

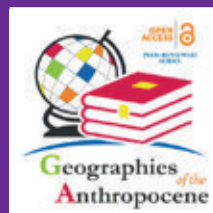
Climate change related urban transformation and the role of cultural heritage

Matthias Ripp & Christer Gustafsson
(Eds.)



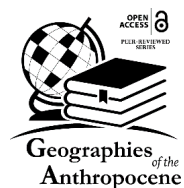
Foreword by Claire Cave

IL Sileno
Edizioni



Climate change related urban transformation and the role of cultural heritage

Matthias Ripp & Christer Gustafsson
Editors



IL Sileno
Edizioni

*Climate change related urban transformation and the role of
cultural heritage*

Matthias Ripp, Christer Gustafsson (Eds.)

is a collective volume of the Open Access and peer-reviewed series
“Geographies of the Anthropocene”
(Il Sileno Edizioni), ISSN 2611-3171

www.ilsileno.it/geographiesoftheanthropocene



Cover: “Public and private Transport at Potsdamer Platz, Berlin” (c) Matthias Ripp 2024

Copyright © 2023 by Il Sileno Edizioni
International Scientific Publisher, VAT 03716380781
Via Piave, 3/A, 87035 - Lago (CS), Italy, e-mail: ilsilenoedizioni@gmail.com

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs
3.0 Italy License.



The work, including all its parts, is protected by copyright law. The user at the time of
downloading the work accepts all the conditions of the license to use the work, provided
and communicated on the website

<http://creativecommons.org/licenses/by-nc-nd/3.0/it/legalcode>

ISBN 979-12-80064-58-5

Vol. 6, No. 2 (December 2023)



Geographies of the Anthropocene



Geographies of the Anthropocene

Open Access and Peer-Reviewed series

Editor-In-Chief: Francesco De Pascale (Department of Foreign Languages, Literatures and Modern Cultures, University of Turin, Italy).

Associate Editors: Salvatore Cannizzaro (Department of Humanities, University of Catania, Italy); Sebastiano D'Amico (Head of Department of Geosciences, University of Malta, Malta); Fausto Marincioni (Department of Life and Environmental Sciences, Università Politecnica delle Marche, Italy), Leonardo Mercatanti (Department of Culture and Society, University of Palermo, Italy); Francesco Muto (Department of Biology, Ecology and Earth Sciences, University of Calabria, Italy), Charles Travis (School of Histories and Humanities, Trinity College Dublin; University of Texas, Arlington, U.S.A.).

Editorial Board: Mohamed Abioui (Ibn Zohr University, Morocco), Valentina Castronuovo (Italian National Research Council – Institute for Research on Innovation and Services for Development, Italy); Andrea Cerase (Sapienza University of Rome, Italy), Lorenzo D'Agostino (University of North Carolina, Chapel Hill, U.S.A.), Valeria Dattilo (University "G. D'Annunzio" Chieti-Pescara, Italy), Dante Di Matteo (University E-Campus, Italy); Jonathan Gómez Cantero (Departamento de Meteorología de Castilla-La Mancha Media, Spain), Eleonora Guadagno (University of Naples "L'Orientale", Italy); Davide Mastroianni (University of Siena, Italy), Giovanni Messina (University of Messina, Italy), Joan Rossello Geli (Universitat Oberta de Catalunya, Spain), Gaetano Sabato (University of Palermo, Italy), Carmine Vacca (University of Calabria, Italy), Nikoleta Zampaki (National and Kapodistrian University of Athens, Greece).

International Scientific Board: Marie-Theres Albert (UNESCO Chair in Heritage Studies, University of Cottbus-Senftenberg, Germany), David Alexander (University College London, England), Lina Maria Calandra (University of L'Aquila, Italy); Salvatore Cannizzaro (University of Catania, Italy), Fabio Carnelli (EURAC Research, Bolzano, Italy); Carlo Colloca (University of Catania, Italy), Gian Luigi Corinto (University of Macerata, Italy), Girolamo Cusimano (University of Palermo, Italy), Bharat Dahiya (Director, Research Center for Integrated Sustainable Development, College of Interdisciplinary Studies Thammasat University, Bangkok, Thailand); Sebastiano D'Amico (University of Malta, Malta), Armida de La Garza (University College Cork, Ireland), Elena Dell'Agnese (University of Milano-Bicocca, Italy; Vice President of IGU), Piero Farabollini (University of Camerino, Italy), Massimiliano Fazzini (University of Camerino; University of Ferrara, Italy; Chair of the "Climate Risk" Area of the Italian Society of Environmental Geology); Giuseppe Forino (Bangor University, Wales, UK), Virginia García Acosta (Centro de Investigaciones y Estudios Superiores en Antropología Social, CIESAS, México); Cristiano Giorda (University of Turin, Italy), Giovanni Gugg (LESC, Laboratoire d'Ethnologie et de Sociologie Comparative, CNRS – Université Paris-Nanterre, France), Luca Jourdan (University of Bologna, Italy), Francesca Romana Lugerì (ISPRA, University of Camerino, Italy), Cary J. Mock (University of South Carolina, U.S.A.; Member of IGU Commission on Hazard and Risk), Enrico Nicosia (University of Messina, Italy); Gilberto Pambianchi (University of Camerino, Italy), Silvia Peppoloni (Istituto Nazionale di Geofisica e Vulcanologia, Italy; Secretary General of IAPG; Councillor of IUGS), Isabel Maria Cogumbreiro Estrela Rego (University of the Azores, Portugal), Andrea Riggio (University of Cassino and Southern Lazio, Italy), Jean-Claude Roger (University of Maryland, College Park, U.S.A.; Terrestrial Information Systems Laboratory, Code 619, NASA Goddard Space Flight Center, Greenbelt, U.S.A.); Vito Teti (University of Calabria, Italy), Bruno Vecchio (University of Florence, Italy), Masumi Zaiki (Seikei University, Japan; Secretary of IGU Commission on Hazard and Risk).

