



# CLIMATE, CULTURE AND COMMUNITY:

HOW REUSING BUILDINGS  
PRESERVES HISTORIC SPACES AND  
LOWERS OUR CARBON FOOTPRINT

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**MASSDEP DECONSTRUCTION  
WORKGROUP**

*MEETING #4*

**JUNE 7, 2023**



# HOUSEKEEPING

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This meeting is being recorded

Using zoom/chat

Ground rules

# HOW THIS GOT STARTED

2030 Solid Waste Master Plan

Reduce & Reuse Working Group

Reduce & Reuse Action Plan

December 2021

Deconstruction Working Group

September 2022 Kick-Off

# MEET THE PLANNING TEAM

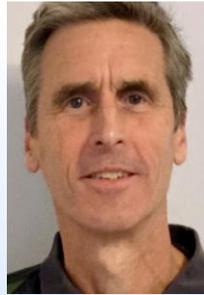
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**Christine Beling**  
US EPA Region 1



**Susan Cascino**  
City of Boston



**Mike Elliott**  
MassDEP C&D Lead



**Dave Giese**  
Deconstruction Works



**Pam Howland**  
Old Window Workshop Cooperative



**Abbey Massaro**  
Center for Ecotechnology



**Kathi Mirza**  
MassDEP



**Brooke Nash**  
MassDEP



**Michael Orbank:** STO Building Group,  
Carbon Leadership Forum Boston



# WHY FOCUS ON DECONSTRUCTION AND REUSE?

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- Address disposal capacity shortfall- in state and in the northeast
- Meet aggressive waste reduction goals in MassDEP's 2030 SWMP:
  - **Specifically for C&D: Reduce disposal of C&D materials by 260K tons by 2030, more than double current C&D recycling tonnage.**
- Divert materials from waste stream, capture env'l and economic value, drive market dev't and expand job opportunities.
- Reduce GHG emissions:
  - **Embodied carbon: As buildings become more energy efficient, embodied carbon becomes a greater proportion of total carbon emissions.**

**We need to improve the way we are managing these materials.**

# GOALS FOR THIS DECONSTRUCTION WORKGROUP

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- ❑ Increase awareness about our waste disposal crisis
- ❑ Grow the Reuse Industry in MA for valuable building materials
- ❑ Connect stakeholders and share ideas
- ❑ Align with MassDEP's R&R Action Plan
- ❑ Reduce climate impacts
- ❑ Enable Job Training and Workforce Development
- ❑ Support Diversity, Equity, and Inclusion



*Basic Operating Principle:  
Work for the greater good, collaborate, include all stakeholders*



## PREVIOUS MEETINGS

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- ***Demystifying Deconstruction***, September 2022
- ***Inspiration and Practice: Taking Buildings Apart***, December 2022
- ***Reuse Markets for Building Materials***, March 2023

Recordings and presentations from previous meetings can be found [at this link](#).

# DECONSTRUCTION

*A Zero Waste Boston Initiative*

*Susan Cascino*



## How to get building reuse done–

***“Create a path. Don’t fight, help.”***

Heidi Swank, Ex Director of Rethos in St.Paul Minnesota a non-profit promoting building reuse and deconstruction

***“Once government drafts a path, the private sector will use it as a way to create new businesses. Then change starts happening quickly.”***

Gina McCarthy, former EPA administrator, said during her talk Fighting For The Environment

## Climate, Culture & Community: How Reusing Buildings Preserves Historic Spaces and Lowers Our Carbon Footprint

### Today's Speakers

- **Alison Frazee**, Boston Preservation Alliance
- **Jennifer Doherty**, MA Historical Commission
- **Erin McDade**, Architecture 2030-CARE Tool
- **Alyssa Frystak**, Place Economics

The background of the slide is a historical map of Boston, showing street grids and property lots. A dark green horizontal banner is centered over the map, containing the organization's name and tagline in white and yellow text. The map shows various street names like 'WENON' and 'ST' and numerous lot numbers and names.

# BOSTON PRESERVATION ALLIANCE

Protecting places · Promoting Vibrancy · Preserving Character

# Preservation and the Planet

**The greenest building is the one that  
already exists**

**Building reuse IS climate action!**

**NOAH- Naturally Occurring Affordable  
Housing**

# A LIFETIME'S WORTH OF WASTE

BUILDING DECONSTRUCTION INSTITUTE  
[www.reuseconsulting.com](http://www.reuseconsulting.com)



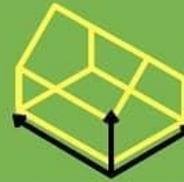
The EPA states that Americans produce an average of **4.5-5.0** pounds of waste a day

This adds up to about **135000** pounds of waste in 75+ years, or one average lifetime



The average American home is 2,400 square feet and weighs about **56** pounds per square foot

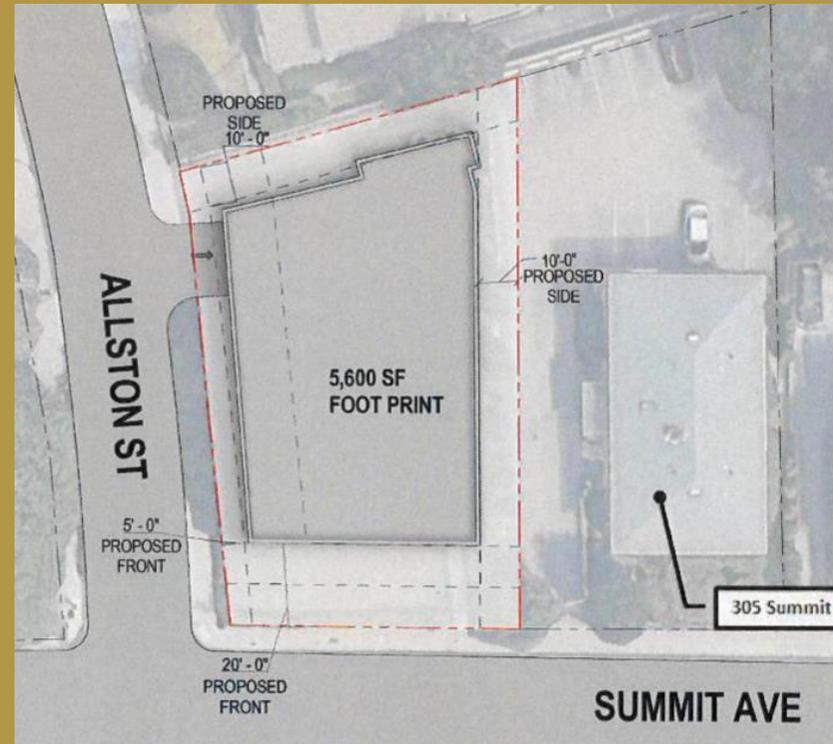
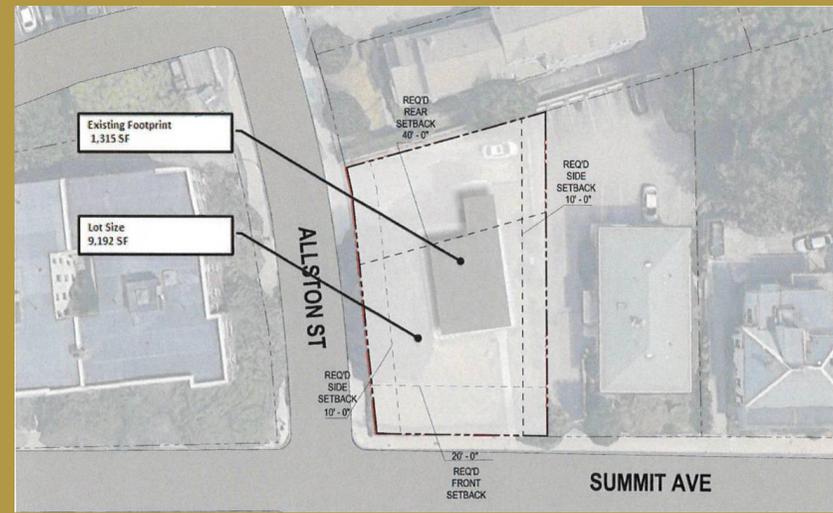
This adds up to about **135000** pounds per home



## DEMOLITION OF ONE AMERICAN HOME IS EQUIVALENT TO A LIFETIME'S WORTH OF WASTE

Consider Building Deconstruction and ReUse to support an impactful circular and sustainable system





# Partners

**City of Boston- Environment Department- Zero Waste Team**

**MassDEP Deconstruction Working Group**

**CLF Boston Reuse Working Group**

**RecyclingWorks in Massachusetts**

**All For Reuse- Reuse Ecosystem Map  
(<https://www.allforreuse.org/ecosystem-map>)**



[www.bostonpreservation.org](http://www.bostonpreservation.org)

Facebook: @bostonpreservationalliance

Instagram: @bostonpreservationalliance

Twitter: @BOSpreservation

LinkedIn: Boston Preservation Alliance

Alison Frazee

[afrazee@bostonpreservation.org](mailto:afrazee@bostonpreservation.org)

# Demolition Delay and Historic Rehabilitation Tax Credits



The John Perkins House, Wenham, demolished 2011



WILLIAM FRANCIS GALVIN  
SECRETARY OF THE COMMONWEALTH  
CHAIRMAN, MASSACHUSETTS HISTORICAL COMMISSION

Massachusetts Historical Commission  
Jennifer B. Doherty  
Local Government Programs Coordinator  
June 15, 2023

# What is demolition delay?



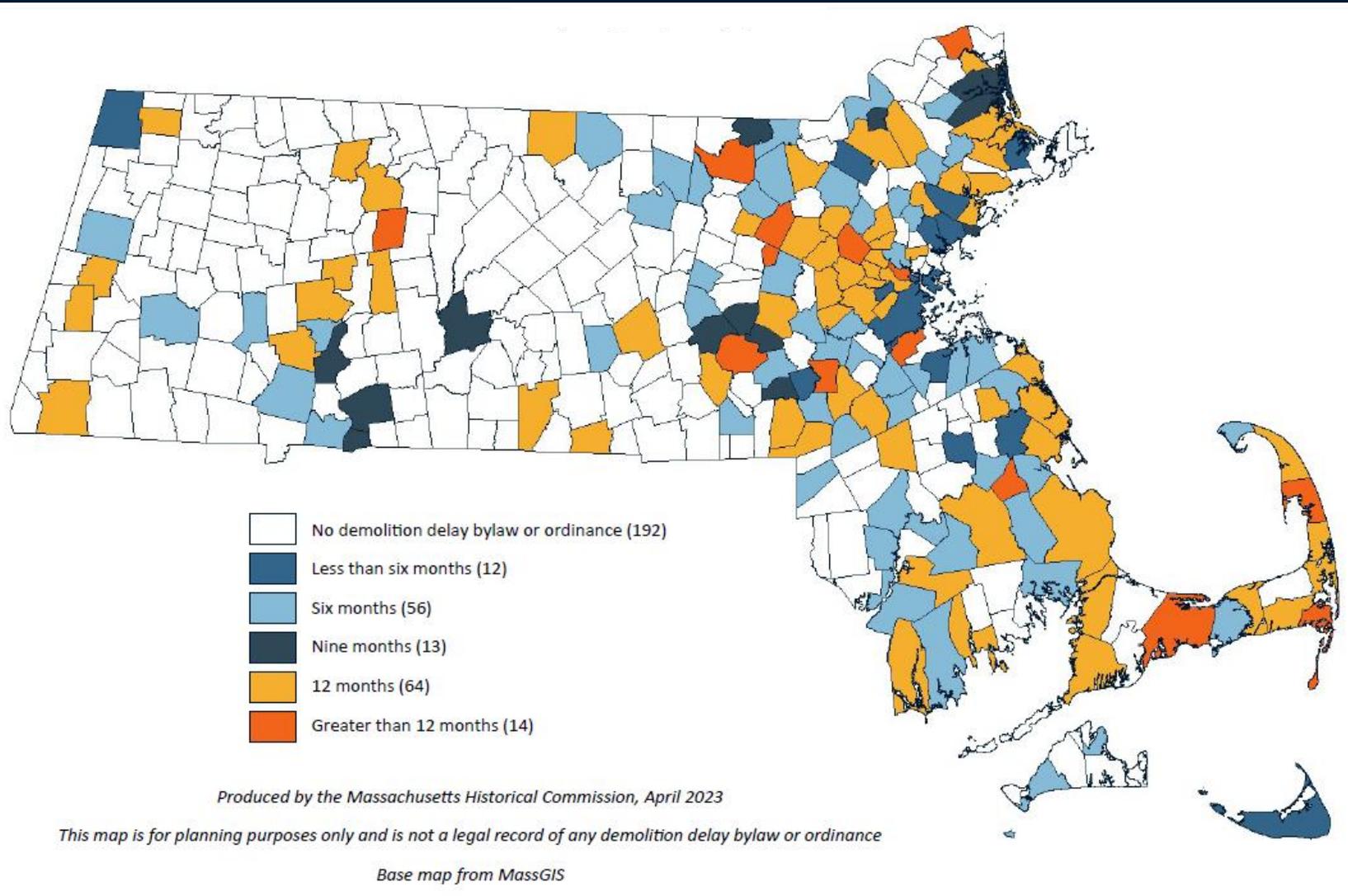
Exactly that – a delay!

