make
our existing buildings
more energy efficient and
contribute to more
sustainable communities**

***Preservation* takes
advantage of
existing
infrastructure like
streets, sewers etc.**

***Preservation* increases
property values.**

***Preservation* increases
a community's
property tax base.**

Preservation

**brings new
businesses &
people to
communities**

***Preservation* has
been at the
forefront of the
“green movement”
for 50 years**

REHABILITATION VS NEW CONSTRUCTION

**Rehabilitation keeps more money
in the community than new
construction.**

**The U.S. Department of Commerce
tracks the impact of production
within a given industry three ways:**

1) The number of jobs that are created.

2) Increase in local household income.

3) Impact on other Industries.

The growing statistics in state-after-state, show that rehabilitation of existing structures outperforms new construction in all three of these measurements.

If you take a \$1,000,000 renovation of a historic building and compare that investment to a \$1,000,000 new construction project what would the differences in economic impact be?

**\$120,000 more
dollars will initially
stay in the community
with rehab than with
new construction**

**Five to nine more
construction jobs will
be created with rehab
than with new
construction**

**4.7 more new jobs will
be created elsewhere
in the community with
rehab than with new
construction**

**Household incomes in
the community will
increase \$107,000
more with rehab than
with new construction**

**Retail sales in the
community will**

**increase \$142,000 with
the \$1,000,000 in rehab**

**\$34,000 more than with
the \$1,000,000 in new
construction**

Realtors, bankers, personal service vendors as well as restaurants and drinking establishments will receive more direct monetary benefit from \$1,000,000 in rehab than from \$1,000,000 in new construction

Some of this information is from, “The Economics of Historic Preservation” by Donovan Ripkema

Let the Numbers Convince You: Do the Math

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



TUNE-UP STRATEGIES
Storm window over single-pane original window

ANNUAL ENERGY SAVINGS

722,218 Btu

ANNUAL SAVINGS PER WINDOW**

\$13.20

SIMPLE PAYBACK

4.5 Years

$\$50/\$13.20 =$



Double-pane thermal replacement of single-pane window

625,922 Btu

\$11.07

40.5 Years

$\$450/\$11.07 =$



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

902,772 Btu

\$16.10

34 Years

$\$550/\$16.10 =$



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

132,407 Btu

\$2.29

240 Years

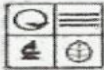
$\$550/\$2.29 =$

JOHN VAN PELT

*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

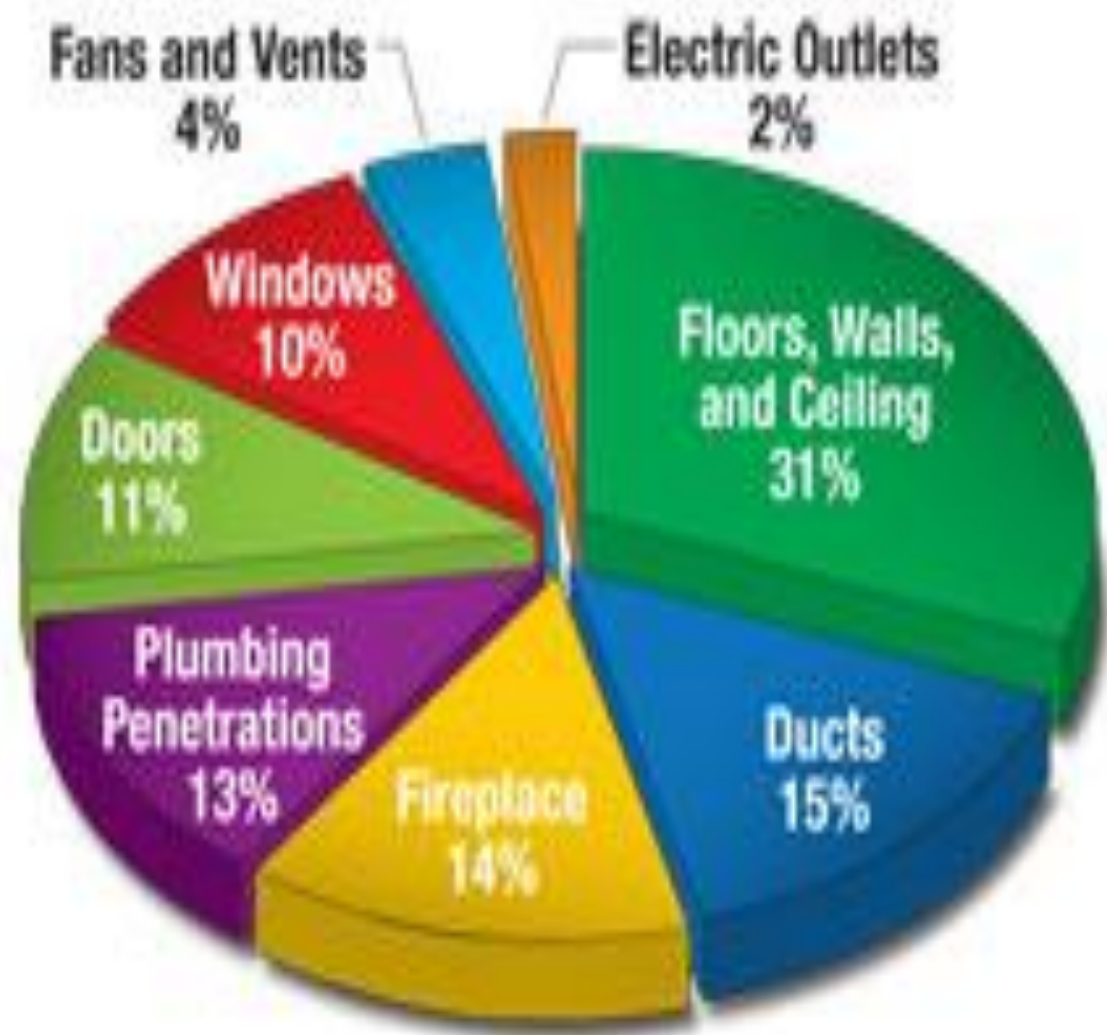
Source: Keith Habernern P.E., R.A.
 Collingswood Historic District Commission