Editorial Assistant, Graphic Project and Layout Design: Ambra Benvenuto, Rosetta Capolupo, Luigi Frascino.

Website: www.ilsileno.it/geographiesoftheanthropocene;

The book series “Geographies of the Anthropocene” edited by the Scientific International Publisher “Il Sileno” (Il Sileno Edizioni) will discuss the new processes of the Anthropocene epoch through the various worldviews of geoscientists and humanists, intersecting disciplines of Geosciences, Geography, Geoethics, Philosophy, Socio-Anthropology, Sociology of Environment and Territory, Psychology, Economics, Environmental Humanities and cognate disciplines.

Geoethics focuses on how scientists (natural and social), arts and humanities scholars working in tandem can become more aware of their ethical responsibilities to guide society on matters related to public safety in the face of natural hazards, sustainable use of resources, climate change and protection of the environment. Furthermore, the integrated and multiple perspectives of the Environmental Humanities, can help to more fully understand the cultures of, and the cultures which frame the Anthropocene. Indeed, the focus of Geoethics and Environmental Humanities research, that is, the analysis of the way humans think and act for the purpose of advising and suggesting appropriate behaviors where human activities interact with the geosphere, is dialectically linked to the complex concept of Anthropocene.

The book series “Geographies of the Anthropocene” publishes online volumes, both collective volumes and monographs, which are set in the perspective of providing reflections, work materials and experimentation in the fields of research and education about the new geographies of the Anthropocene.

“Geographies of the Anthropocene” encourages proposals that address one or more themes, including case studies, but welcome all volumes related to the interdisciplinary context of the Anthropocene. Published volumes are subject to a review process (**double blind peer review**) to ensure their scientific rigor.

The volume proposals can be presented in English, Italian, French or Spanish.

The choice of digital Open Access format is coherent with the flexible structure of the series, in order to facilitate the direct accessibility and usability by both authors and readers.

Contents

Foreword	Pag. 9
Introduction	» 13
Connections, Policies and Governance	» 37
Sarah E. Braun: <i>The Power of Local Government Policy for Building Resilient Cities and Communities: The City of Edger-ton, Wisconsin as a case study</i>	» 39
Louis J. Durrant, Jacques Teller, Atish N. Vadher, Aitziber Egusquiza Ortega: <i>Cultural heritage governance typologies and their role in urban transformation</i>	» 57
Shruthi Ramesh, Bhagyasshree Ramakrishna: <i>Contesta-tions to a Climate-sensitive heritage: Examining the Negotia-tions of Cultural Markers along Mumbai’s expanding Metro-politan Coast</i>	» 95
Yijin Zhang: <i>The Vulnerability of Historic Urban Landscape triggered by improving visibility. The case of visual integrity of the “West Lake Cultural Landscape”</i>	» 117
Innovation, Adaptation and Reuse	» 145
Xinghan Lou: <i>Cultural Heritage Through the Lens of Urban acupuncture: A possible roadmap for Expanding Heritage Practice Path</i>	» 147
Asma Mehan, Jessica Stuckenmeyer: <i>Adaptive Reuse of In-dustrial Heritage in the era of Radical Climate Change related urban Transitions.</i>	» 169
Adrianna Brechelke: <i>Historical spacial-functional network system and Smart City strategy as an opportunity for the su-sustainable development of Kolobrzeg</i>	» 193

Diana Farisah Rahman: <i>From Tradition to Resilience: the Value of Balinese Adaptive Culture in Climate Change Adaptation and Heritage Management.</i>	Pag.	215
Carlo Francini, Gaia Vannucci: <i>The impact of the photovoltaic system on Florence's roofs. Collaboration and balance between innovation, Authenticity and Integrity.</i>	»	235
Marika Fior, Rosa Romano, Maria Paz Abad Gonzalez, Jui Ambani: <i>How does Cultural Heritage Foster Climate Action? Examples of Histo-Culture-based Urban Resilience from Around the World</i>	»	257
Friedrich Idam, Günther Kain: <i>Proven solutions. The medium technology of the building cultural heritage.</i>	»	281

1. The Power of Local Government Policy for Building Resilient Cities and Communities: The City of Edgerton, Wisconsin as a case study

Sarah E. Braun¹

Abstract

Understanding how to build resilient communities around traditional heritage systems is reliant on policy development both in sizeable cities, as well as smaller local governments and the policies they implement. The research performed over six years in the City of Edgerton, WI (United States) covers valuable insights into rural, Midwest community development, where sustainability policies are often put aside, especially when heritage initiatives are involved. Serving for four years in the local community as Alder and six years on the Heritage Preservation Commission, the research demonstrates the importance of grass-roots implementation of UN sustainable development goals for economic growth, climate change infrastructure policy, and heritage tourism development. The findings illustrate victories and challenges relevant to the future of urban transformation, and future pathways for communities of all shapes and sizes. Creating multi-level stakeholder buy-in, education on principles and best practice, or access to resources are all pieces of this complicated puzzle we aim to solve as heritage professionals in an increasingly uncertain global climate. How to mitigate risk and manage factors we may not be able to foresee or predict in a post-Covid-19 world are all part of the equation. Our government policies and the officials that create these guidelines must be knowledgeable and open to collective, innovative ways to grow and change the cities and communities they represent.