- Demolition delay does not prevent demolition
- It allows for a pause in the demolition process to consider alternatives
  - It is what a community (and the applicant) make it
- It is one of many tools a community should have in its preservation toolbox
- The local historical commission can choose to delay – but will they always?



The 1805 House in Dudley was demolished in 2005 after a demolition delay.

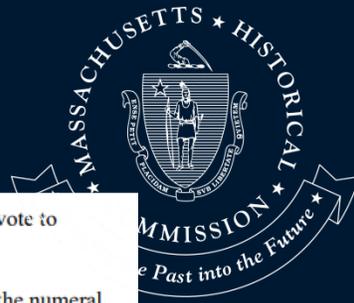
# Communities with Demolition Delay



# How is demolition delay adopted?

- Under the Home Rule amendment of the state constitution
  - There is no enabling legislation, like there is for local historic districts (MGL Chapter 40C)
- MHC has a sample bylaw/ordinance
- Usually adopted as a general bylaw/ordinance following the usual local legislative process
- Demolition delay does not apply in local historic districts
  - Local historic district commissions can deny a proposed demolition

Hopkinton amended their demolition delay bylaw at 2019 Annual Town Meeting, extending their delay from six to 18 months



**ARTICLE 47: Historic Preservation Bylaw Amendment:** To see if the Town will vote to amend Chapter 125, Historic Preservation, of the General Bylaws, as follows:

1. By deleting the word “six” from §125-3.A(7), and inserting, in place thereof, the numeral “18,” so that §125-3.A(7) will read as follows:

If the Commission determines the structure is worthy of classification as a preferably preserved significant structure, no further demolition permits may be applied for or issued with respect to such structure, for a period of 18 months from the date of such written determination.

2. By deleting the word “six” from §125-3.A(8), and inserting, in place thereof, the numeral “18,” so that §125-3.A(8) will read as follows:

During such 18-month period, the Commission will invite the applicant (and the owner of record, if different from the applicant) to participate in an investigation of alternatives to demolition. If acceptable alternatives are agreed upon by the Commission and the applicant, the Commission will file a copy of said agreement with the Building Inspector and Town Clerk and the applicant may apply for necessary permits to begin work. Work shall only be done in accordance with the terms of the agreement unless and until new permit applications are filed and processed hereunder.

3. By deleting the word “six” from §125-3.A(9), and inserting, in place thereof, the numeral “18,” so that §125-3.A(9) will read as follows:

If the Commission is satisfied that there is no feasible alternative to demolition, the Commission may so advise the applicant, the Building Inspector, and the Town Clerk in writing, at any time during this 18-month period, and the Building Inspector may issue a permit to demolish the structure in accordance with all applicable codes and regulations.

And

4. By inserting a new §125-6.C, as follows:

C. Any amendment to this Chapter that extends a period of demolition delay shall apply to any demolition delay period pending at the time that the amendment takes effect pursuant to *M.G.L. c.40, §32*.

Pass any vote or take any action thereto



# The Demolition Delay Process

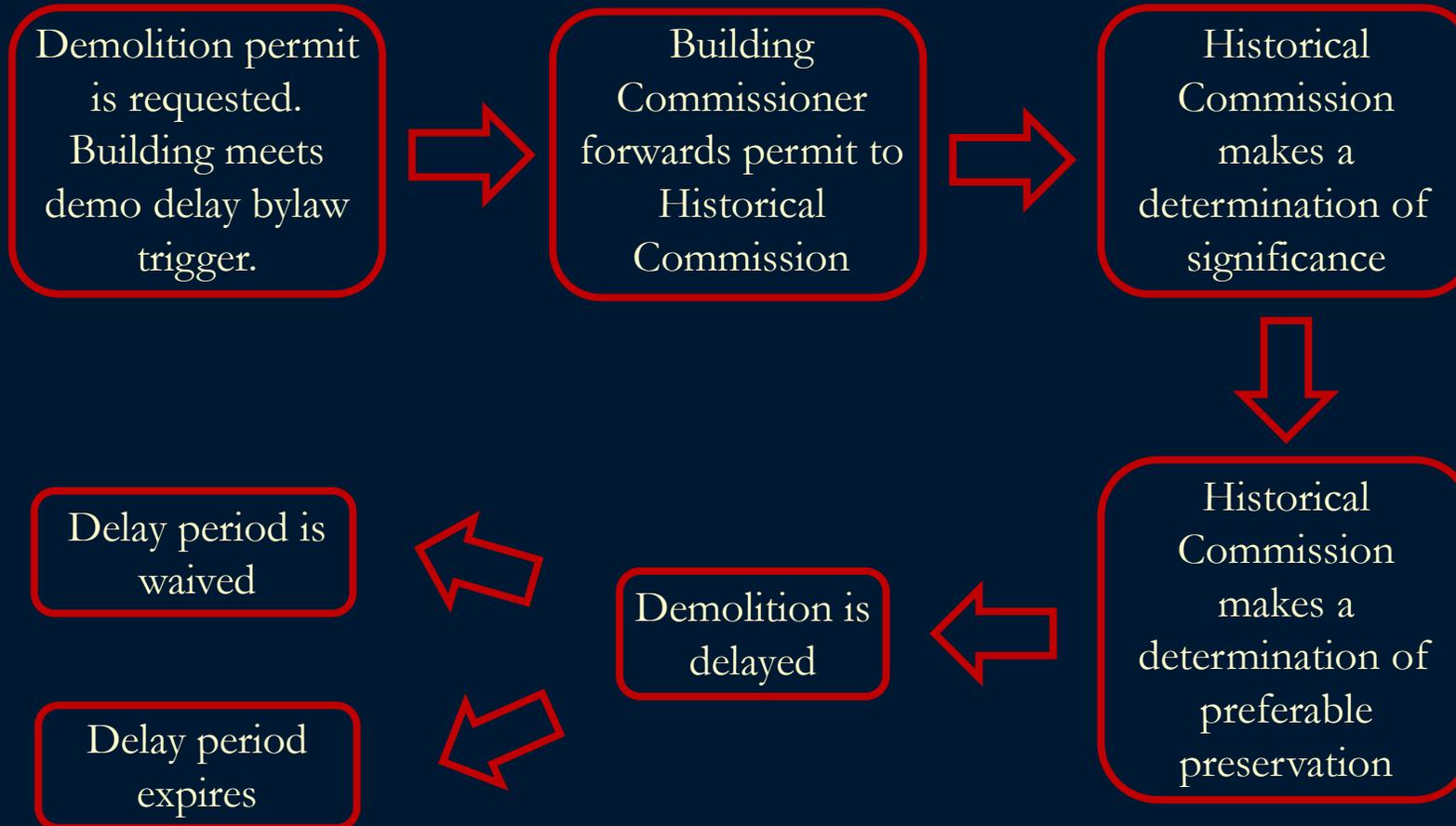
- Most common is a two-decision process – significance and preferably preserved
- Trigger or threshold for review established locally; MHC recommends 50 years
- If at any point the historical commission says “no,” the building commissioner can issue a demolition permit
  - And demolition can proceed the day after the delay expires
- Enforcement provisions in bylaw
  - \$300/day fine until violation is rectified
  - No-build order for a period of time
- Building commissioner can require emergency demolitions without review

B. Anyone who engages in Demolition in violation of this By-Law may be subject to a fine of not more than three hundred (\$300) dollars. Each day the violation exists shall constitute a separate offense until a faithful restoration of the demolished Regulated Building or Structure or architectural element is completed or unless otherwise agreed to by the Commission.

C. No building permit shall be issued with respect to any premises upon which Demolition has occurred in violation of this By-Law for a period of three (3) years after the date of such violation. As used herein, "premises" refers to the parcel of land upon which the Regulated Building or Structure (or architectural element thereof) was located and all adjoining parcels of land under common ownership or control.

Hingham's bylaw includes both a daily fine and a no-build provision

# The Demolition Delay Process



# A Demolition was Delayed – Now What?



Demolition delay is what the local historical commission (and the applicant) make it!

- This is their opportunity to work with the applicant to find alternatives to demolition
  - Are they willing to rework their proposal?
  - Are they willing to sell the property to a different owner?
  - Can the lot be subdivided in a way to preserve the historic structure?
- Is the building so significant that it should be protected with a local historic district?

But ultimately, demolition delay is only a delay – the house can legally be demolished the day after the delay expires



The demolition of this 1830s house in Hanover was delayed by the local historical commission in 2021. They are working with the property owners and North Bennet Street School to dismantle and reassemble the building elsewhere.

During the work, it was discovered that the house likely dates to the mid or late 18<sup>th</sup> century.

# Historic Rehabilitation Tax Credits



After damage from the 2011 tornado closed the Elias Brookings School in Springfield, it sat vacant for many years. Using state and federal historic rehabilitation tax credits, it was rehabilitated into affordable housing.

# Massachusetts Historic Rehabilitation Tax Credit Program



- Administered by the MHC under 830 CMR 63.38R.1
- Annual credit cap of \$55 million is regularly hit – high demand
- Still considered by the Legislature and Governor to be a Pilot Program, which will expire in 2027
- The property must be “income producing”
- The property must be listed in or eligible for listing in the National Register of Historic Places
- The rehabilitation must be “substantial”



Building 16 at the South Boston Naval Annex used state and federal historic tax credits to rehabilitate the building and continue its use as a manufacturing facility.

# Massachusetts Historic Rehabilitation Tax Credit Program



- All work must meet the Secretary of the Interior's Standards for Rehabilitation
  - Demolition of contributing buildings does **not** meet the Standards
- Nine criteria in the Regulations that are used to evaluate applications
  - Affordable Housing, Preservation, Potential for Loss, Statement of Need, Geographic Distribution, Feasibility, Public Support, State of Utility, and Economic Impact
- Up to 20% of the Qualified Rehabilitation Expenditures

The Convent of the Sisters of Notre Dame de Lourdes in Holyoke was converted to housing using tax credits.



# Federal Historic Tax Incentives

- Administered by the National Park Service
- No annual cap
- 20% of Qualified Rehabilitation Expenditures
- The property must be “income producing”
- The property must be listed in the National Register of Historic Places or be listed within 30 months of completion
- The rehabilitation must be “substantial”



The Arcade Building in Westborough was rehabilitated with both tax credits. Storefronts were refurbished with operable awning and the missing parapet was restored based on historic photographs.



# Demolition Delay and Historic Rehabilitation Tax Credits

Thank you for coming!

