

# The Abell Report

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Published as a community service by The Abell Foundation

## **ABELL SALUTES: “Project Light Bulb” and the 300 “Mrs. Copelands” who are saving money by saving energy.**

1924 E. 32nd St., in the Cold Stream section of Baltimore City near Lake Montebello, looks pretty much like all of the other houses on the block: a row-house with a porch front, a postage-stamp size front lawn, five steps leading up to the porch and the front door. But 1924 is not like any of the other houses on the block; men and women from Project Light Bulb have been here; they have made 1924 different.

Mrs. Bobbie Copeland lives here, and she explains this difference: “The people from Project Light Bulb approached me with an offer to make certain changes in my home at no cost that would save energy, and at the same time, save me money on my Gas and Electric bill. They turned out to be right. It’s true. By saving energy I find I am saving money.”

And what changes that have the technicians from Project Light Bulb made? To answer, Mrs. Copeland escorts a visitor on a tour, starting in the living room. She lights a table lamp and points out that the bulb is of the ‘compact fluorescent kind.’ Most all of the bulbs in the house are these compact fluorescent light bulbs (CFLs). They provide much brighter light than the conventional bulbs. And they do not take as much energy to keep them lit.”

*continued on page 9*

## **Heritage Tax Credits: Maryland’s Own Stimulus to Renovate Buildings for Pro- ductive Use and Create Jobs, an \$8.53 Return on Every State Dollar Invested**

by Joseph Cronyn and Evans Paull

Baltimore’s historic center of commercial activity at Howard and Lexington streets is now at the center of the city’s economic and green resurgence. The Hecht’s and Stewart’s department store shoppers have long since departed, now replaced by the residents of the Atrium Apartments and the office workers of Catholic Relief Services’ world headquarters.

The transformation of that intersection and its vibrant West Side mixed-use community is due in great part to one of the most successful economic development programs ever designed by Maryland state government, the Maryland Heritage Structure Rehabilitation Tax Credit Program. But the intersection can also be considered “climate change central,” exemplifying the types of changes needed to set Maryland on a sustainable path for future growth.

Most Atrium residents and Catholic Relief Services office workers are probably unaware that their choice of a place to live and work is about as close to “climate neutral” as you can get on a developed piece of real estate in the state of Maryland. The occupants of these buildings drive at least 40 percent less than regional norms, since residents can walk or take transit to everything from baseball games to movies. Both buildings have been renovated to LEED or LEED-equivalent standards, saving

about 30 percent of energy use within the building. In addition, the area is also served by Baltimore’s district heating system, so the energy that is required is delivered with low-carbon efficiency.

The Maryland Historic Tax Credit Program is well established as a community revitalization engine, a key element in the renewal of downtowns and older established communities across the state: Berlin, Cumberland, Easton, Frederick, Hagerstown, and more. Less recognized, but defined and quantified here for the first time, is the role of the tax credit in reinforcing smart growth, lowering greenhouse gases, improving water quality, saving greenfields, lowering demand for landfill space, and making better use of existing infrastructure. In short, the historic preservation tax credit program is an environmental-economic development win-win.

### **Background**

The Maryland Heritage Structure Rehabilitation Tax Credit (MHRTC) Program is intended to encourage the redevelopment of historic properties in the state by offering developers tax incentives equal to up to 20 percent of eligible rehabilitation costs. Though both commercial (i.e., income-producing) and owner-occupied residential historic properties can be eligible for the program, the bulk of rehabilitation activity and state expenditures have involved

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commercial structures. Combined with federal historic preservation tax incentives in a similar amount, the state program has provided a powerful incentive for recycling older, underutilized and economically obsolete buildings into new uses: abandoned warehouse and manufacturing structures have become exciting office space for entrepreneurial new companies; economically and functionally obsolete office buildings have become upscale apartments bringing new residents to formerly struggling downtown areas.

In the 1996-2002 period, the Maryland program was a leader nationally in the number and scale of commercial projects which it enabled. The success of the program, however, led to legitimate concerns about the unpredictability of annual tax credit outlays and, then, legislative restrictions which curtailed its productivity. Over the 2002-2004 period, the commercial program was progressively cut back: capping total program expenditures and expenditures per property, apportioning awards geographically, instituting competitive ranking for scarce credits—all of which limited its desirability for developers.

The number of completed projects has dropped precipitously: from 75 projects and \$303.9 million total rehabilitation cost among 2001 applicants to only 20 projects and \$32.8 million total rehabilitation cost among 2005 applicants. The state's expenditure for tax credits also dropped proportionately from \$74.8 million to \$6.6 million for those years, yielding a program cost which some would consider more fiscally responsible, but others would characterize as short-sighted in light of the long-term benefits created by the rehabilitation activity.