Keywords

Urban Transformation, Urban Governance, Sustainable Development, Heritage Tourism, Climate Change

¹ Sustainable Development Consultant - PO Box 226 - Edgerton, WI 53435 USA
PhD Fellow Urban & Regional Development - University Polytechnic of Torino - Viale Pier
Andrea Mattioli, 39 - 10125 Torino TO Italy
Email: sarah.braun@polito.it

1. Introduction

Urban transformation and its role in climate change is more commonly associated with larger metropolitan areas and the impact their development has on the unique fabric of cultural heritage and communities. It is no secret that diverse, cultural programs and activities offered by a city or organization are closely tied to successful, socioeconomic development (Hölscher, Frantzeskaki 2021). However, understanding how best to build resilient communities through cultural sustainability is not only reliant on policy development in sizeable urban cities, but also those of medium and smaller, rural environments. It is a process owned by local governments (Ripp 2018) and the programs they write, pass, and implement.

Research serving as a government official with the city of Edgerton from February 2017 to April 2023 investigates and aims to begin to capture the power of comprehensive urban transformation by documenting successful projects and initiatives, as well as demonstrates the importance of grass-roots implementation of UN Sustainable Development Goals (SDGs) for advancing sustainability and cultural policies in urban transformation. Over half of the population in the United States officially lives in communities smaller than 36,000 inhabitants (Kachook, 2020). The power of systemic change at the local level in the US has the potential to bring about radical urban transformation across the diverse systems of the urban landscape – such as governance, risk management, climate change mitigation, cultural heritage preservation etc. Yet, often these types of policies in the United States are met with pushback as politically charged agenda items if not approached from within the proper audience lens, and even notable events, like extreme weather phenomena, do little to sway the general public on investing resources into areas like climate change resilience (Karmarck, 2019).

However, not all policy change needs to be put within the framework of global objectives to begin the conversation. In fact, methods of downscaling at grassroots level have resulted in successful implementation of innovative projects and policies in the city of Edgerton, specifically on water infrastructure upgrades (White House 2023), renewable energy studies and fund allocation (Slip Stream 2023), public-private partnerships (PPPs) to provide affordable housing for homeless veterans while simultaneously restoring and renovating two historic downtown buildings (Aarsvold 2022), establishing new cultural heritage policy in sustainability (Historic 2023), as well as the

formation of new governing bodies for sustainable tourism and economic development (Tourism, 2020).

While the last six years laid the groundwork for the successes that were achieved in these multi-level stakeholder initiatives, they also highlighted the complexities of operating in the urban-transformation landscape at a local level and the limitations many medium, small, and rural communities face. It should also be noted that implementation of resilient and robust development policy and governance coincided with the unique resources provided as a result of grant monies available through the Public Service Commission (PSC) of Wisconsin, Covid-19 relief through American Rescue Plan Act (ARPA) funds (City of Edgerton, 2022) and the new Inflation Reduction Act (IRA) at the Federal level. The funding sources, while incredible opportunities to facilitate the creation of more resilient urban systems, also illustrate the complexities and limitations city officials and staff face on how best to utilize unique resources with strict project criteria, without full access to technical expertise, and how to best leverage funding within the critical timeframe (US Treasury, 2022).

2. Baseline Situation

Edgerton, Wisconsin is a city located in the South-Central part of the state along the Interstate 90 corridor connecting Madison, Wisconsin and Chicago, Illinois. It has a population of 5,945 (Census Bureau, 2020) and was founded in 1853, a hub for tobacco cultivation in North America at the end of the 19th century (Scarborough, 2014). This agricultural hub for tobacco resulted in a great influx of wealth to the area and the subsequent growth and development of the community that residents still feel connected to today with the annual Tobacco Heritage Days Festival (Visit Edgerton, 2023). While the roots of tobacco built the community, Edgerton boasts other notable cultural history intrinsically tied to the identities of the residents – nationally acclaimed Pauline Pottery (Fig. 1), buildings designed by notable Beloit, Wisconsin architect, Frank H. Kemp (Fig. 2), internationally known author, Sterling North, and his boyhood home (Fig. 3), the childhood home of decorated PGA golfer, Steve Stricker (Fig. 4), and the fundraiser music festival Chilimania, billing top US musicians and attracting thousands to the city each year, all while raising money for academic scholarships for local high school students (Fig. 5).



Fig 1
Pauline Pottery
Image: Scarborough, 2014



Fig 2
House designed by
Frank H. Kemp for H.E. Peter.
Image: Scarborough, 2014



Fig 3
Sterling North Home
Image: Scarborough, 2014



Fig 4
Steve Stricker (Center) in 2010
donating \$100,000 to Edgerton
Hospital and Health Services.
Image: Scarborough, 2014



Fig 5
Thousands celebrate the Chilima-
nia music festival and fundraiser
Image: Chilimania, Inc., 2022

As agriculture has declined in the area over the years, especially the cultivation of tobacco, the focus has now turned toward heritage tourism for economic growth and development (Scarborough, 2014). Due to its unique location and proximity to major metropolitan areas, like the state capital city of Madison, Edgerton has seen steady growth over the past two decades, and the expectation of that continued trend (Table 1) for the next twelve (City of Edgerton, 2015).