For more information or additional questions:

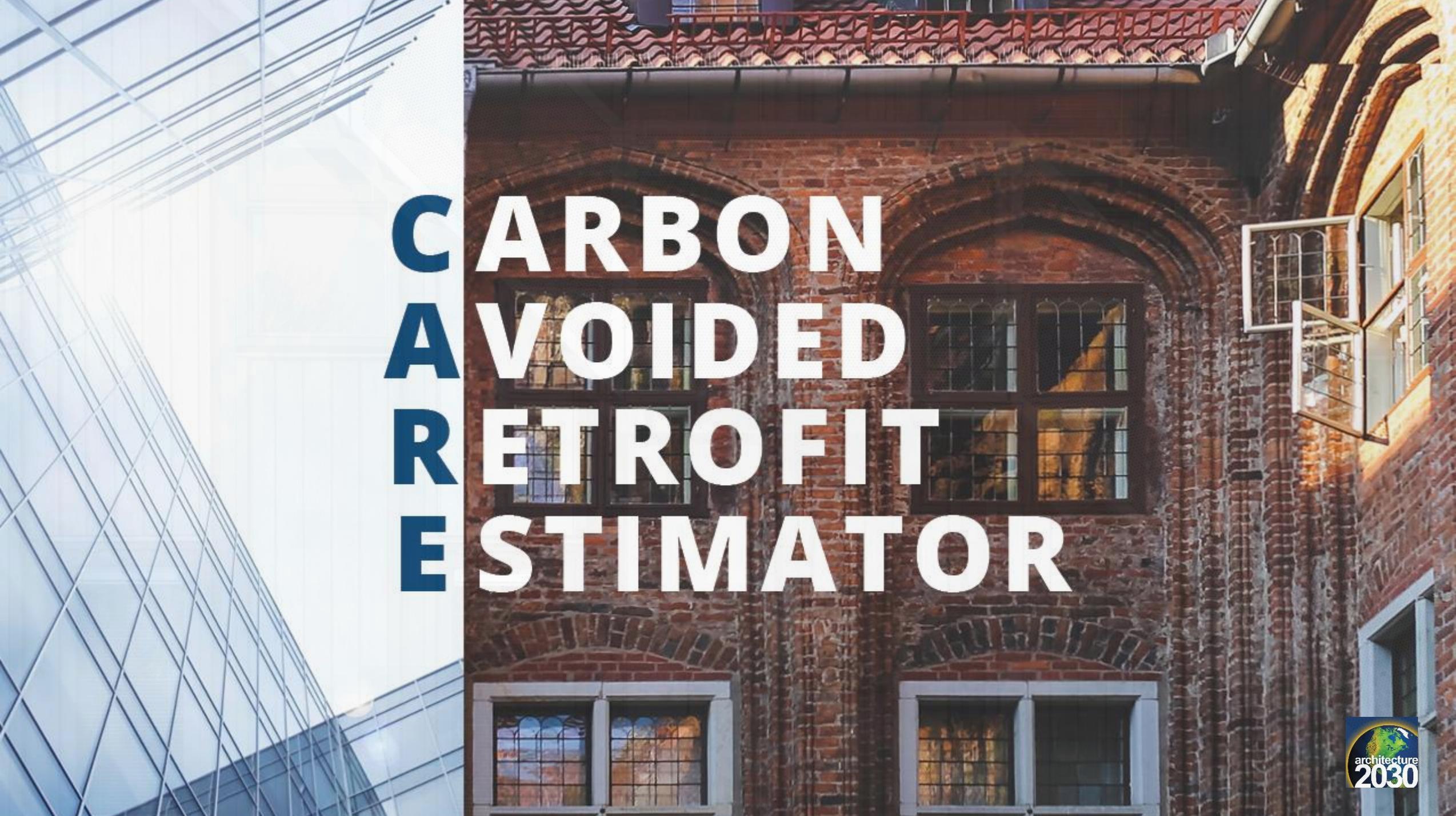
[Jennifer.Doherty@sec.state.ma.us](mailto:Jennifer.Doherty@sec.state.ma.us)

(617) 807-0685



WILLIAM FRANCIS GALVIN  
SECRETARY OF THE COMMONWEALTH  
CHAIRMAN, MASSACHUSETTS HISTORICAL COMMISSION

Massachusetts Historical Commission  
Jennifer B. Doherty  
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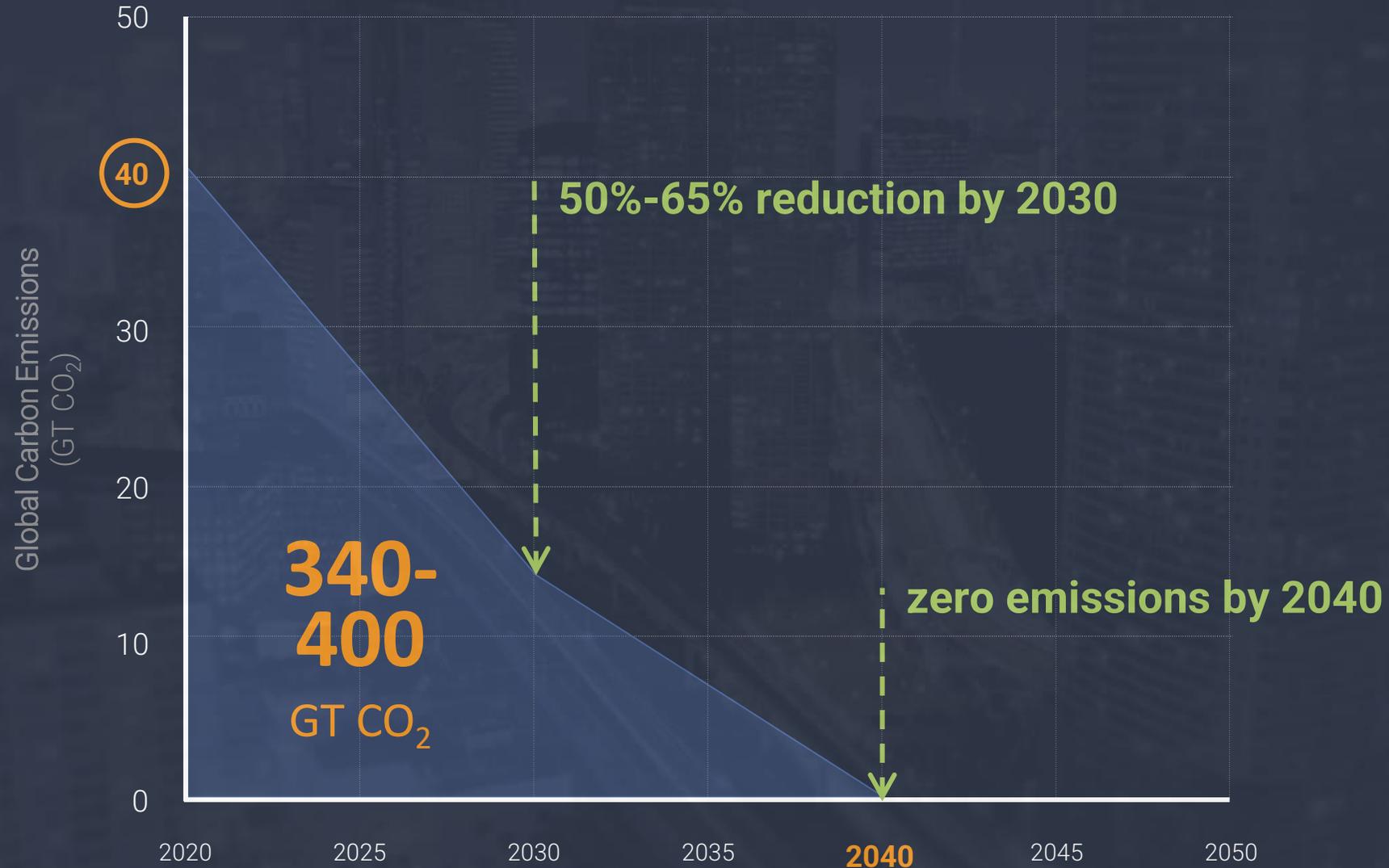
# **C**ARBON **A**VOIDED **R**ETROFIT **E**STIMATOR

An aerial, slightly blurred photograph of a city skyline, likely New York City, featuring numerous skyscrapers and a prominent highway interchange in the foreground. The image is overlaid with a semi-transparent grey filter.

# the case for **BUILDING REUSE**

# GLOBAL CARBON BUDGET: 340-400 GT CO<sub>2</sub> BEST CHANCE OF MEETING 1.5°C

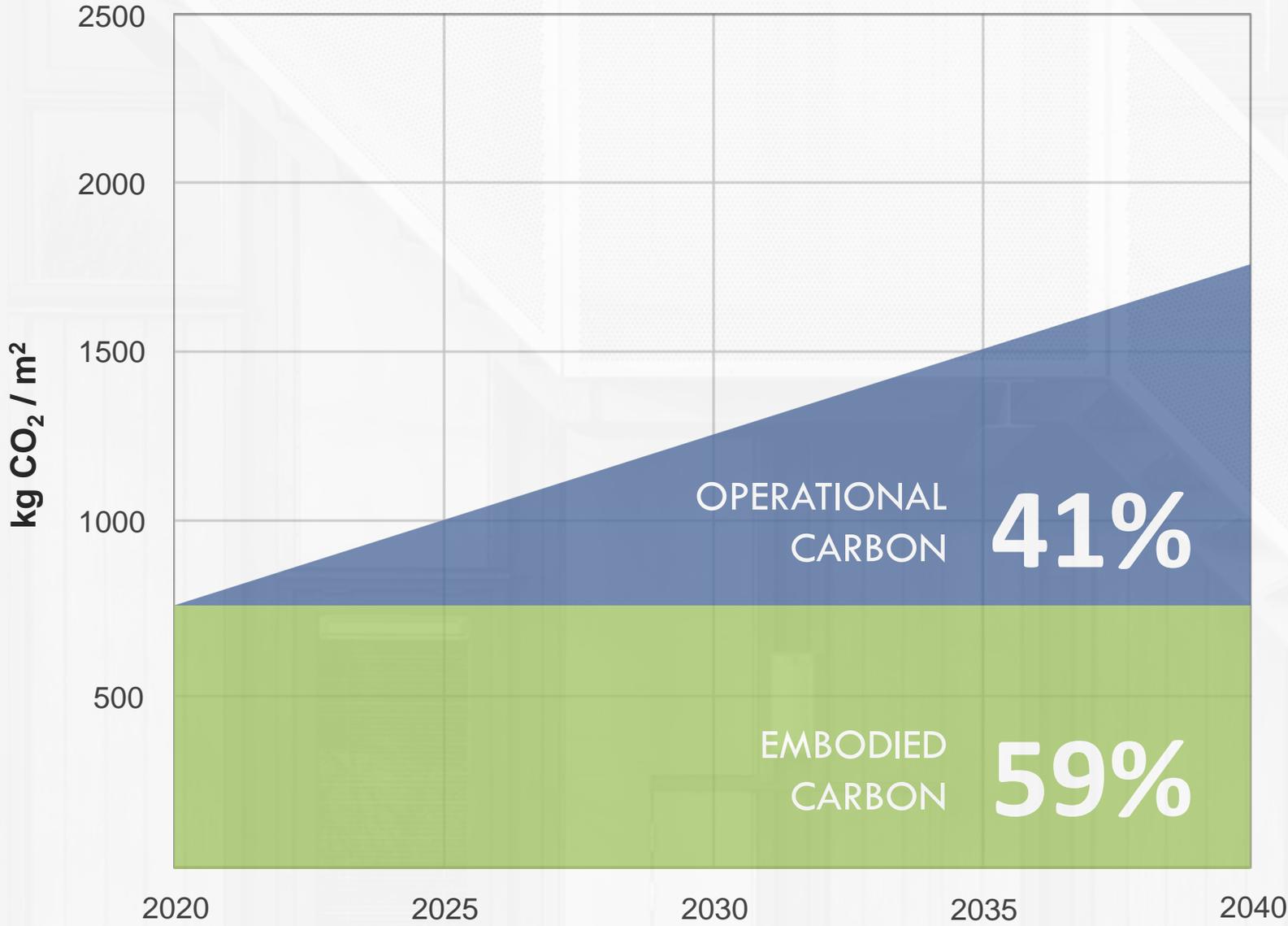
Intergovernmental Panel on Climate Change 6<sup>th</sup> Assessment Report