## Economic & Fiscal Impact of Historic Preservation

As an important gauge of the benefits which historic preservation can bring to Maryland, we analyze the impact of tax credit-facilitated projects on the state's economy and public budgets over the lifespan of the program since 1996. The distinct impacts of the commercial and residential components of the inventory are studied separately, using ratios contained in the IMPLAN economic input-output model for Maryland.

### Commercial Properties

The Maryland Heritage Structure Rehabilitation Tax Credit Program has facilitated the redevelopment of 407 historic commercial structures over its 12-year life. Those projects involved over \$923.0 million in total rehabilitation spending (\$1.02 billion in 2009 dollars) by developers, assisted by an investment of \$213.9 million in state tax credits. The commercial portfolio has the following characteristics:

- *Economic Development*

Over 12 years, completed commercial projects have generated a total economic impact on the Maryland economy of more than \$1.74 billion (\$2009) in total economic activity, employing an estimated 15,120 persons earning \$673.1 million (\$2009). Construction labor on the job-sites totaled an estimated 9,248 workers earning \$443.4 million (\$2009)—over three-fifths of the total economic impact.

Although not usually thought of as a jobs program, historic renovation is a labor-intensive process which creates jobs—especially valuable in an economic downturn such as we are now experiencing. Economic mod-

els confirm experience that rehabilitation activity creates 20 percent more jobs than new construction. Over the past 12 years, the state's tax credit investment has generated 1,850 more jobs than would have been created had the same funds been used for new construction.

- *Fiscal Impact*

During their construction periods alone, the 407 projects generated an estimated \$83.7 million (\$2009) in state and local taxes—effectively paying down more than one-third of the state's total \$213.9 million tax credit investment. The greatest return on the state's investment, however, comes from the long-term increase in employment and property taxes at the historic properties and their neighbors.

- *Scale of Rehabilitation*

Though projects have ranged in their scale of total rehabilitation expenditures from \$6,000 to \$70.9 million, more than three-fifths (60.9%) of projects have involved spending of less than \$500,000. Only 48 structures have required a rehabilitation scope exceeding \$5.0 million, but those properties generated over \$691.0 million in rehabilitation spending—three-quarters of total rehabilitation expenditures and tax credits awarded by the state.

- *Geographic Distribution*

The projects have been concentrated in Baltimore City, which captured more than three-fifths (63.6%) of all awards, representing 85.9 percent of all rehabilitation expenditures and 87.1 percent of all tax credits. Nonetheless, projects were located in all but three Maryland jurisdictions—Charles, Garrett and Somerset coun-

ties. Frederick (20), Anne Arundel (18) and Baltimore (18) counties had the next most numerous inventories of commercial tax credit awards.

- *Non-Profit Developers*

Non-profit developers accounted for about one-tenth of commercial rehabilitation projects: 36 projects involving \$98.2 million in expenditures. Since the non-profits could not themselves take advantage of the tax credits, they received refunds of the full amount of the tax credits.

- *Federal Tax Credits*

The Maryland Historical Trust estimates that \$172.2 million in Federal Historic Preservation Tax Incentives Program tax credits have been leveraged by the Maryland tax credits—almost a one-to-one match. Owing to their challenging nature, most commercial projects would not be attempted without the equity provided by the combination of state and federal incentive programs.

### Residential Properties

Since 1997, the Maryland tax credit program has assisted in the rehabilitation of 2,351 historic residential structures. Those projects involved over \$201.4 million in total rehabilitation spending (\$217.1 million in 2009 dollars) by owner-occupants and their developers, assisted by an investment of \$41.6 million in state tax credits. The residential portfolio has the following characteristics:

- *Economic Development*

Over 12 years, completed residential projects have generated a total economic impact on the Maryland economy of more than \$354.9 million (\$2009) in total economic activity, employing an estimated 3,343 persons earning \$88.5 million (\$2009). Construction labor on the job-sites totaled an estimated 1,606 workers

earning \$38.9 million (\$2009)—almost half of the total economic impact.

- *Fiscal Impact*

During their construction periods alone, the 2,351 projects generated an estimated \$23.5 million (\$2009) in state and local taxes—effectively paying down more than one-third of the state’s total \$41.6 million tax credit investment. The greatest return on the state’s investment, however, comes from the long-term increase in property taxes for the historic properties and their neighbors in perpetuity.

- *Scale of Rehabilitation*

Though projects have ranged in their scale of total rehabilitation expenditures from \$5,000 to \$3.3 million, three-quarters (74.6%) of projects have been small—involving total rehabilitation spending of less than \$100,000. Only 13 homes required a rehabilitation scope exceeding \$1.0 million—in total about one-tenth of all rehabilitation expenditures and of state residential tax credits.