	2015	2020	2025	2030	2035
Linear growth based on number of residents added over past 30 years (38 residents/year)	5,649	5,836	6,024	6,212	6,399
Long-term compounded growth based on rate of growth over past 30 years (0.77%)	5,681	5,912	6,153	6,403	6,663
Recent compounded growth based on rate of growth over past 10 years (1.02%)	5,740	6,032	6,340	6,663	7,003
Wisconsin Department of Administration forecast	5,620	5,930	6,210	6,465	6,655

Source: Vandewalle & Associates, Wisconsin Department of Administration Population and Housing Projections

Table 1

In fact, according to the latest Economic Impact Report of Rock County, where a majority of the city is situated, the “total visitor spending (includes indirect and induced) totaled \$439 million - an increase of 12% in respect to the previous year (Rebout, 2023). However, developing infrastructure for economic growth, development, and heritage advocacy through tourism has been intermittent and inconsistent in the past, due to lack of continuity in local champions over time, collective vision within the local government, and a connected network of community volunteers and businesses.

With the update of the city’s comprehensive plan in 2015, the city and community sought to address areas of disconnect in collaboration and set collective goals for the next twenty years, highlighting objectives for sustainable development. The city’s comprehensive plan was developed in accordance with nine elements contained within the State of Wisconsin “Smart Growth” legislation passed in 1999 (State of Wisconsin, 1999), and sets out to “guide short-range and long-range growth, development, and preservation” (City of Edgerton 2015). Coming into the community in August of 2016 as a resident and serving on the Historic Preservation Commission beginning in February of 2017, I received a first glimpse into both the enthusiasm of the community and their commitment to valuing and preserving its heritage, as well as the desire for both tourism growth and preservation. I was also confronted with the struggle many small communities face with lack of manpower and funding for cultural resources. Sustainability and the UN SDGs were also not a well-known topic when I arrived back to the Midwest in 2016. Over the past six years, this has changed a great deal, but the delay in widespread knowledge and awareness of the UN Agenda 2030 has put the heartland of the United States at a disadvantage. The center of the United States lags in establishing sustainable urban systems with most of the country’s population (Conroy & Iqbal, 2009). Many municipalities do not even have access to recycling facilities. It is also my belief that, due to delay in dissemination of knowledge and capacity building at a grassroots level, policy and objectives at the heart of building resilient communities and combating climate change has allowed for the practicalities and benefits to be easily politicized and contested, a task not always easily surmounted when resources in time and money are finite.

The city staff, government officials, and administration labored diligently during my time as an Alder, working to mitigate and solve these challenges through various methods and innovative ideas, overcoming the ‘death knell’ (Karmarck 2019) of complexity that topics in sustainable development add to

an already politically divisive climate in the United States as well as overall awareness, knowledge, and know-how within the community. Our advantage, principally, came with establishing a common goal and vision among city administrators, staff, and elected officials to promote resilient economic growth, infrastructure improvement to address climate change, alongside preserving the city's cultural heritage. This holistic approach was both rewarding and thought-provoking. It also identified limitations that are presented within smaller urban systems.

3. Methodology & Local Government Synergies

The mixed methods empirical research undertaken in this study sought to evaluate and understand the unique social and environmental characteristics and impacts of initiatives and policies enacted in the City of Edgerton, and their influence or hindrance of urban transformation capacity (TC). Urban TC represents a city's readiness to introduce and manage processes designed to improve quality of life and conditions in an urban setting (Wolfram 2016). The qualitative and quantitative data collected offer a basis in which to understand and build on the city's progress in actions taken to increase climate change resilience and the contribution of cultural and social factors in sustainable development. As discussed by Wolfram, Borgström, and Farrelly (2019), the urban TC of the City of Edgerton has "both enabling and constraining effects on actors," and illustrates the significant power of local government and community actors, but also the limitations created by lack of connectivity across other entities, communities, and levels of government.

These findings were summarized using the *In, of, and by* (2021) technique introduced by Hölscher and Frantzeskaki to capture the complex dynamics of urban transformation in a way that provides relevant stakeholders access to actionable information that could be utilized to address limitations and future progress of ongoing and prospective initiatives. With simple yet comprehensive in mind, the biggest takeaway from data collection, interviewing, working with, and discussing sustainable development policy with multi-level stakeholders, is the necessity to have three principal synergies for successful implementation:

1. *Collective Vision, Identifying Local Champions, and Buy-In*
2. *Mobilization and Project Planning*
3. *Access to financial resources and technical expertise*

A favorable outcome — often leading to success — relied heavily on the first principle of collective buy-in and how that translated to transformation in agency and governance, affecting the multi-dimensional system dynamics within the community, and the outcomes of these synergies (Hölscher, Frantzeskaki 2021). Local champions can include a number of stakeholders as catalysts for sustainable development initiatives. In the specific case of Edgerton, the city administrator was a major actor in larger initiatives, with support from the common council, city staff, and local community leaders. Cities are “agents of change,” as Hölscher and Frantzeskaki write, and result in a possible ripple effect, influencing agency and governance in surrounding communities. Establishing networks for the connectivity of intermediaries, funding opportunities, and alternatives to existing governance modes to promote local, regional, and national strategic alignment (Wolfram, [Borgström](#), Farrelly 2019) is also imperative for sustainable urban transformation.