**The greenest building is one  
that's already built.**



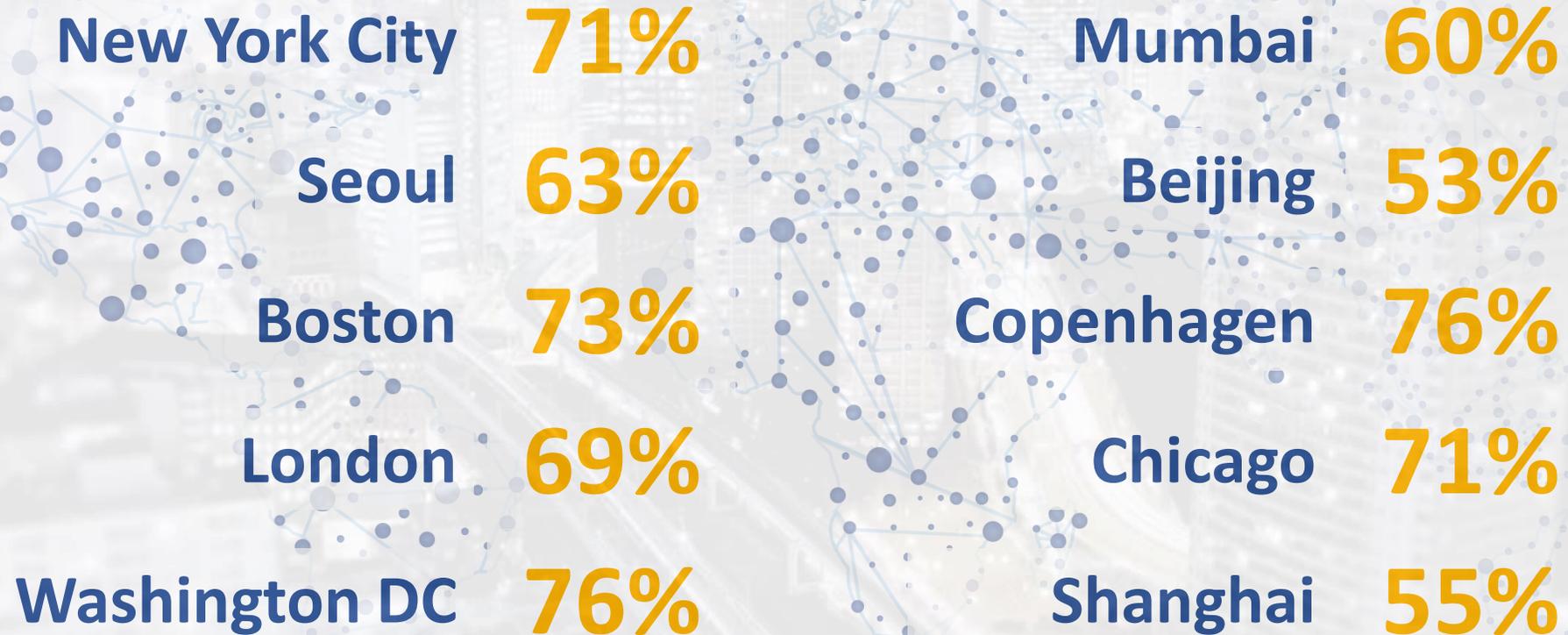
# Carbon Footprint: Average New Building



Source: © 2021 Architecture 2030. All Rights Reserved.  
Data Sources: Global Alliance for Buildings and Construction, 2018; IEA



Within urban environments, **existing buildings** are typically responsible for the majority of emissions.



Source: UN Habitat, Paulson Inst., city data, etc.

In 2040, **2/3 of the global building stock** will be buildings that exist today.  
Without upgrades, they will still be emitting GHGs.



© Architecture 2030. All Rights Reserved.  
Data Source: IEA Energy Technology Perspectives 2020, February 2021 Revised Edition



**The greenest building is one  
that's already built.**



**The greenest building is one  
that's been retrofitted.**



# the **CARE TOOL**

**CARBON  
AVOIDED:  
RETROFIT  
ESTIMATOR**

## The CARE Tool Team



**Larry Strain**  
FAIA  
Founding Principal  
**Siegel & Strain Architects**



**Lori Ferriss**  
AIA, PE, LEED AP BD+C  
Principal, Director of Sustainability  
and Climate Action  
**Goody Clancy**



**Erin McDade**  
Assoc. AIA  
Senior Program Director  
**Architecture 2030**

[caretool.org](http://caretool.org)



# WHO CARES ABOUT CARE?

## PROJECT SUPPORTERS



National Trust for  
Historic Preservation®  
*Save the past. Enrich the future.*



THE 1772 FOUNDATION

REUSE STAR

QUINN  
EVANS

BOSTON  
PRESERVATION  
ALLIANCE



REUSE LEADER

Eskew Dumez Ripple<sup>+</sup>

## PROJECT COLLABORATORS



Climate Heritage  
NETWORK



Carbon  
Leadership  
Forum

epic.

## FOUNDING PROJECT DEVELOPERS

SIEGEL & STRAIN  
Architects

GOODY  
CLANCY



# the CARE TOOL

CARBON  
AVOIDED:  
RETROFIT  
ESTIMATOR

## What it Does

Evaluates total carbon emissions and impact potential of existing building reuse compared to replacement new construction.

## What it Doesn't Do

- Detailed energy modeling
- Whole Building LCA
- Allow user overrides of backend data (users can override default outputs)

## Who it's For

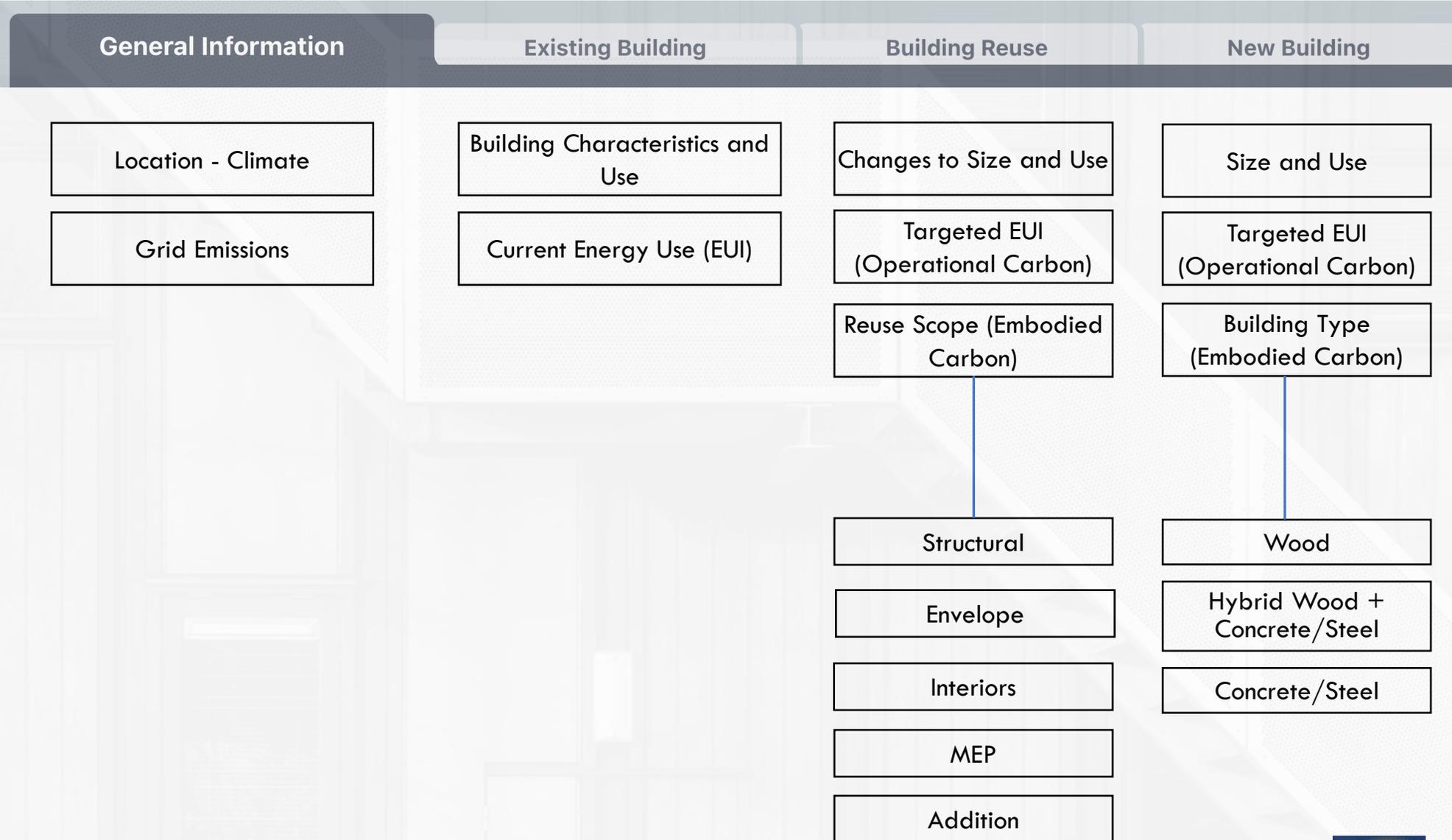
- Public officials
- Planners
- Heritage officers
- Building owners
- Real estate developers
- Building industry professionals
- Educators

# the CARE TOOL

CARBON  
AVOIDED:  
RETROFIT  
ESTIMATOR

caretool.org

## CARE Tool Taxonomy



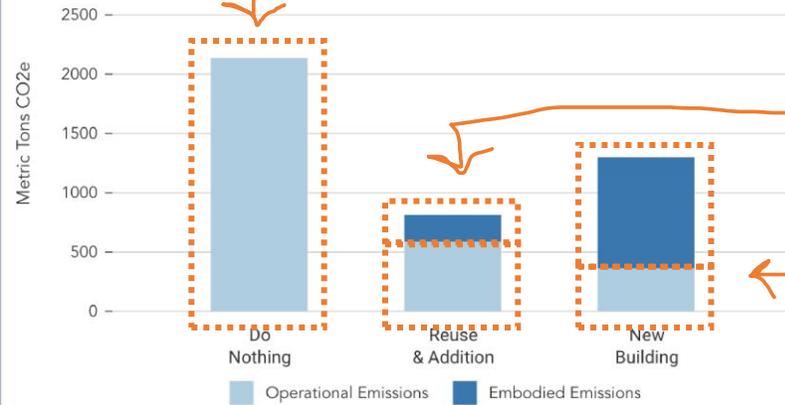
# the CARE TOOL

CARBON AVOIDED:  
RETROFIT ESTIMATOR

caretool.org

## RESULTS

### Total Added Embodied & Operational Emissions over 17 Years

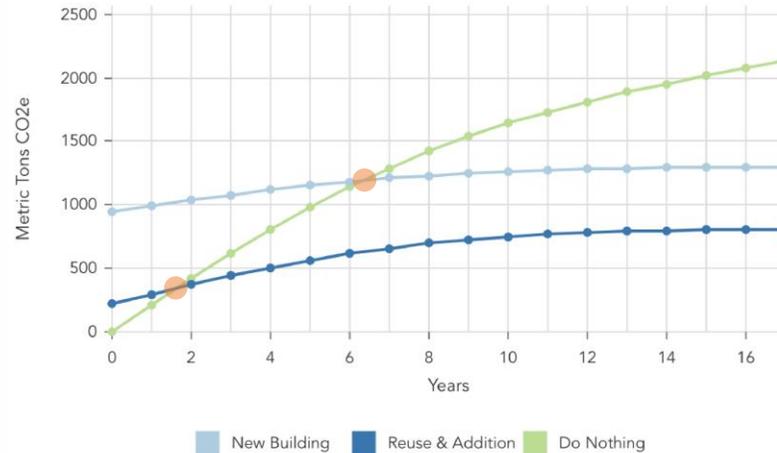


do nothing

retrofitted building:  
operational emissions  
embodied emissions

new building:  
operational emissions  
embodied emissions

### Cumulative Emissions Over Time



do nothing

new building

retrofitted building



# the CARE TOOL

## CARBON AVOIDED: RETROFIT ESTIMATOR

caretool.org



The CARE Tool allows users to compare the total carbon impacts of renovating an existing building vs. replacing it with a new one.