- *Geographic Distribution*

Residential rehabilitation projects were awarded tax credits in all counties in Maryland, though almost three-fifths of projects and spending were located in Baltimore City. There have been 1,352 homes rehabilitated in the city, involving eligible expenditures of \$118.0 million. Montgomery (241) and Baltimore (229) counties had the next greatest numbers of residential tax credit awards.

- *Tax Credit Effectiveness*

Over three-fifths (62.4%) of residential applicants have stated that they would not have attempted rehabilitation of their historic properties unless the Maryland tax credits were available.

### Tax Credit Leverage

The economic impact of historic preservation tax credits is magnified by the fact that, for every \$1.00 invested by the State of Maryland, there must be a total expenditure of at least \$5.00 in rehabilitation expenses by the property owner. Using the IMPLAN economic and fiscal impact statistical model, we estimate the leverage gained by state in the rehabilitation of commercial projects as follows:

#### Leverage of Maryland Tax Credits Impact of 20% Commercial Credit

	Per \$1.00 of Credit
Total Economic Output	\$8.53
Employee Compensation	\$3.30
State & Local Tax Receipts	\$0.41
Construction Wages (On-Site)	\$2.18
	Per \$1.0 Million in Credits
Total Employment (Jobs)	72.5
Construction Jobs (On-Site)	45.5

During the construction period alone, each \$1.00 of tax credits invested yields the state \$8.53 in total economic output including \$3.30 of wages—two-thirds of which are received directly by construction workers on-site. Job creation is also significant, with 72.5 jobs (45.5 on-site) being created during the construction period throughout Maryland for each \$1.0 million investment by the state.

### Inventory of Historic Structures

Maryland’s historically significant properties are a unique resource preserving a built record of the development of American society from colonial days to the present. Given Maryland’s place in U.S. history, it is perhaps not surprising that Maryland boasts a greater number of structures listed in National Register and local historic districts than any other state in the Union.

There is no comprehensive list of all designated historic structures in the

state, since each county and municipality has the authority to create local historic districts. A reasonable estimate of the number of contributing structures can be made, however, based on calculations from a 2003 Lipman Frizzell & Mitchell study commissioned by the Maryland Historical Trust, since updated to 2008 by the state agency. The agency estimates the number of contributing structures in National Register historic districts to be 89,523 as of December 31, 2008. Adding to that figure an estimated 8,087 structures in local historic districts which are not counted above, we calculate the number of eligible structures throughout the state to be approximately 97,610. (It should be noted that 60,835 or 62.3 percent of those properties are located in Baltimore City—leading to its disproportionate representation in tax credit expenditures and economic/fiscal benefits analyzed above. Prince George’s, Frederick and Washington counties have the next largest inventories of historic properties.)

- *Tax Credit “Capture”*

The average number of preservation projects (the vast majority being owner-occupied residential) receiving tax credit awards over 12 years has been 230 per year, though the total reached as high as 491 for cases initiated in 2004. Even assuming that the number of tax credit applications in a given year might total 500, we calculate that only 0.5 percent of all eligible structures are being addressed in any one year. (We also note that the proportion of applications which do not ultimately result in the completion of approved rehabilitation and an award of tax credits seems to be about 10 percent. The total volume of applications to be processed annually, however, is tremendous—and the Maryland Historical Trust needs to be staffed appropriately to handle the volume.)

- *Large Historic Structures*

In 2003, Lipman Frizzell & Mitchell estimated the number of potentially eligible high rehabilitation cost properties (requiring more than \$15 million in rehabilitation) at approximately 300 properties statewide. That universe was comprised of properties of at least 150,000 sq. ft. which were constructed no later than 1950. That estimate was based on available but incomplete data from the Maryland Department of Assessments & Taxation on all private, public, utility, institutional and non-profit properties. In the event that the cap were lifted regarding maximum project size eligible for tax credits, it seems that there would be a finite universe of properties which could trigger the payment of very high (e.g., greater than \$3.0 million) tax credits in any given year.

In a review of the 12-year experience of the Maryland tax credit program, it is apparent that cutbacks in the funding of the program combined with additional program restrictions (especially per-project funding cap, rating/ranking procedures, jurisdictional allocations) have reduced program production—as intended. The experience of other states with similar programs (e.g., Virginia, North Carolina, Missouri) but without the added caps and restrictions is not exactly comparable to Maryland’s due to differences in overall program guidelines and local conditions. It is clear, however, that those states enjoyed a relatively consistent level of production in the years following 2002—falling since 2007 due to the current economic recession. Were Maryland to have retained its pre-2002 guidelines for the tax credit program, it is likely that demand for the tax credits would have been sustained and that the job creation and environmental benefits of the program would have continued.