3.1 What Worked

During my time spent serving the community of Edgerton, I had the privilege to work with incredibly dedicated individuals who were inspiring advocates for the holistic growth of the community. Each initiative illustrates areas where the removal of “barriers to innovative practices and embedding them into routines, organizations, plans and especially legal frameworks” (Wolfram 2016) were employed to improve urban TC across various community and stakeholder levels. Below are highlights of the most illustrative projects in which I participated directly as a city official. Conventional approaches to sustainable urban transformation (McCormick, et. al 2013) are inadequate to implement effective policy and frameworks for these initiatives. Instead, innovative, collective effort is necessary to affect lasting change.

3.1.1 Lead Laterals

One notable implementation and result of transformation *by* cities was improvement of community resilience and water infrastructure touching Global Goals 6, 11, and 13 principally (United Nations, 2015). In January 2023, our community became a founding national partner in quality, water infrastructure at a national level for the proactive replacement of nearly 100% of the lead pipe laterals in our community – many in our historic district, without cost to the taxpayer (The White House, 2023). This was made possible by city administration accessing available grant funding, council approval and

advocacy, and municipal staff mobilization leading to community awareness and participation. Successful urban transformation is possible, and organizing smaller cities and communities is crucial for comprehensive, sustainable urban transformation (Riganti, Throsby 2021).

3.1.2 Climate Change Resilience: Renewable Energy Study & Comprehensive Park Plan

The Wisconsin Initiative on Climate Change Impacts (WICCI) latest report (WICCI 2021) presented findings that temperatures in the state of Wisconsin have been at their warmest in two decades, and specifically in Southern Wisconsin, communities have experienced the highest levels of precipitation since 1950, highlighting weaknesses in critical infrastructure for municipalities, such as roads, culverts, stormwater systems, etc., that would benefit from evaluation and improvement. Post Covid-19, the state also prioritized funding that would address some of these vulnerabilities in climate change and disaster risk management associated with out-of-date comprehensive energy plans for municipalities (City of Edgerton, July 19 2022). Working with these future possibilities in mind, the city was able to explore a new climate and disaster resilience planning initiative together with two other neighboring communities and the feasibility of moving to solar on city buildings. The size, resiliency, and payback, also noting the opportunity to utilize IRA funding together with ARPA monies, were analyzed for the city library, department of public works garage, wastewater treatment plant (WWTP), and the police station with an accompanying battery storage (Slip Stream 2023). An example of one of the approved projects is illustrated below:

WWTP Results

	Roof	Ground	Hill
System Size(kW-dC)	45	45	160
Simple Payback (years)	19.3	22.8	23.6
Percent Renewable Electricity	8%	8%	25%
Lifetime Carbon Savings (metric tons)	1015	1047	3127
Total Energy Savings	\$94,240	\$96,934	\$288,291
O&M Cost (includes replacement of inverters)	\$18,000	\$18,000	\$64,000

Costs	Roof	Ground	Hill
Total Upfront Cost	\$112,500	\$135,000	\$416,000
Focus on Energy Incentives	-\$6,125	-\$6,125	-\$19,000
IRA Tax Credit	-\$33,750	-\$40,500	-\$124,800
Total Cost	\$72,625	\$88,375	\$272,200

Source: Slip Stream Solar Study, 2023

Alongside, addressing climate-related susceptibilities in critical city infrastructure and energy resilience, the city also took advantage of the opportunity to address green urban space in parks and recreational areas by commissioning and approving a new comprehensive park plan by the common council using ARPA funding (City of Edgerton, July 19 2022). ARPA monies are required to fit a specific criterion, be used within a specific timeframe, and took effect in April of 2022 (US Treasury, 2022). What is unique about both urban infrastructure improvement projects is that the funding sources allowed us to address large needs for transformation *of* the city and its climate change resiliency with dollars that would not negatively impact our taxpayer. It is also noteworthy that these initiatives may not have remotely been possible in whole or part without the access to adequate government funding sources.

3.1.3 Redevelopment & PPPs

Municipal infrastructure is crucial in building sustainable foundations for other aspects of urban transformation to flourish, and perhaps the most unique and innovative project implemented during my time serving in local government is the redevelopment of two historic downtown buildings that were nearly vacant. Working with our community outreach non-profit, the local chapter of Veterans of Foreign Wars (VFW), and the private sector owner of the buildings, this collective effort allowed for PPPs to not only preserve two

historic Main Street buildings, but also will result in the creation of usable square footage in the downtown economic district. The city provided partial funding for the Edgerton Community Outreach to purchase the building from the owner, as well as a monetary incentive to restore the second historic building under his ownership. Those funds will be distributed to the owner upon completion of the restoration and renovation of the second building. For the first building, the purchase via Edgerton Community Outreach allows for the redevelopment into affordable housing for female veterans (Aarsvold, 2022) a storefront to generate revenue, as well as a new meeting place for all military veterans living in our community, supported also at the federal level by U.S. Congressman Marc Pocan. An incredible example of the power of PPPs working together for the collective benefit with likely potential to contribute to development and urban transformation *in* the city.