“For everyone who has been interested in connecting building reuse with climate action but unsure where to start, the answer has arrived—start with CARE.”

Jack Rusk  
Climate Strategist, EHDD

LEARN MORE

SUPPORT CARE TOOL

READ MORE TESTIMONIALS

### INSTRUCTIONS

Enter general project information in the first tab and information about the existing building in the second tab. In the third tab enter information about renovating the existing building including any planned additions, and in the fourth tab enter information about the new building to replace the existing building. Click an information  for more details.

Compare each option using the charts and table to the right. The results will automatically populate once enough information is entered and automatically update as inputs are adjusted.

### PROJECT NAME

 ENTER PROJECT INFORMATION TO CALCULATE YOUR ESTIMATED EMISSIONS OVER TIME

General Information

Existing Building

Building Reuse

New Building

### General Information

Enter basic information about the project and analysis parameters.

PROJECT LOCATION 

Country

United States





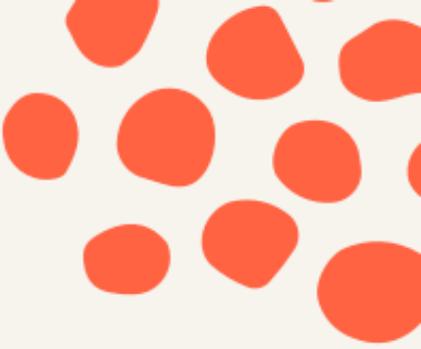
# ECONOMIC IMPACTS OF HISTORIC PRESERVATION



# HISTORIC PRESERVATION IS ECONOMIC DEVELOPMENT

MEASURABLE IN JOBS, LABOR INCOME,  
BUSINESS CREATION, HOUSING CREATION,  
PROPERTY VALUE GROWTH, RETURNS TO  
LOCAL GOVERNMENTS, AND MORE.





# HISTORIC TAX CREDIT IMPACT

IN STATES WITH STATE HISTORIC TAX CREDIT PROGRAMS

FOR EVERY \$1 OF TAX CREDITS PROVIDED BY THE STATE....

**\$8.76** OF ADDITIONAL ECONOMIC ACTIVITY IS SPURRED IN LOUISIANA

**\$10.53** OF ADDITIONAL ECONOMIC ACTIVITY IS SPURRED IN RHODE ISLAND

**\$11.70** OF ADDITIONAL ECONOMIC ACTIVITY IS SPURRED IN OKLAHOMA

# HISTORIC TAX CREDITS AND JOB CREATION



**DIRECT**



**INDIRECT**

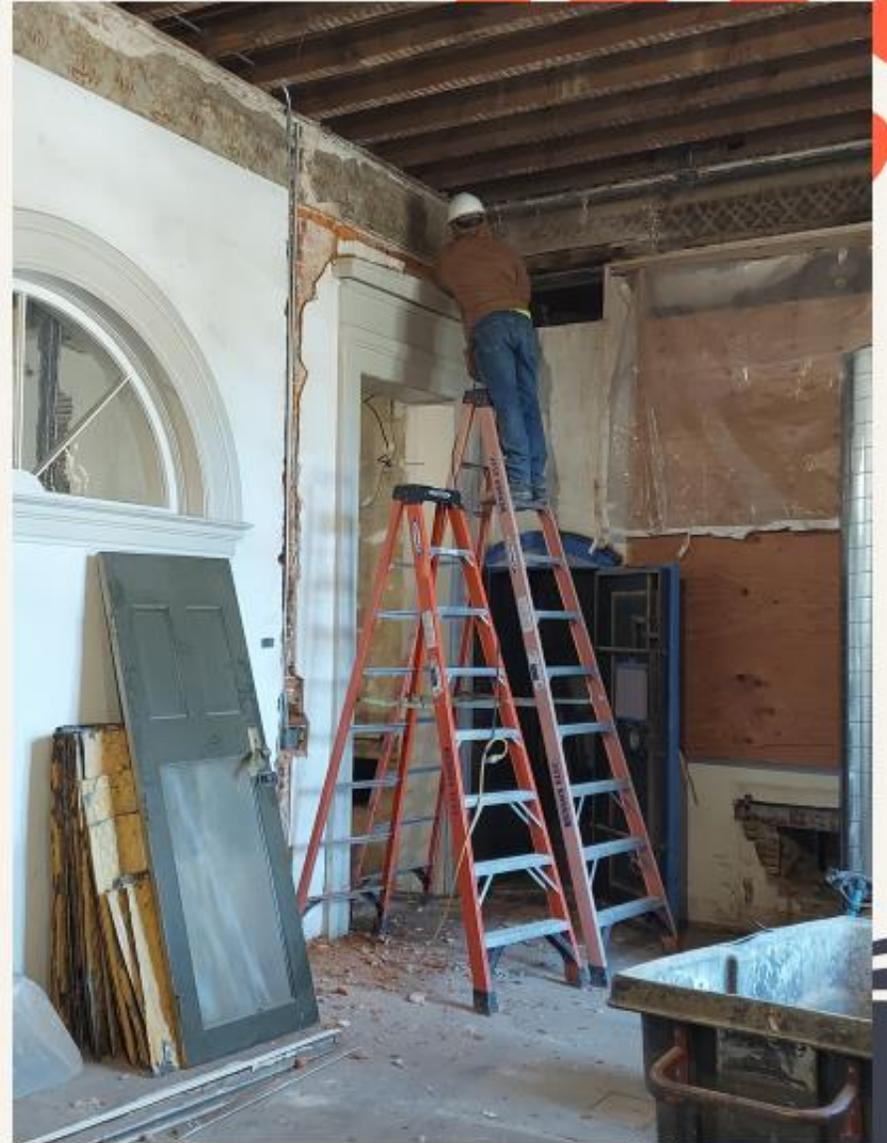


**INDUCED**

**IN LOUISIANA, EACH YEAR**

**1,725 DIRECT  
JOBS**

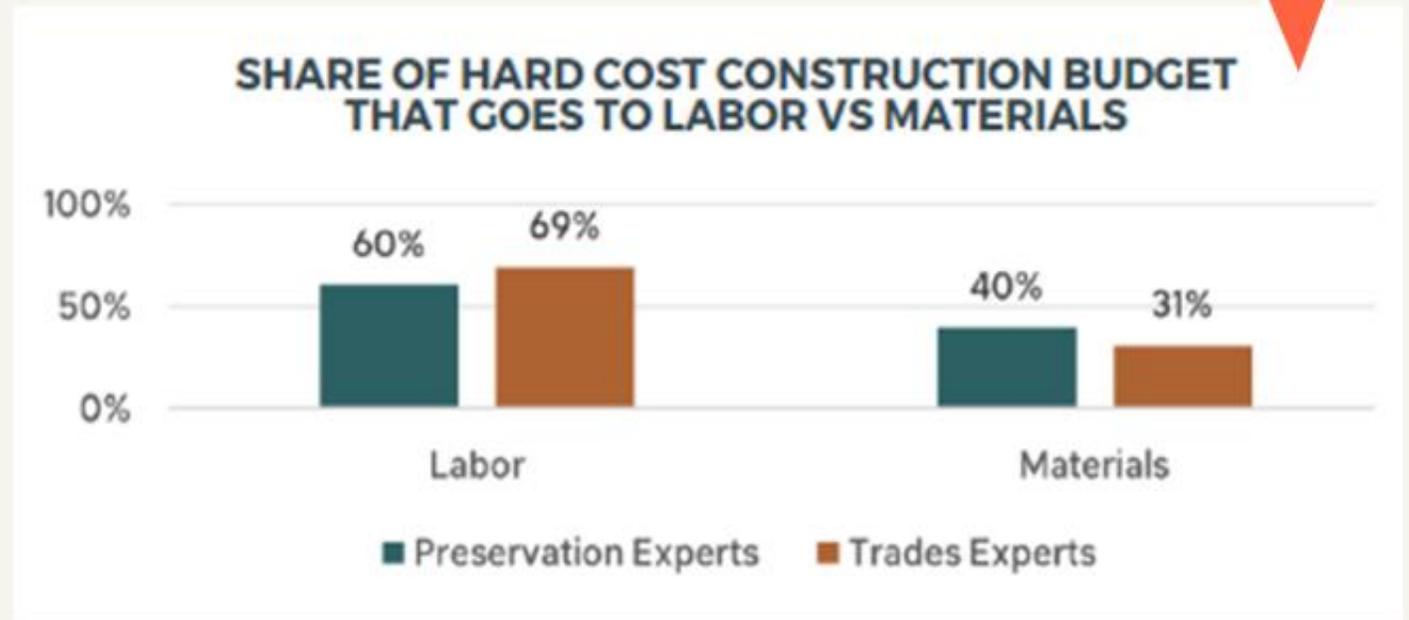
**1,429 INDIRECT  
& INDUCED JOBS**



# HISTORIC TAX CREDITS AND JOB CREATION

THERE IS A 9% PREMIUM PAID TO TRADES WORKERS WITH EXPERIENCE IN HISTORIC PRESERVATION.

HISTORIC REHABILITATION IS LABOR INTENSIVE.



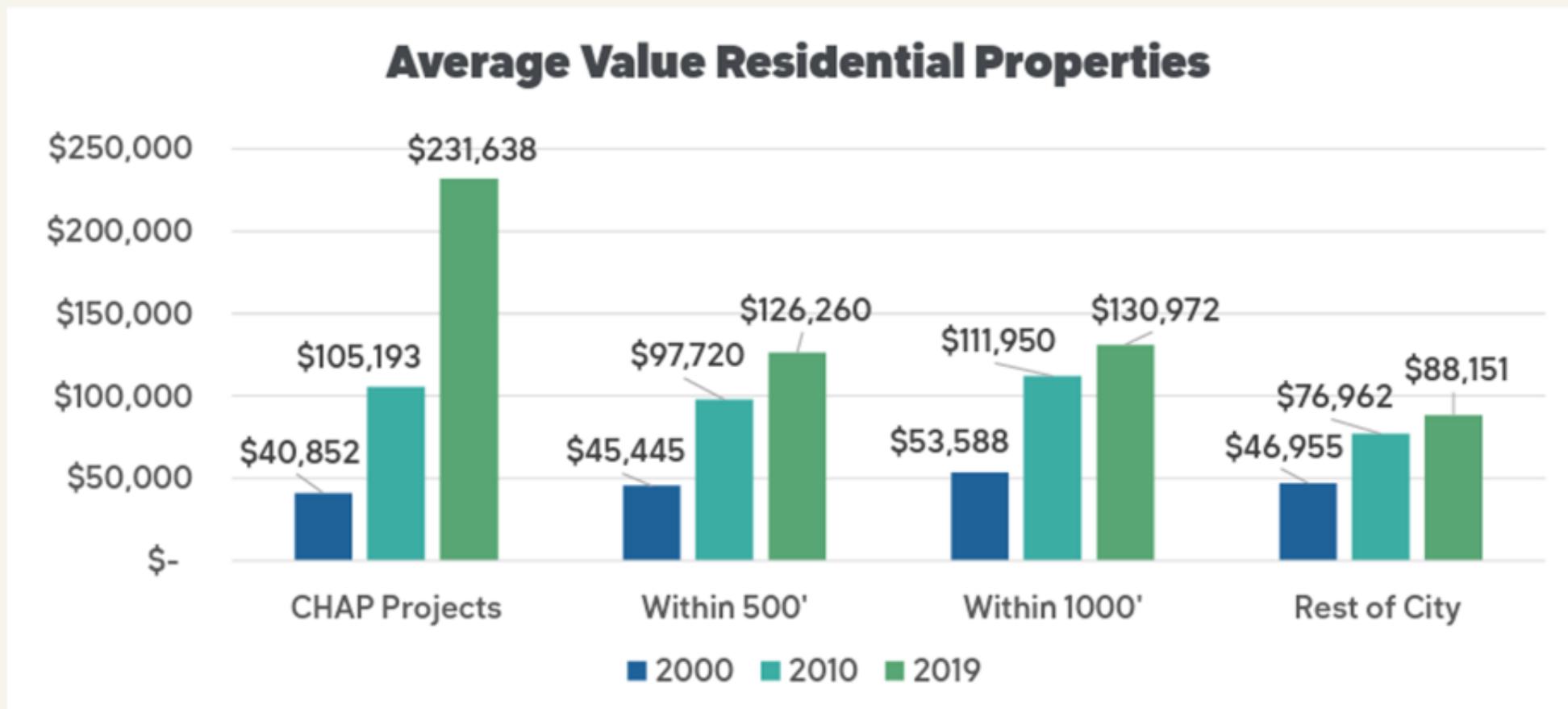
# COMPARED TO OTHER INDUSTRIES IN PENNSYLVANIA