### **Community Revitalization**

Case studies conducted in the past by

Lipman Frizzell & Mitchell<sup>1</sup> and others have documented additional community revitalization benefits of the tax credit program. These included:

- *CBIZ/BGS&G Building (Cumberland)*

The building was regarded as a key linking element between the Cumberland Mall and Canal Place and was credited with stimulating economic activity in both directions, thereby contributing to the heritage tourism that was one of the cornerstones of the city’s economic plans;

- *Cannon Hill (Frederick)*

The redevelopment was credited with stimulating significant re-investment activity in both residential and commercial corridors adjacent to the site.

- *American Can Complex (Baltimore City)*

Analysis revealed that building permit activity tripled and neighborhood property values rose 17.6 percent in the four-year period following completion of the project. This compared to citywide property values rising 4.4 percent.

- *Tide Point (Baltimore City)*

Certainly not typical of all tax credit projects in its scale, Tide Point is regarded by many as a linchpin project, sparking revitalization of the city’s Locust Point neighborhood. The \$17.7 million tax credit was the key financing source for this redevelopment of the former Procter and Gamble soap plant. Tide Point consists of 400,000 square feet of modernized office and technology space, accommodating 1,600 jobs and representing \$72 million investment. The project, completed in 2000, paved the way for at least three subsequent conversions of underutilized industrial land to new residential, mixed-use, and commercial redevelopment projects, totaling several

multiples of the Tide Point investment (Silo Point, Foundry on Fort, and McHenry Row). A recent master’s thesis<sup>2</sup> focuses on indicators of neighborhood revival:

- Average commercial and residential property sales prices rose approximately fivefold from 1995 (pre-Tide Point, \$58,800) to 2007 (\$276,600);
- Construction permits grew dramatically, about fivefold from 1995 to 2007. When the construction permits are compared to city-wide permits, which also grew, the Locust Point growth rate still exceeds the citywide rate by a factor of 3.52.

### Environmental Impact of Historic Preservation

We document and quantify the benefits associated with historic preservation as a primary tool in encouraging responsible growth within existing communities including impacts on air quality, greenhouse gases, water quality, travel congestion, public health, and preservation of farmland. Our analysis demonstrates that each \$1.0 million investment in historic tax credits results in significant environmental benefits, as illustrated in the following table (and explained in the narrative below).

The benefits of growth within existing communities are contrasted with the negatives associated with sprawling development patterns. In each case below, therefore, preservation / redevelopment of an historic structure is considered to save the environment from the construction of a new structure of similar scale on a suburban “greenfields” site.

### Climate Change, VMTs and Walkable Communities

Experts agree that reducing vehicle miles traveled (VMTs) is a critical element of climate change strategies. There is solid evidence from multiple studies

that “compact development” saves in the range of 20 to 40 percent VMTs relative to sprawl.<sup>3</sup> Some highly urbanized and walkable communities have been documented to reduce VMTs by up to 75 percent.<sup>4</sup> The factor that has proven to be most highly correlated with VMT reduction is density. Several studies found that doubling density corresponds to a 25 to 30 percent reduction in VMTs.<sup>5</sup> The urban form characteristics that are correlated with VMT reduction are, in rank order: density, mixing uses, proximity to transit, proximity to city center or job centers, and connectivity of the streets and the pedestrian friendliness of the public thoroughfare (grid streets).

Historic structures are typically found in communities meeting all these criteria. Both residential and job densities surrounding all tax credit commercial properties were evaluated for this study and found to be at least triple those in developed suburban areas. Further, 86 percent of all tax credits have been

awarded to Baltimore City projects and, according to the Baltimore Metropolitan Council, city residents on average drive at half the rate of suburbanites: 14.2 VMT per person per day contrasted with 28.1 VMT for suburbanites.<sup>6</sup>

A community’s “walkability” ranking is both a quality of life factor and a good correlate and predictor of VMT reduction. Researchers for this study rated each MHRTC project on a walkability index ([www.walkscore.com](http://www.walkscore.com)) and found that the median walkscore was 91 out of 100 (90 to 100 is the highest ranking, characterized as a “walker’s paradise”). This ranking means that the vast majority of MHRTC projects are located in mixed-use communities where walking is a viable alternative to car travel.