3.1.4 Heritage Preservation & Urban Development

Redevelopment and maintaining the historic urban fabric of the downtown area was also a principal part of establishing a Tax-incremental Financing (TIF) District, which is a Wisconsin Department of Revenue program allowing for municipalities to access funding “for infrastructure and other improvements” (Wisconsin Department of Revenue, 2023). The TIF District for the historic downtown area was open from 2001 until 2022. The Redevelopment Authority approved \$686,269 (City of Edgerton, July 19 2022) to local business owners in our façade grant program for improvements to the historic buildings in the heart of the city. The Historic Preservation Commission then made sure those improvements were in line with the necessary ordinance requirements to receive a Certificate of Appropriateness.

Finally, new policy (City of Edgerton, 2023) was written to address the need and desire for a mural painting policy. Previously, none had existed within city ordinance for historic preservation, and individuals and groups were prohibited from painting on the exposed surfaces. However, community requests had been made about the possibility of using murals with subject matter reflecting the heritage of the city as both a way to beautify and create new points of interest for tourism (Altshuler, 2020). The resulting policy laid a framework that would adhere to international standards of cultural heritage preservation (the first of its kind in the community) and simultaneously encourage the continued development of tourism sites in the downtown area. The importance of establishing a policy of this nature in the community di-

rectly supports the meaningful connection citizens feel to the history, place, and space of the City of Edgerton and how that increased awareness also deepens connection and reinforces social sustainability, collective ownership of policies that support sustainable development, and the idea of a rural city as a “relational place” for linkages to climate change mitigation and cultural heritage preservation (Grin, et. al 2017).

3.1.5 Tourism in Edgerton

While still in development, the City of Edgerton’s desire to increase responsible tourism and awareness began with the establishment of a Tourism Commission and accompanying Tourism Zone, which includes representatives from the three communities within the established zone. These were enacted in 2019 (City of Edgerton, 2019). Since its creation, the entity has used room tax collected from local lodging to fund marketing efforts, employ a staff focused on building activities in the area, and outreach to both businesses and tourists. The website showcases surrounding area attractions, events, and businesses, and also works directly with local businesses to encourage their own innovative ideas. Last year, the commission awarded \$9,750.00 in grant monies to local businesses that supported activities and promoted tourism in the area (Town of Fulton, 2022). The results of the grant program further supported the growth of existing festivals celebrating the city’s heritage, like Tobacco Heritage Days, as well as the beginning of new traditions such as a Friday night artisan market showcasing local produce farmers, food trucks, entertainment, and craftsmen.

4. Limitations

The complexities of the diverse network of actors provide a challenge for a cohesive framework in which to build better policy. While we do have some positive, concrete examples within the city of Edgerton, they were not easily won. Challenges for the sustainable development alongside preserving its heritage in small cities like Edgerton include translating their fundamental value to larger audiences. We might ask if it is possible to better translate the cosmopolitan memory (Barthel-Bouchier, 2016) of smaller communities like ours. Is it possible to focus on place-based transformation and grow from the ground up and be woven into the fabric of global sustainable development? I believe it is both feasible and imperative if we are to really address the issue of

both cultural heritage sustainability and mitigating climate change holistically.

Without these policy improvements with multi-level stakeholder buy-in, cities may still enact programs that unintentionally support green gentrification, polarization, and urbanization lacking equity and inclusion (Wachsmuth, et. al 2016). Furthermore, cities continue to lack comprehensive access to knowledge and collaboration at national and global levels, echoing the limitations of collective memory (Barthel-Bouchier) at a local level, especially those in medium and rural communities. In relation to understanding the effects of climate change on our local community, most of the data is relatively new, with the latest report from the WICCI being only the second of its kind (WICCI 2021). Limited availability of resources for global governance processes create stagnation in sustainability and cultural policy advancement, as well as little or no data collection and sharing (Acuto 2016) in a time when shared, systemic transformation is vital to combat climate change, social sustainability, and preservation of collective memory. New benchmarks leave many unknowns for municipalities to navigate in the future, especially when considering brand new policies, for example, a new mural painting policy. Do we understand what the potential vulnerabilities related to climate change will be for new murals and historic preservation in the city, and is the policy sufficient to address vulnerabilities? What resources and knowledge will be necessary for successful urban TC? Is there flexibility in the policy to address necessary changes or adjustments in the future?

Some of these vulnerabilities are beginning to be addressed in research projects, like IN SITU, which aims to “advance understanding of the forms, processes, and governance of innovation involving cultural and creative industries (CCIs) located in non-urban areas of Europe” (University of Coimbra 2022). However, further exploration into the power of place-based approaches in policy development is vital and necessary for advancement of the role of cultural heritage in sustainable development. Using the “*in, of, and by*” (Hölscher, Frantzeskaki 2021) perspectives allows for continued investigation of these critical and complex relationships in urban transformation (McCormick, et. al 2013) in a way that is perhaps more digestible. Many small and rural communities similar to Edgerton in the United States, lack access to critical knowledge that identifies key factors in sustainable development, cultural policy, and climate change, especially those that illustrate the valuation of cultural heritage assets fundamental in the process of building resilient cities (Riganti, Throsby 2021).