HOW DOES \$1 MILLION SPENT ON HISTORIC REHAB COMPARE WITH \$1 MILLION IN OUTPUT FROM OTHER INDUSTRIES?

|                     | <b>Historic Rehab</b> | <b>Food Processing</b> | <b>Drugs/ Pharm</b> | <b>Natural Gas Industries</b> | <b>Fabricated Metals</b> |
|---------------------|-----------------------|------------------------|---------------------|-------------------------------|--------------------------|
| <b>Total Jobs</b>   | 12.0                  | 5.9                    | 5.8                 | 7.0                           | 5.7                      |
| <b>Total Income</b> | \$682,049             | \$336,040              | \$491,163           | \$566,354                     | \$373,305                |

# REHABILITATION CREATES VALUE

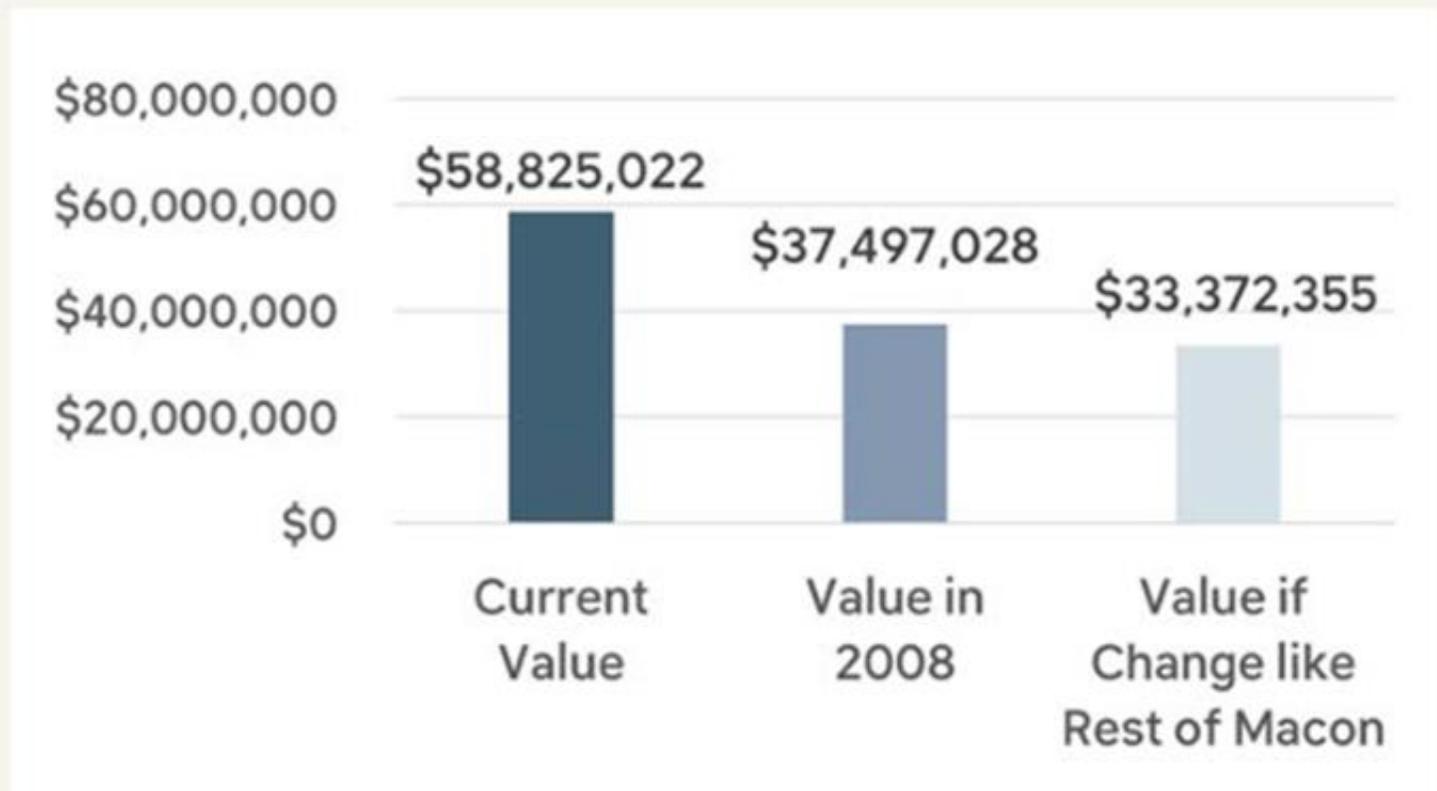
## IMPACT OF A LOCAL TAX INCENTIVE (CHAP) FOR REHABILITATION IN BALTIMORE



# PROPERTY TAX IMPLICATIONS IN MACON, GA

THAT DIFFERENCE IN PROPERTY VALUES MEANS AN **ADDITIONAL \$271,000 IN PROPERTY TAXES** FOR THE LOCAL GOVERNMENT EACH YEAR.

## VALUE OF RESIDENTIAL PROPERTIES IN HISTORIC DISTRICT STUDY AREA



# HISTORIC TAX CREDIT LOCAL IMPACTS

## IMPACT OF INCREASED PROPERTY TAX REVENUE FROM RIVER EDGE HISTORIC TAX CREDIT PROJECTS IN ILLINOIS



Hire  
**ten new  
teachers,**  
PLUS...



Hire  
**eight new  
police officers,**  
PLUS...



Hire an additional  
**five city  
maintenance  
workers,**  
PLUS...

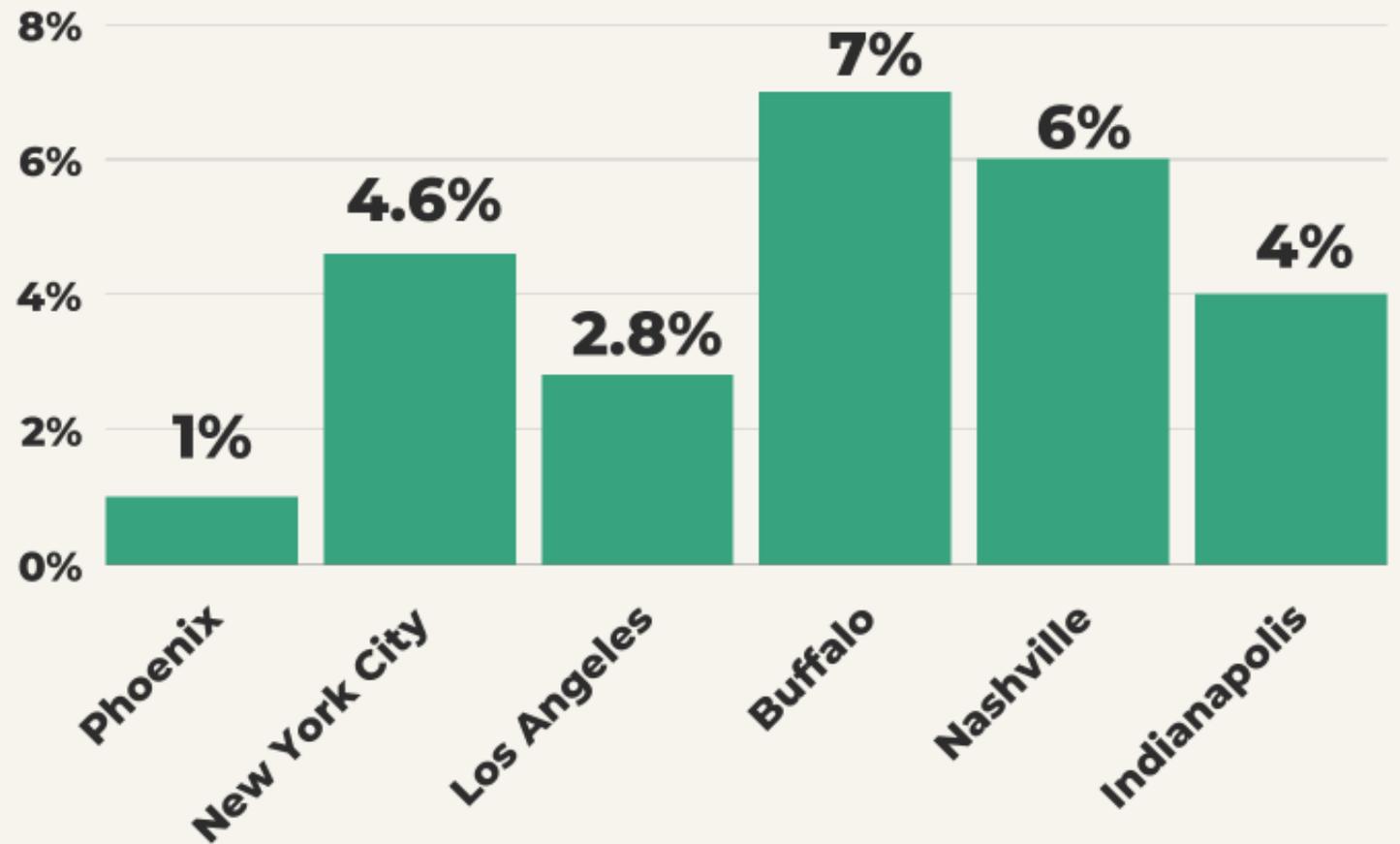


Still have enough  
money to provide  
**\$250 per month  
rental subsidies for  
163 families.**

# IMPACTS OF HISTORIC DISTRICTS

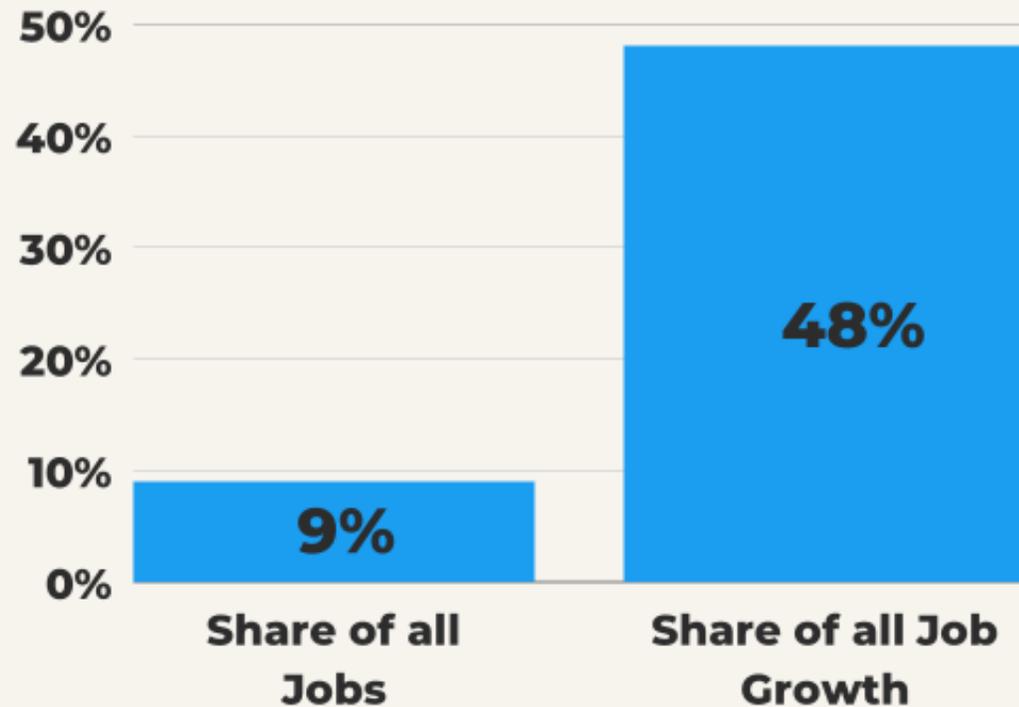
DESPITE MAKING UP SO LITTLE OF THE LAND AREA, HISTORIC DISTRICTS ARE ECONOMIC AND CULTURAL ENGINES FOR THEIR CITIES.