Based on our analysis, we conclude that historic preservation projects reduce VMTs 30 to 40 percent as compared to new suburban development (higher reduction is generally attributed to compact development – see Appendix for an

**Environmental Impact of Historic Preservation:  
Benefits of \$1.0 Million Investment in Historic Tax Credits\***

Benefit	Quantification
Renovated space	50,000 sq ft
Environmental Impacts:	
• Lower VMTs (20%-40% saving compared to sprawl)	198,000 – 264,000 VMTs
• Lower travel-related CO <sub>2</sub> compared to sprawl	92 – 123 metric tons CO <sub>2</sub>
• If the rehabilitation is also LEED equivalent for energy efficiency, the CO <sub>2</sub> “saved” relative to conventional construction in suburban location	164 – 195 metric tons CO <sub>2</sub>
— This is equivalent in gallons of gasoline	18,700 – 22,000 gal. of gas
— This is equivalent taking vehicles off the road	30 to 35 vehicles
• Retained “embodied” energy	55,000 MBTUs
• Greenfield land preserved	5.2 acres
• Lowered run-off per sq ft or DU, relative to low density sprawl – percentage reduction	70%
• Less demolition debris in landfills, relative to demolition and new construction	2,500 tons
• Value of natural resources conserved, relative to new construction	\$100,000
Infrastructure investments “saved”	\$500,000 - \$800,000

\* Calculations assume 20% credit and rehabilitation cost of \$100 per sq. ft.

explanation of the methodology). The VMT reduction can be quantified as carbon dioxide reduction over the 12-year experience of the tax credit program as follows:

- Households and employees have reduced their travel by 34.3 - 45.8 million miles
- CO<sub>2</sub> emissions have been reduced by 13,700 - 21,200 metric tons
- These VMT and CO<sub>2</sub> reductions represent:
  - 1.7- 2.3 million gallons of gasoline: or,
  - 2,500 - 3,800 cars removed from the road for a year.

### The Dual Energy Benefit of Energy-Efficient Buildings in Energy-Efficient Locations

Historic preservation projects tend to be both energy-efficient within the building envelope and located in areas that encourage non-automotive means of access and egress—yielding dual energy conservation benefit. Policymakers should consider ways to adjust the tax credit to add a benefit for green, energy efficient buildings in order to maximize the sustainable energy-saving aspects of preservation projects. Every 50,000-square-foot building that reduces VMTs by 40 percent and also lowers building energy use by 30 percent (typical LEED savings) reduces CO<sub>2</sub> production by 195 metric tons—the equivalent of taking 35 automobiles off the road. (See Appendix for examples of preservation projects that offer both transportation and in-building energy savings)

There is a common misperception that older buildings are less energy efficient than buildings built in more recent times. Data from the US Energy Information Administration indicates that buildings built before 1920 are approximately equivalent to buildings built from 2000 to 2003, and the worst energy offenders are actually those built in the 1970’s and 1980’s.

The reasons that historic structures are relatively energy-efficient have to do with the use of materials that are superior insulators, use of natural ventilation, as well as siting/orientation for efficient heating and cooling in the pre-air conditioning era.

### Embodied Energy

Embodied energy is defined as the amount of energy associated with extracting, processing, manufacturing, transporting and assembling the building materials – essentially the energy already expended to build a building.<sup>7</sup> Preservationists argue that embodied energy, even though it is backward-looking, is legitimate to count when weighing the energy impacts of alternative plans, because it accurately brings into consideration a longer-term, life cycle-oriented approach, which is entirely appropriate given that greenhouse gases dissipate over very long time periods.

Embodied energy is calculated at about 1.1 MBTU (million BTUs) per square foot for a generic commercial building. Every tax credit project can be viewed as retaining (not wasting) the embodied energy of the renovated building. Estimating that the historic preservation tax credit program has facilitated the renovation of 10.2 million sq ft of commercial space and, then, multiplying that amount of space times 1.1 MBTU per square foot results in a calculation that 11.2 million MBTU of embodied energy has been “retained.” For per-

spective, 11.2 million MBTU is equivalent to 67 million gallons of gasoline or 595,000 metric tons of CO<sub>2</sub>.<sup>8</sup>