MISSOURI DEPARTMENT OF NATURAL RESOURCES
ENERGY CENTER - ENERGY LOAN PROGRAM
WINDOW REPLACEMENT WORKSHEET

BUILDING <i>Main Street</i>	LOCATION <i>USA</i>	DATE <i>6-11</i>
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.....	<i>.44</i>	_____
2. Enter the U-Factor of the replacement windows.....	<i>.55</i>	_____
3. Subtract line 2 from line 1.....	<i>-0.11</i>	_____
4. Add 0.86 to line 3.....	<i>.75</i>	_____
5. Enter the total area of the windows to be replaced.....	<i>21 s.f.</i>	_____
6. Multiply line 4 by line 5.....	<i>15.75</i>	_____
7. Multiply 0.1 by line 6.....	<i>1.58</i>	_____
8. Enter the heating plant efficiency (percent divided by 100).....	<i>.93</i>	_____
9. Divide line 7 by line 8.....	<i>1.69</i>	_____
10. Enter the energy cost (\$/million Btu).....	<i>4.63</i>	_____
YEARLY SAVINGS		
11. Multiply line 9 by line 10.....	<i>\$ 7.84</i>	/year
PROJECT COST		
12. Enter the total cost of the window replacement including material, labor and design.....	<i>\$ 1,600</i>	
SIMPLE PAYBACK		
13. Divide line 12 by line 11.....	<i>204.08</i> years	
WINDOW U-VALUE TABLE		
Window System Type	U-Factor*	
Single Glass.....	1.10	
Single Glass with storm window.....	0.50	
Single Glass, low E coating.....	0.91	
Single Glass, low E coating with storm window.....	0.44	
Insulating Glass (double glass).....	0.55	
Insulating Glass (double glass) with storm window.....	0.35	
Insulating Glass (double glass), low E coating.....	0.38	
Insulating Glass (double glass), low E coating with storm window.....	0.32	
Insulating Glass (triple glass).....	0.35	
Insulating glass (triple glass) with storm window.....	0.25	
* 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.



Energy Retrofit Case Study

Window restoration, \$350 each x 42	\$14,700
Insulation, weather stripping & plugging air infiltration	\$3750
Cost of Geothermal system after 30% federal tax credit	<u>\$29,400</u>
Total energy retrofit costs	\$47,850
Original Gas & Electric annual cost	\$19,452
<u>Current Gas & Electric annual cost</u>	<u>\$6,960</u>
Gas & electric annual savings	\$12,492

Total years to payback energy retrofit investment 3.83