## LAND AREA COVERED BY LOCAL HISTORIC DISTRICTS

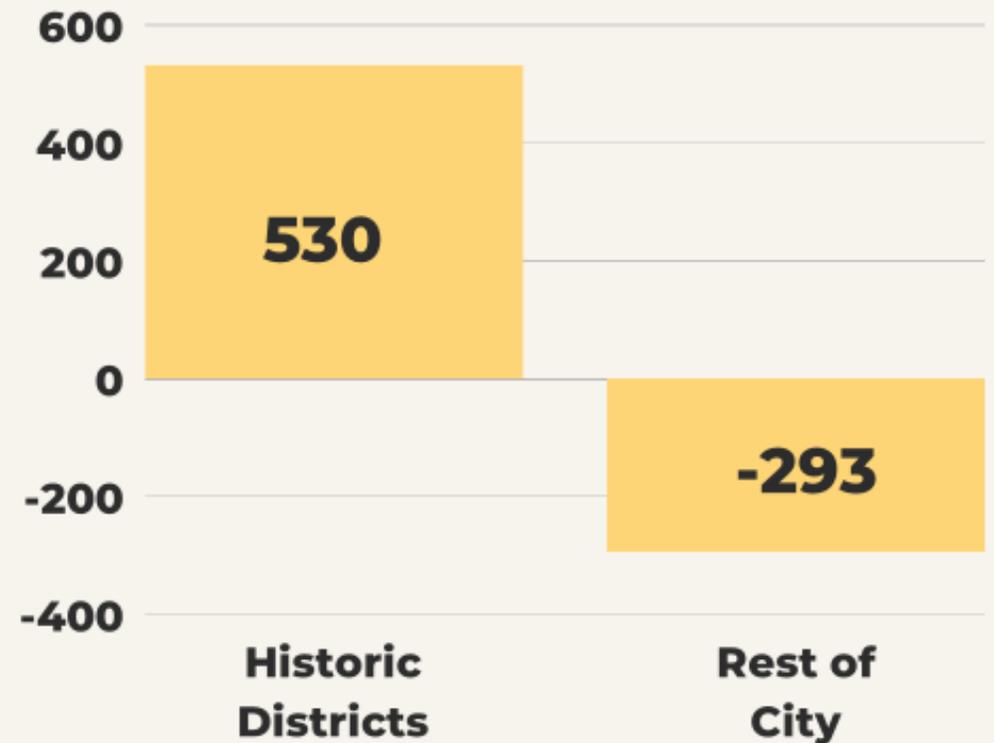


# JOB GROWTH IN HISTORIC DISTRICTS

## JOBS IN **BUFFALO** HISTORIC DISTRICTS (2010-2019)



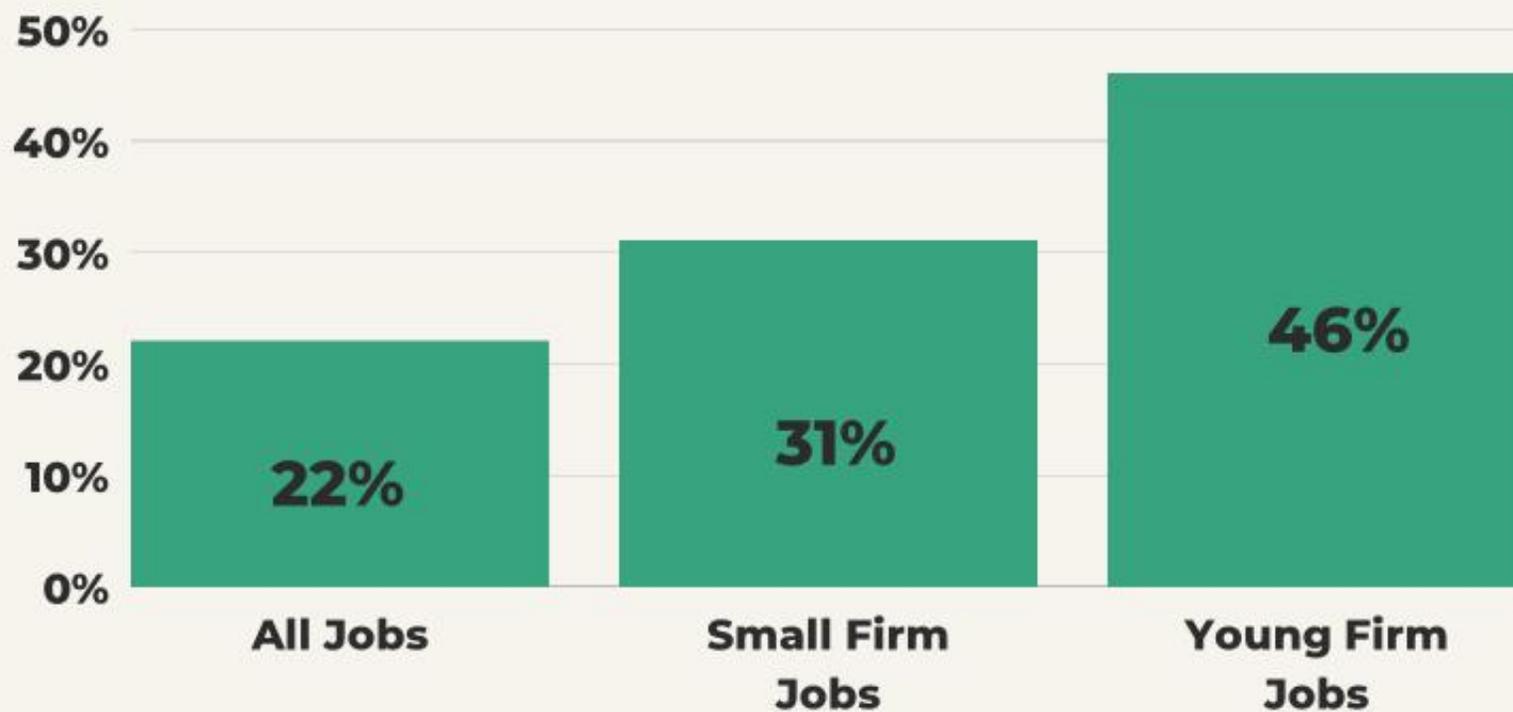
## CHANGE IN JOBS, **CUMBERLAND** MD (2002-2017)





# SMALL BUSINESS JOBS

## SHARE OF JOBS IN SARATOGA SPRINGS, NY HISTORIC DISTRICTS



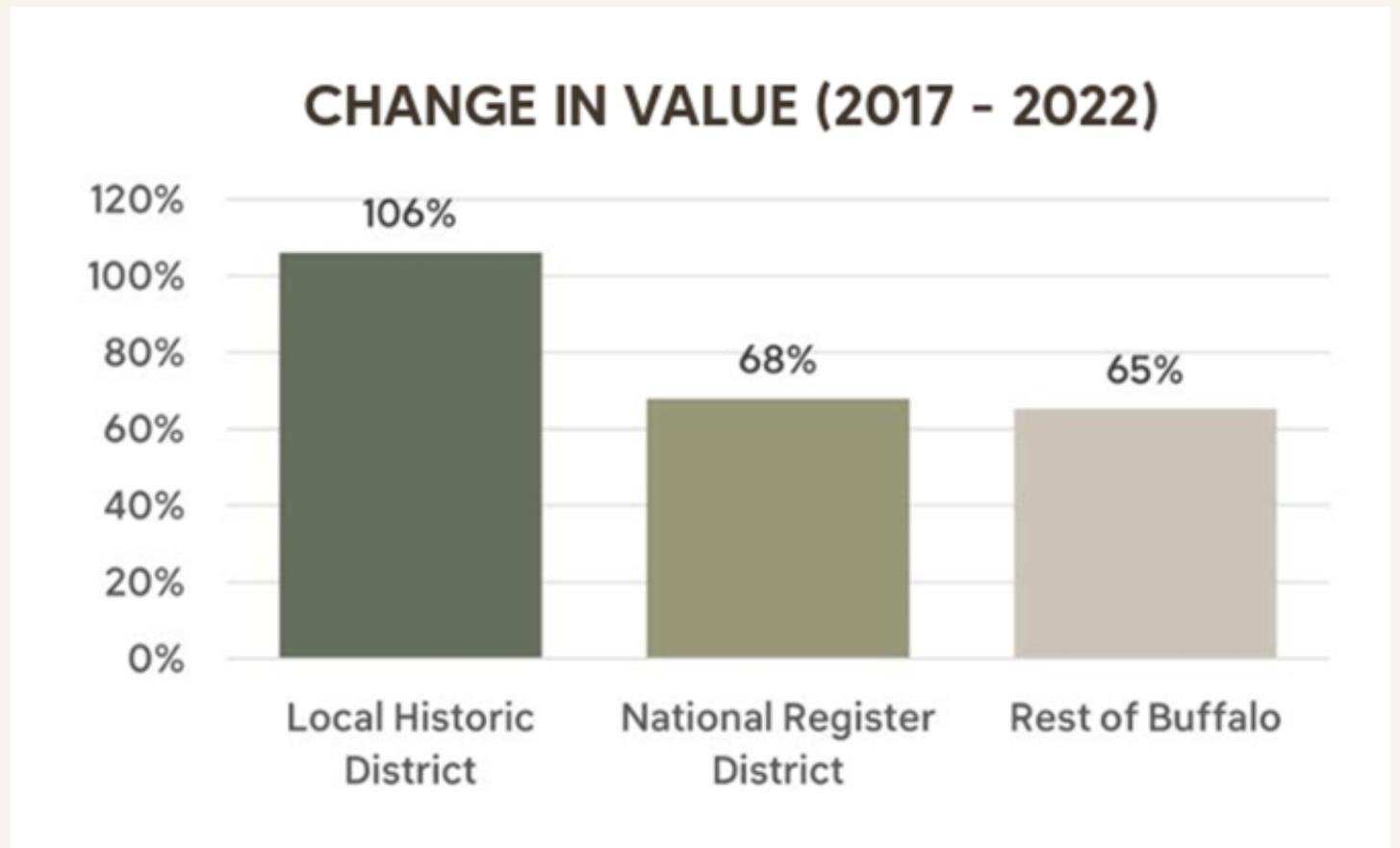
# PROPERTY VALUE GROWTH IN HISTORIC DISTRICTS PHOENIX