### Saving Greenfields

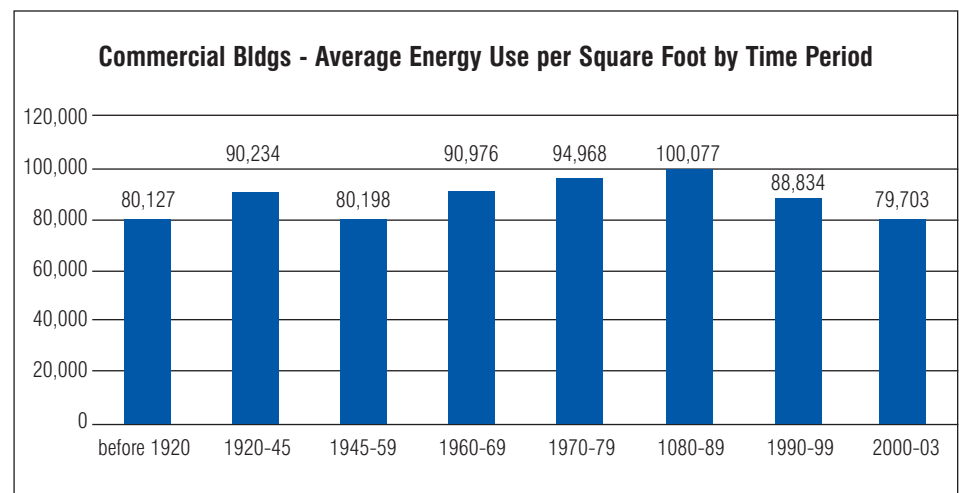
Tax credit projects by their nature involve the redevelopment of land that has already been used. Historic preservation represents an alternative way to accommodate growth and avoid the outward pressure to develop greenfields, farms and virgin land. An EPA-funded study for brownfields sites estimated that one acre of brownfields redeveloped corresponds to conserving 4.5 acres of greenfields.<sup>9</sup> The density data reflected in the VMT section and the appendices support this 1:4.5 acre ratio as a conservative estimate.

Using this ratio (1 acre redeveloped to 4.5 acres greenfields saved), we conservatively estimate that the program has already saved at least 1,053 acres of greenfields land by virtue of accommodating growth in existing communities.

### Infrastructure Savings

Historic preservation projects are reusing land which is served by existing infrastructure: roads, storm and sanitary sewers, utility lines, etc. A review of national literature, combined with discussions with local developers and public officials led to the conclusion that preservation projects save 50 to 80 percent in infrastructure costs compared to new suburban development.<sup>10</sup>

We calculate, therefore, that infra-



structure investment “savings” over the past 12 years have amounted to between \$102 and \$163 million, which can be interpreted as an indirect fiscal benefit returning over one-quarter of the state’s tax credit investment. (National research also indicates that there are operating cost savings attributable to more dense development such as the historic structures, but the magnitude is not well established.)

### Lowering Runoff and Improving Water Quality

Tax credit projects, because of their density, can be credited with reducing stormwater runoff and improving water quality. EPA estimates that higher density (e.g., 8 Dwelling Units per acre) development reduces runoff by 74 percent as compared to a low density (1 DU per acre) development.<sup>11</sup>

### Less Waste in Landfills

Demolition debris comprises roughly 24 percent of the municipal solid waste stream, estimated to be 325 million tons nationally in 2003, for example.<sup>12</sup> The EPA estimates that residential demolition generates 115 pounds of waste per square foot and the demolition of non-residential buildings produces approximately 155 pounds of waste per square foot.<sup>13</sup>

Assuming each tax credit preservation project to be an alternative to demolition, we estimate that the state’s investment in historic commercial properties has “saved” 387,000 tons of material from landfills over the past 12 years. This amount of landfill material is the equivalent of filling a football stadium to a depth of 50-60 feet.<sup>14</sup>

There are also energy savings due to NOT demolishing and landfilling this amount of material. The authors estimated that 5,000 metric tons of CO<sub>2</sub> have been conserved due to MHRTC program. This amount of CO<sub>2</sub> is the equivalent of 900 automobiles being taken off the road.

### Health Benefits of Historic, Walkable Communities

With a median walkscore of 91 out of 100, tax credit projects have been objectively ranked as being located almost universally in highly walkable communities. National research correlates walkable communities with higher levels of compliance with exercise guidelines<sup>15 16</sup> and lower levels of obesity, high “body mass index,” high blood pressure, arthritis, headaches, and breathing difficulties.<sup>17</sup>

### Conclusions

The research conducted by Lipman Frizzell & Mitchell and Northeast-Midwest Institute is clear in demonstrating the short- and long-term yield which the State of Maryland has received on its investment in historic preservation through the Maryland Heritage Structure Rehabilitation Tax Credit program. Historic preservation is also economic development and environmental preservation—creating jobs and saving greenfields. As urban areas are revitalized and sprawl reduced, the Maryland economy will grow along a more sustainable trajectory and its citizens’ quality of life will be enhanced.

If the Maryland Heritage Structure Rehabilitation Tax Credit is to be maximally effective in delivering its environmental, economic and fiscal benefits in the future, we recommend that to the extent feasible the following objectives be realized:

- *Smart Growth Program*  
The program’s greatest benefits are long-term: more sustainable communities, reduced infrastructure costs, increased property tax base, and others. Historic tax credit investments must be evaluated from a long-term investment perspective similar to public finance bond investments.
- *Remove/increase program and project caps*  
The tax credit program is effective at

capturing growth in the right places and creating jobs. The larger projects create more employment and also tend to catalyze broader revitalization in their immediate neighborhoods. The greater the availability of tax credits, the greater the program’s job-creating potential—particularly in the midst of a recessionary economy.