5. Conclusion and Further Research

The limitations experienced while working with the City of Edgerton are not unique to this community alone. While there is no ‘one-size-fits-all’ formula to implement sustainable urban transformation in smaller communities, the power of grassroots movements is clear. Each of the initiatives that were successful during my time serving with the local government held a thread of three fundamental pieces under the *In, Of, and By* method (Hölscher, Frantz-enskaki 2021). These underlying pieces each required community and government support from both the public and private sector (in) cross-sectoral place-making; illustrated benefit of urban transformation of the city, and resources and support from state and national levels in line with larger initiatives. Successful implementation of new policy and innovative projects requires synergistic cooperation across the urban(sub)-systems of the community and how it relates to historic identity of the city’s culture and heritage (of). Local government bodies and their collective vision are key in the follow-through and establishment of the policies that shape the sustainability initiatives and programs of the community (by).

As an emerging field of research, particularly at the local level, continued development in identifying key factors and active mechanisms that spur sustainable urban transformation in areas that do not hold the same attention as large metropolitan areas is imperative. In the six years of participating in research and government action, processes often moved at a less than desirable pace, and often in other communities as well, continuity of leadership and policy become an issue. The community of Edgerton was fortunate to have a cohesive vision and governing bodies that shared the same objectives to achieve a thriving and healthy community. The ease at which we operated allowed us to foster relationships with other key stakeholders easily and with a solid foundation, increasing the urban TC of the city and surrounding area. The lessons that can be taken from the City of Edgerton and the work of the city administration, common council, and community champions could be implemented in other medium, small and rural communities in the future as new case studies.

Acknowledgements

A special and heartfelt thank you to our amazing City Administrator, Ramona Flanigan for her constant pursuit to go above and beyond in her work. Your

dedication, guidance, and assistance during this project was invaluable. To the rest of the City Council I had the honor to serve with (Casey, Jim, Candy, Paul, Dave, Anne, Tim, Robert, Debbie): you are amazing. Without collective cooperation and vision, the incredible progress made in the community would not have been possible. It was a privilege to work by your side. To the incredible municipal staff and administration, you are the ones that keep all the pieces moving continuously – and make it look easy. Sarah Williams and the Edgerton Outreach team, your tireless efforts to giveback to the community are so incredibly inspiring. To Congressman Pocan, thank you for recognizing value in local community efforts and bringing attention at a national level. Thank you also to Christine Rebout for helping build tourism in the area, and also being so extremely helpful and transparent with your knowledge. To the community of Edgerton as a whole, thank you for your inspiration and giving me the opportunity to be part of the city’s story in some, small way. I look forward to seeing what happens next.

References

Aarsvold, Marcus. (2022). “*Apartment renovation project providing affordable housing for homeless veterans could be ready by Sept. 2023 in Edgerton.*” (2022, 25 June). [Press Release] <https://www.nbc15.com/2022/06/26/apartment-renovation-project-providing-affordable-housing-homeless-veterans-could-be-ready-by-sept-2023-edgerton/>

Acuto, M. Give cities a seat at the top table. *Nature* **537**, 611–613 (2016). <https://doi.org/10.1038/537611a>

Altshuler, Wendy. (2020). “America’s Mural Magic: How Street Art Can Transform Communities and Help Businesses.” *Forbes Magazine*. 23 March 2020. <https://www.forbes.com/sites/wendyaltschuler/2020/03/23/americas-mural-magic-how-street-art-can-transform-communities-and-help-businesses/?sh=49f72ee51739>

Barthel-Bouchier, D. (2016). *Cultural heritage and the challenge of sustainability*. Routledge.

Census Bureau. (2020). *Quick Facts*. <https://www.census.gov/quickfacts/fact/table/edgertoncitywisconsin,rhinelandercitywisconsin/LFE046219>

City of Edgerton. (2015). “*City of Edgerton Comprehensive Plan Update.*” City Archives. Edgerton, Wisconsin.

City of Edgerton. (2019, Sept 16). *Staff Report, Meeting Common Council*. City Archives. Edgerton, Wisconsin.

City of Edgerton. (2022, July 15). *Staff Report, Meeting Common Council*. City Archives. Edgerton, Wisconsin.

City of Edgerton. (2022, July 19). *Staff Report, Special Meeting – ARPA*. City Archives. Edgerton, Wisconsin.

City of Edgerton. (2023, April 3). *Meeting Common Council*. City Archives. Edgerton, Wisconsin.

Grin, J. Frantzeskaki, N., Broto, V.C., & Coenen, 2017. Sustainability Transitions and the

City In: *Urban Sustainability Transitions* (1st ed.). Routledge. <https://doi.org/10.4324/9781315228389>

Historic Preservation Commission. (2023, March). *Regular Committee Meeting*. City Archives. Edgerton, Wisconsin.

Conroy, M. M., & Iqbal, A. A. (2009). Adoption of sustainability initiatives in Indiana, Kentucky, and Ohio. *Local Environment*, 14(2), 109–125. <https://doi.org/10.1080/13549830802521428>

Hölscher, K., & Frantzeskaki, N. (2021). Perspectives on urban transformation research: Transformations in, of, and by cities. *Urban Transformations*, 3, Article 2. <https://urbantransformations.biomedcentral.com/articles/10.1186/s42854-021-00019-z>

Karmarck, Elaine (2019). “*The challenging politics of climate change*.” Brookings Research. 19, Sept. 2019. [Press Release] <https://www.brookings.edu/articles/the-challenging-politics-of-climate-change/>

Kachook, Olga. (2020). “*Mapping Urban Access to Compost Systems*.” GreenBlue. McCormick, K., Anderberg, S., Coenen, L., & Neij, L. (2013). Advancing sustainable urban transformation. *Journal of Cleaner Production*, 50, 1–11. <https://doi.org/10.1016/j.jclepro.2013.01.003>

Rebout, Christine. (personal communication, July 2023).