## AVERAGE VALUE PER SQUARE FOOT

Homes in Local Historic Districts vs Rest of Phoenix



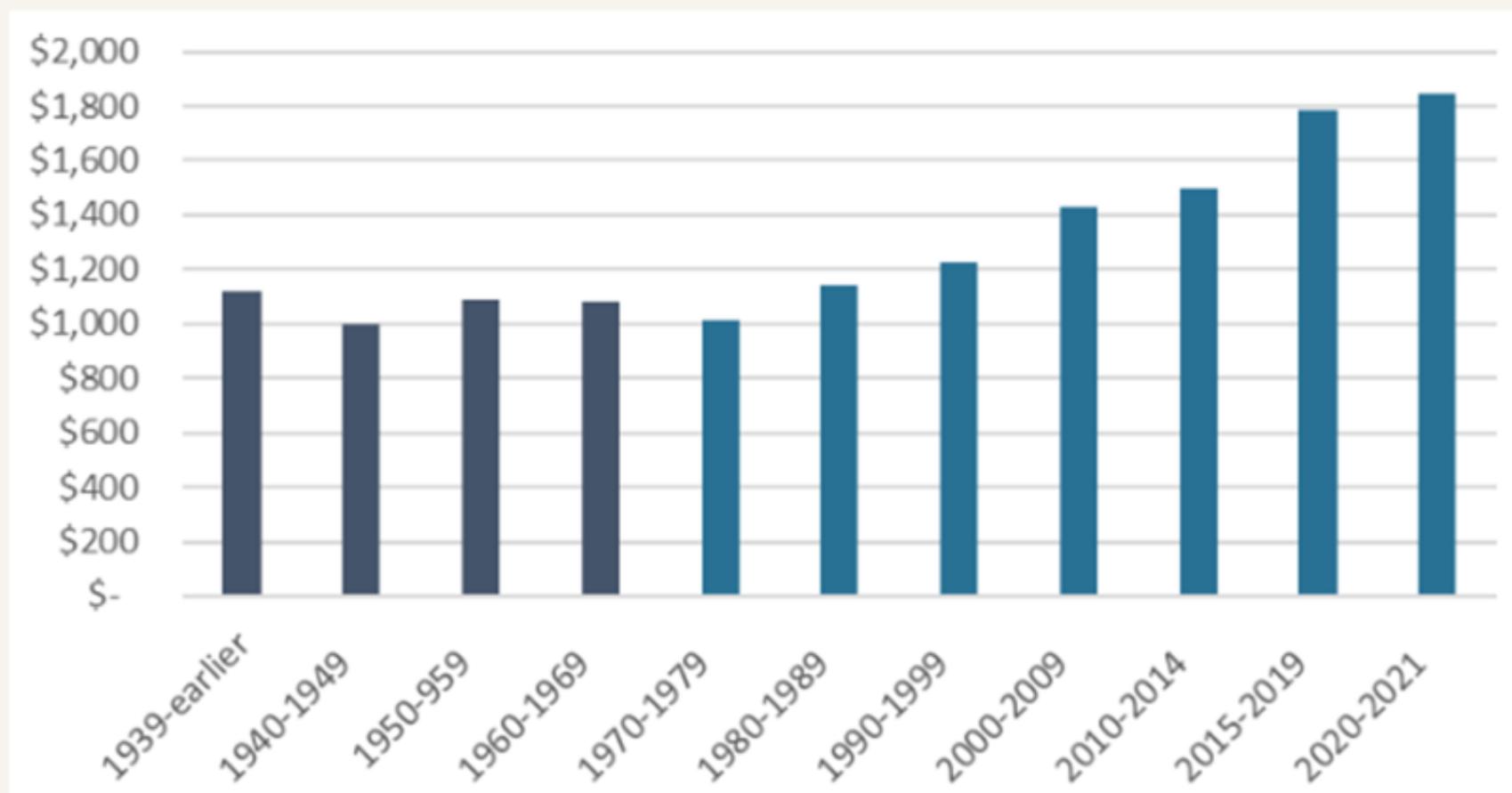
# PROPERTY VALUE GROWTH IN HISTORIC DISTRICTS BUFFALO



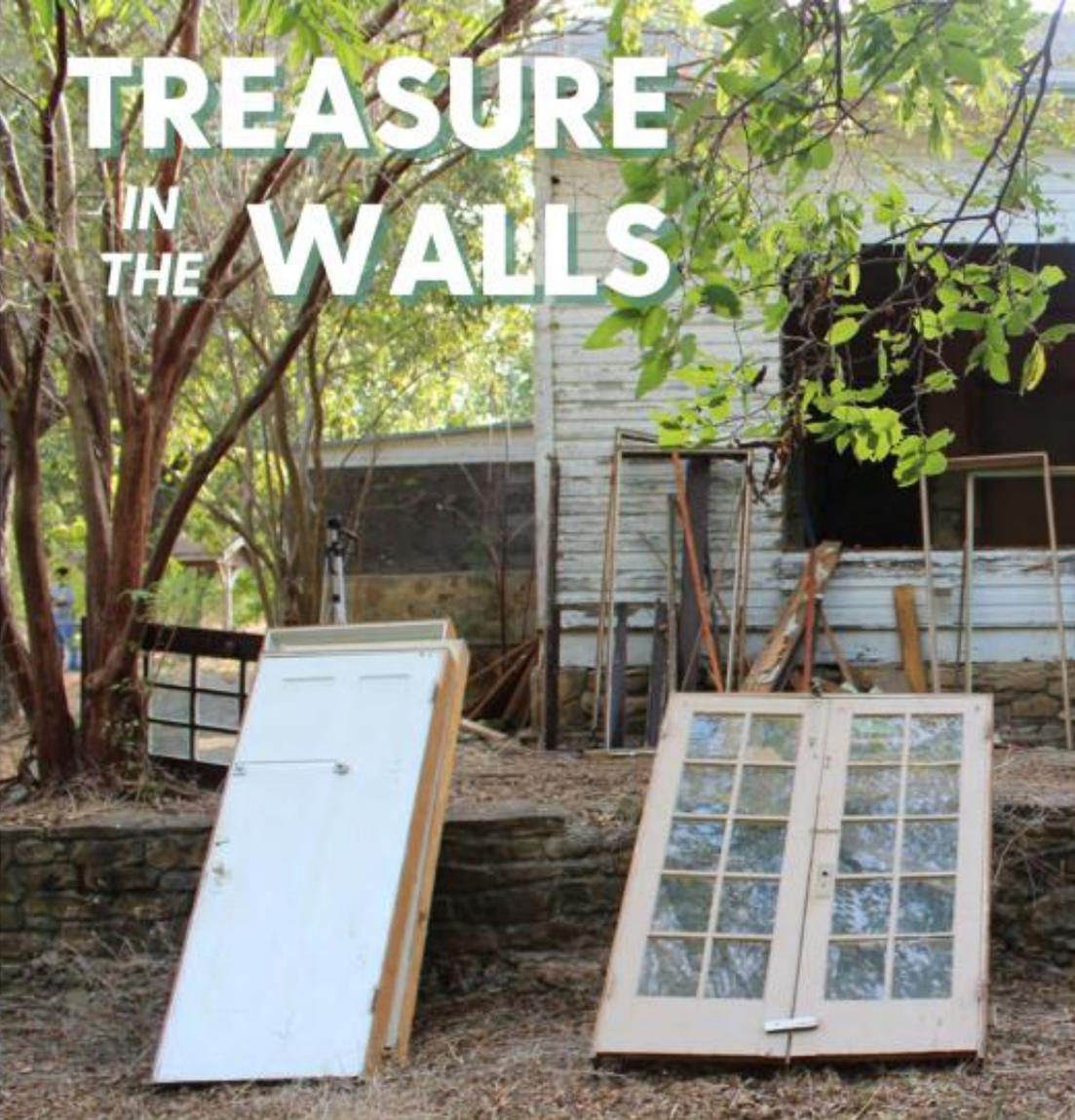
# OLDER HOUSING AND AFFORDABILITY

## NATIONWIDE MONTHLY MEDIAN HOUSING COSTS BY YEAR OF CONSTRUCTION (2021)

RESEARCHERS FOUND IT IS CHEAPER TO PRODUCE A LIHTC UNIT THROUGH ACQUISITION/REHAB THAN THROUGH NEW CONSTRUCTION



# TREASURE IN THE WALLS



## Reclaiming Value Through Material Reuse in San Antonio

Prepared for the City of San Antonio Office of Historic Preservation

Completed by PlaceEconomics | February 2021

This study was funded through a solid waste management grant provided by the Texas Commission on Environmental Quality (TCEQ) through the Alamo Area Council of Governments (AACOG). This funding does not necessarily indicate endorsement of the study findings and recommendations.

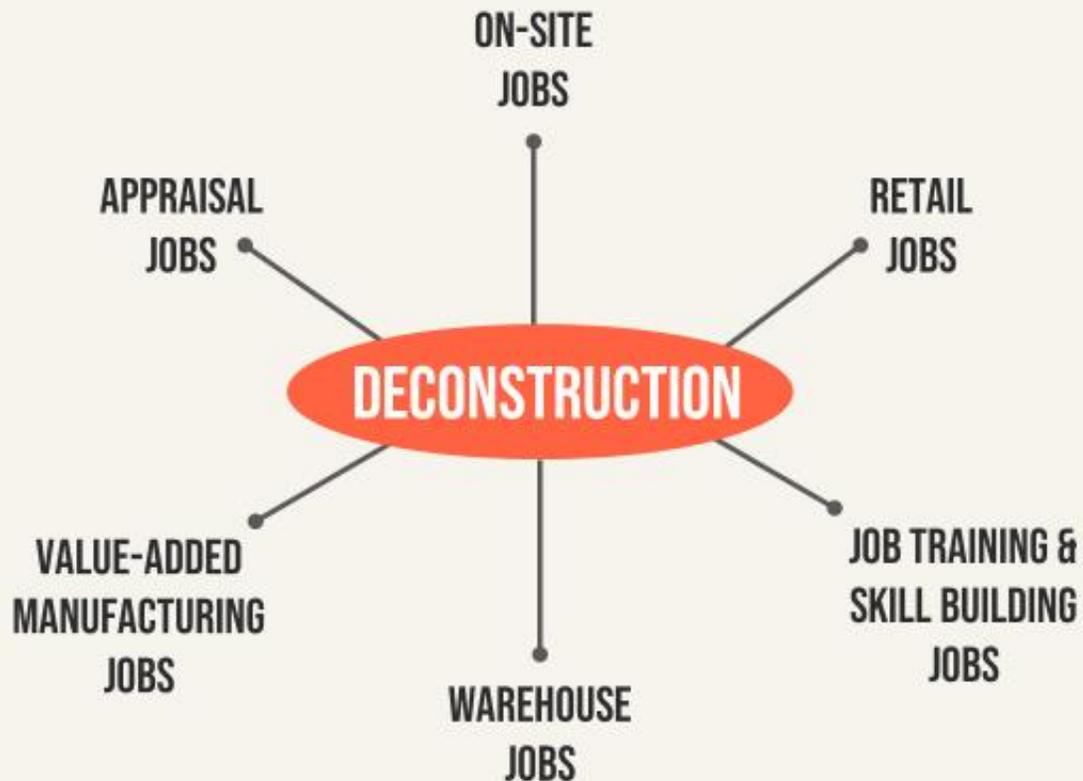
# TREASURE IN THE WALLS

## FINDINGS FROM THE SAN ANTONIO DECONSTRUCTION ANALYSIS

# Deconstruction Initiative Timeline



# DECONSTRUCTION: A JOBS MULTIPLIER



| Waste Stream Process              | Jobs Per 10,000 Tons of Waste |
|-----------------------------------|-------------------------------|
| Landfilling/Incineration (Linear) | 1-6 jobs                      |
| Recycling (Partial Circular)      | 36 jobs                       |
| Reuse/Refurbishment (Circular)    | 300 jobs                      |

Source: US EPA and the Institute for Local Self Reliance

# DECONSTRUCTION: AN INCOME MULTIPLIER

**COST TO DEMOLISH OR DECONSTRUCT A 1,500 SQFT HOUSE:**

- **DEMOLITION – \$11,000**
- **DECONSTRUCTION – \$18,500**

|  | <b>Demolition</b> | <b>Deconstruction</b> |
|--|-------------------|-----------------------|
| <b>Direct Labor Income</b>                 | <b>\$3,322</b>    | <b>\$12,358</b>       |
| <b>Indirect &amp; Induced Labor Income</b> | <b>\$3,093</b>    | <b>\$11,507</b>       |
| <b>Total Labor Income</b>                  | <b>\$6,415</b>    | <b>\$23,865</b>       |





**THANK  
YOU!**



**CONTACT INFO:  
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# QUESTIONS

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# PRESERVATION, REUSE, LOWER CARBON FOOTPRINT: NO TIME TO WASTE USED BUILDING MATERIALS

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Save the Date

Next Deconstruction Workgroup Meeting:  
September 20, 2023

[REGISTER HERE](#)

And check out our new Google site with resources shared at these Deconstruction Workgroup meetings, [at this link!](#)

*Thank you to Evelyn Matsumoto for her volunteer efforts creating this site.*



# THANK YOU!

## DECONSTRUCTION & BUILDING MATERIALS REUSE

*Increase Material Supply*

*Create Jobs*

*Reduce Waste*

*Lower Costs*

*Save Energy*

*Preserve Value*

*Conserve Resources*

*Let's Do This...Together!*

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### **Reduce and Reuse Working Group**

<https://www.mass.gov/service-details/massdep-reduce-reuse-rr-working-group>