- *Increase Predictability*  
The greater the predictability the program can have for developers and investors, the more likely they will be to attempt historic rehabilitation. Removal of rating and ranking systems (along with their associated time delays) will encourage the use of the program.
- *Encourage energy-efficient rehabilitation*  
Starting from a base of relatively more energy-efficient buildings, encouraging greater energy savings in historic structures through green building standards will enhance the program’s total impact.

### The Authors

In this analysis, the authors review recent research into the benefits of the rehabilitation of historic structures regarding their impact on the environment, on the Maryland economy and on the budgets of state and local governments in Maryland. Benefits are quantified insofar as current research will permit. The principal author, Joseph Cronyn of Lipman Frizzell & Mitchell LLC, is a nationally-recognized authority on the economic and fiscal impacts of historic preservation. His co-author, Evans Paull of the Northeast-Midwest Institute, has done extensive research into brownfields, sustainable development, and environmental issues for the development of national policy.

An appendix containing additional documentation of the methodology and assumptions is available from The Abell Foundation upon request by contacting [abell@abell.org](mailto:abell@abell.org)

## Endnotes

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- <sup>3</sup> Urban Land Institute, Smart Growth America, the Center for Clean Air Policy, and the National Center for Smart Growth, "Growing Cooler: Evidence on Urban Development and Climate Change," Washington, D.C. January 2008 <http://www.smartgrowthamerica.org/gcindex.html>. Other studies include: Pew Center on Global Climate Change, "Towards a Climate-Friendly Built Environment," Pew Report; Kris Wernstedt, "Overview of Existing Studies on Community Impacts of Land Reuse," National Center for Environmental Economics, 2004; The Funders Network and the Environmental and Energy Study Institute, "Energy and Smart Growth – It's About How and Where We Build."
- <sup>4</sup> John Holtzclaw,\* Robert Clear, Hank Dittmar, David Goldstein and Peter Haas, "Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use," *Transportation Planning and Technology*, Vol. 25(1), pp 1-27, March 2002.
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- <sup>6</sup> Baltimore Metropolitan Council, Factors Affecting Travel Behavior, for the Transportation 2030 Project.
- <sup>7</sup> The 1.1 MBTU per sq ft factor represents a clarification from Patrice Frey, National Trust for Historic Preservation. The embodied energy data is based on 1970's data that is being revised. According to Ms. Frey, the revisions will likely result in lower numbers.
- <sup>8</sup> CO<sub>2</sub> calculated from the EPA CO<sub>2</sub> equivalency calculation tool: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>
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- <sup>10</sup> See Appendix for methodology. Three primary sources were used: Scott Bernstein, "Using The Hidden Assets of America's Communities and Regions to Ensure Sustainable Communities." Center for Neighborhood Technology, 2003, <http://www.cnt.org/hidden-assets/pt1f.html>; James Frank, "The Costs of Alternative Development Patterns: A Review of Literature." Washington, DC. Urban Land Institute. 1989; Troy D Mix, "Exploring the Benefits of Compact Development," for Delaware's Office of State Planning Coordination, 2003
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- <sup>14</sup> See: <http://www.ciwmb.ca.gov/ConDemo/CaseStudies/DGSDiversion.pdf>
- <sup>15</sup> L.D. Frank, et al, "Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings from SMARTRAQ," *American Journal of Preventative Medicine* 2005;28(2S2):117-125, cited in Reid Ewing, "Understanding the Relationship Between Public Health and the Environment," A Report to the LEED-ND Core Committee, US Green Buildings Council, May 2006.
- <sup>16</sup> J.F. Sallis, et al, "Active Transportation and Physical Activity, Opportunities for Collaboration on Community Health." Transportation and Research Part A 38, 2004, cited in Reid Ewing, "Understanding the Relationship Between Public Health and the Environment," A Report to the LEED-ND Core Committee, US Green Buildings Council, May, 2006.
- <sup>17</sup> R. Ewing, et al, "Relationship between Urban Sprawl and Physical Activity, Obesity and Morbidity," *American Journal of Health Promotion*, Vol. 18, No. 1, 2003; and Lawrence Frank, Martin Andresen, Tom Schmid, "Obesity Relationships With Community Design, Physical Activity, and Time Spent in Cars," *American Journal of Preventive Medicine*, Vol. 27, No 2, 2004; BOTH cited in Reid Ewing, "Understanding the Relationship Between Public Health and the Environment," A Report to the LEED-ND Core Committee, US Green Buildings Council, May 2006.