Riganti, P., Throsby, D. (2021) Editors’ introduction: Recent developments in urban heritage valuation: Concepts, methods and policy application, *City, Culture and Society*, Volume 26, <https://doi.org/10.1016/j.ccs.2021.100414>.

Ripp, M. 2018. *Heritage as a System and Process that Belongs to Local Communities*. Fontecchio: Reframing the role of local communities and stakeholders Council of Europe / Faro Convention Workshop. <https://rm.coe.int/heritage-as-a-system-and-process-that-belongs-to-local-communities-mr-/16807bc255>. Accessed 29 Aug 2022.

Scarborough, Mark Wilson. (2014). Edgerton. Arcadia Publishing. Charleston, South Carolina.

Slip Stream. (2023). “*Edgerton Solar Study*.” Slip Stream. Madison, Wisconsin.

Tourism Commission. (2020, January 21). *Tourism Commission Meeting Minutes*. City Archives. Edgerton, Wisconsin.

Town of Fulton. (2022, 12 April). *Meeting Minutes*. Town archive. Fulton Township, Wisconsin.

United Nations. (2015). “*The 17 Goals*.” Department of Economic and Social Affairs. Sustainable Development. <https://sdgs.un.org/goals>

University of Coimbra. (2022). *IN SITU: Place-based innovation of cultural and creative industries in non-urban areas*. <https://ces.uc.pt/en/investigacao/projetos-de-investigacao/projetos-financiados/in-situ>

US Treasury. (2022) “Final Act.” United States Department of the Treasury <https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds#:~:text=The%20Coronavirus%20State%20and%20Local,COVID%2D19%20public%20health%20emergency.>

Visit Edgerton. (2023). “Tobacco Heritage Days.” <https://visitedgertonwi.com/event/tobacco-heritage-days-2/>

Wachsmuth, D., Cohen, D. & Angelo, H. *Expand the frontiers of urban sustainability*. *Nature* **536**, 391–393 (2016). <https://doi.org/10.1038/536391a>.

Wisconsin Initiative on Climate Change Impacts. 2021. *Wisconsin’s Changing Climate: Impacts and Solutions for a Warmer Climate*.

Wolfram, M. 2016. Conceptualizing urban transformative capacity: A framework for research and policy. *Cities* 51: 121–130.

Wolfram, M., Borgström, S. & Farrelly, M. Urban transformative capacity: From concept to practice. *Ambio* **48**, 437–448 (2019). <https://doi.org/10.1007/s13280-019-01169-y>

White House, The. (2023, 27 January) “*FACT SHEET: Biden-Harris Administration Announces New Actions and Progress to Protect Communities From Lead Pipes and Paint*.” [Press Release] <https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/27/fact-sheet-biden-harris-administration-announces-new-actions-and-progress-to-protect-communities-from-lead-pipes-and-paint/>.

Starting with a systemic understanding of cultural heritage, climate-change related urban transformation processes are analyzed through a multi-disciplinary lens and methods that blend the arts, humanities, and sciences. Governance-specific topics range from relevant cultural markers and local policies to stimulate resilience, to a typology of heritage-related governance and the vulnerability of historic urban landscapes. A variety of contributions from the Americas, Asia, and Europe describe and analyze challenges and potential solutions for climate-change related urban transformation and the role of cultural heritage. Contributions focusing on innovation, adaptation, and reuse introduce the concept of urban acupuncture, adaptive reuse of industrial heritage, and how a historical spatial-functional network system can be related to a smart city approach. The potential role of cultural traditions for resilience is analyzed, as is the integration of sustainable energy production tools in a historic urban landscape. Examples of heritage-based urban resilience from around the world are introduced, as well as the path of medium-technology to address climate adaptation and prevention in historic buildings. The contributions emphasize the need for an updated narrative that cultural heritage can also contribute to climate adaptation and mitigation.

Matthias Ripp, a senior heritage manager with a background of historical geography, is coordinating the “Old Town of Regensburg with Stadthof” site. He is active in numerous networks such as Heritage Europe and ICOMOS. He coordinated the EU HerO (Heritage as Opportunity) project and chairs the UNESCO world heritage working group on historic city centres of the German Association of Cities. Since November 2011 he has also been regional coordinator for the North West European and North-American region of the Organisation of World Heritage Heritage Cities (OWHC), is teaching at different Universities and works as a trainer, facilitator and consultant.

Christer Gustafsson, Ph.D. is Full Professor in Conservation at Uppsala University, Sweden. Currently, he is engaged as a member of the UNESCO Culture 2030 Indicators Expert Facility, an international expert group working with indicators for the United Nations’ Sustainability Goals (Agenda 2045), Secretary-General for ICOMOS International Scientific Committee on Economics of Conservation as well as Chairman for EIT Culture & Creativity strategic topic group for Innovative, entrepreneurial and circular adaptive re-use of cultural heritage.