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## ABELL SALUTES

*Continued from page 1*

The next stop is the kitchen, actually the kitchen sink. Ms. Copeland points to a lever on a device fixed to a spigot. “Water comes out in a shower, in separate little streams, so there is less water coming out to do the same job” She presses a tiny lever near the faucet handle. “This stops the water at the temperature you had it, so when you restart it the water comes out at that same temperature. There is no loss of water, or of the energy to heat the water, when you leave the kitchen for any reason or pick up the phone to interrupt what you were doing.”

Mrs. Copeland leads the visitor down steps off the kitchen and into the basement, which has been rebuilt into a club room. She points to the hot water heater. “It’s wrapped in three and a half inches of insulation. It keeps the heat in and the savings in energy up.”

Back on the first floor she points to the thermostat on the wall near the stairwell. She says, “You can preset the control to get differing temperatures at the times when you want it, so that you need not waste energy keeping the house warm when you are not here or when you are asleep and might want it cooler.

“I not only can take credit for saving energy, I got credit on my monthly budget bill from Baltimore Gas and Electric. I am delighted with the program.”

Mrs. Copeland’s house at 1924 E. 32nd St. is one of 300 houses where Civic Works has installed the energy saving, money saving Project Light Bulb program.

The program traces its origins in Baltimore to The Abell Foundation’s interest in energy conservation. Aware of Civic Works’ strong track record of neighborhood stabilization, community service and skills development, the Foundation approached the organization about funding for a new energy-efficiency program. Civic Works researched a program in Colorado, implemented by the Mile High Youth Conservation Corp with funding

from the Governor’s Office of Energy Management and Conservation. With a start-up grant of \$67,375 from the Abell Foundation, the Colorado model was modified into a pilot program for Baltimore. Project Light Bulb was born.

The project is designed to be easy to implement, immediately addressing the five things in the house that can quickly and most cost-effectively reduce energy consumption and lower household energy costs—with a high priority on light bulb replacement, with removal of up to 15 incandescent bulbs within the house and replacement with CFL light bulbs. The Maryland Energy Administration provided 1,600 CFL bulbs for the pilot and Baltimore Gas and Electric provided 1,000 CFL bulbs. In addition, Civic Works tests thermostat settings for the furnace and air conditioner and tests temperatures of hot water heaters and refrigerators. They replace one kitchen and one bathroom faucet with aerators and replace the showerhead with a low-flow version to reduce consumption of hot water. As a safety measure, Civic Works provides a carbon monoxide detector and makes referrals to the Fire Department for smoke detectors in houses where there are none. Importantly, they provide education on conservation by giving the resident tips on additional energy-saving measures such as washing clothes in cold water and cleaning dust off refrigerator coils. They provide printed information with each resident on the energy conservation items installed and tips for additional savings.

Project Light Bulb began as a pilot program in two neighborhoods, Belair Edison and Coldstream-Homestead-Montebello, in November, 2007. Each of the neighborhoods was chosen for its demographics of low and moderate income households most likely to be affected by energy prices, the predominant housing type of the two-story row house with some built-in energy efficiency advantages and for the strong neighborhood organizations with marketing capability.

Civic Works trains AmeriCorps workers and deploys them in teams of two to visit each home. By the end of February, 2008, Civic Works had visited 330 homes, installing 4,060 CFLs, 287 kitchen aerators, 258 bathroom aerators, 219 low-flow shower heads and 330 carbon monoxide detectors and provided 164 names and addresses to the Fire Department of smoke detector referrals. They found that in the majority of homes, residents had very limited knowledge of energy conservation and most did not have thermostats, freezers and water heaters set at the recommended temperatures. Civic Works conservatively estimated that in the first year the 300 participating households will save \$27,000 in combined electricity costs and 3.2 million gallons of water, not including any reductions from adjusted thermostat settings or hot water usage.

Using data provided through BGE under agreement with each participant, Civic Works compared actual electricity usage from February and March, 2008 to February and March, 2007. They determined that the average monthly savings for participating households is 53 kilowatt hours per month or \$8, which represents approximately a 10 percent savings in monthly electricity costs. Although the homeowner does not pay the \$205 cost of the installation of energy-saving devices at current electricity rates, the homeowner savings cover the cost of the program in a little over two years. Based on the results of the pilot program, The Abell Foundation awarded a subsequent \$213,000 grant to Civic Works to continue the program for one year to address an additional 1,000 households.

The Abell Foundation Salutes Project Light Bulb: Dana Stein, Executive Director; Earl Millett, Director of Community Development of Civic Works; and the Civic Works AmeriCorps trainees who implement the program, and all 300 of the Mrs. Copelands who are saving money by saving energy.