BUILDING PROSPEROUS PLACES IN MICHIGAN

understanding the values of, perceptions of and barriers to placemaking

March 30, 2012

full report

A CASE STUDY OF THREE CITIES: LANSING, TRAVERSE CITY AND ROYAL OAK

MICHIGAN STATE UNIVERSITY | Land Policy Institute

Adesoji Adelaja
John A. Hannah Distinguished Professor in Land Policy; Department of Agriculture, Food and Resource Economics (AFRE); Michigan State University (MSU)

Tyler Borowy
Research Coordinator, Land Policy Institute (LPI), MSU

Melissa Gibson
Senior Consultant, Public Sector Consultants

Benjamin Calnin
Informatics and Decision Support Coordinator, LPI, MSU

Mary Beth Graebert
Associate Director for Programs and Operations, and Co-Coordinator, People and Land Initiative, LPI, MSU;

John Warbach
Professor at MSU; Associate Director of Faculty Research Development, and Coordinator, MIHELP Consortium, LPI, MSU

Mark Wyckoff
Senior Associate Director, LPI; and Director, Planning & Zoning Center, MSU

Yohannes Hailu
Former Visiting Assistant Professor, Office of the John A. Hannah Distinguished Professor in Land Policy, AFRE, MSU

Courtney Hurtt
Research Assistant, LPI, MSU

Kimberly Rustem
Research Assistant, LPI, MSU

Jonathan Dworin
Research Assistant, LPI, MSU

Acknowledgements

This research and analysis was prepared by the Land Policy Research (LPR) Team at the Land Policy Institute at Michigan State University.

The Land Policy Institute is grateful to the advisory committee, for without their insights, support and willingness to help, this project would not have been possible:

- Gilbert M. White, Private Sector Consultant, *Haslett, MI*
- Chris Leinberger, Senior Fellow, *The Brookings Institution, Washington, DC*
- Robin Boyle, Professor; Chair and Director of Graduate Studies, *Department of Urban Studies and Planning, Wayne State University, Detroit, MI*
- Richard Jelier, Professor, *School of Public, Nonprofit and Health Administration, Grand Valley State University, Allendale, MI*
- Dennis Koons, President and CEO, *Michigan Bankers Association, Lansing, MI*
- Bob Filka, CEO, *Michigan Association of Home Builders, Lansing, MI*
- Brad Garmon, Director, *Conservation and Emerging Issues, Michigan Environmental Council, Lansing, MI*
- Kathie Feldpausch, Senior Vice President of Operations, *Michigan Association of Realtors, Lansing, MI*
- Gary Heidel, Executive Director, *Michigan State Housing Development Authority (MSHDA), Lansing, MI*
- Joe Borgstrom, Director, *Downtown and Community Services Division, MSHDA, Lansing, MI*
- Jim Tischler, Director, *Community Development Division, MSHDA, Lansing, MI*
- Arnold Weinfeld, Director, *Strategic Initiatives and Federal Affairs, Michigan Municipal League (MML), Ann Arbor, MI*
- Dan Gilmartin, Executive Director and CEO, *MML, Ann Arbor, MI*
- Andy Schor, Assistant Director of State Affairs, *MML, Ann Arbor, MI*
- William Rustem, Director of Strategic Policy, *Governor's Office, State of Michigan, Lansing, MI*
- Peter Anastor, Manager of Community and Urban Development, *Michigan Economic Development Corporation, Lansing, MI*
- Rob Fowler, President and CEO, *Small Business Association of Michigan, Lansing, MI*
- Bill Martin, CEO, *Michigan Association of Realtors, Lansing, MI*
- Robert Collier, President and CEO, *Council of Michigan Foundations, Detroit, MI*

This initiative was made possible by grants from the National Association of Realtors Ira Gribin Workforce Housing Program, the National Association of Realtors Smart Growth Program; and support from the Michigan Association of Realtors, the W.K. Kellogg Foundation, the Michigan State Housing Development Association, the Michigan State University Land Policy Institute, and the MSU Office of the John A. Hannah Distinguished Professor in Land Policy.

Executive Summary

IN THE NEW ECONOMY, THE PRECURSORS TO ECONOMIC GROWTH (E.G., TALENT, ENTREPRENEURSHIP, KNOWLEDGE INDUSTRIES) ARE ATTRACTED TO LOCATIONS THAT ARE ENHANCED THROUGH PLACEMAKING. OTHER PLACES ACROSS THE NATION AND THE WORLD HAVE LEARNED TO RESPOND TO THIS CHANGING PARADIGM IN THE BUILT ENVIRONMENT AND THE CHOICES THEY OFFER. UNFORTUNATELY, MICHIGAN AND OTHER RUSTBELT STATES HAVE NOT SHIFTED QUICKLY ENOUGH TO THIS NEW MINDSET TO HAVE A CRITICAL MASS OF THESE PLACES TO ATTRACT GROWTH.

Background

Michigan community leaders that have recently faced large population losses, high unemployment rates, massive numbers of foreclosures, and other economic woes have been exploring the reasoning behind these dire trends, as well as the strategies that would help to reverse them. One of those potential strategies, among others, is the implementation of "placemaking" efforts that attract people, businesses and jobs, and create greater sustainability in economic, environmental and social terms. Placemaking can be defined as the "development or redevelopment of value-added real estate that integrates essential elements of local and regional allure (e.g., mixed use, walkability, green spaces, energy efficiency) to generate an improved quality of life, a higher economic impact for the community, enhanced property tax revenue and better return to the developer and investors, while minimizing negative environmental and social impacts" (Adelaja, 2008). Fundamentally, placemaking is all about creating the types of places that people are drawn to work, play and live, while addressing recent shifts in housing demand, due to changes in the economy, energy, health and other quality-of-life components.

In the New Economy, the precursors to economic growth (e.g., talent, entrepreneurship, knowledge industries) are attracted to locations that are enhanced through placemaking. Other places across the nation and the world have learned to respond to this changing paradigm in the built environment and the choices they offer. Unfortunately, Michigan and other Rustbelt states have not shifted quickly enough to this new mindset to have a critical mass of these places to attract growth. Michigan's "places" are built upon the Old Economy paradigm, where uses are separated, people are auto-dependent, and infrastructure is outdated and inefficient. New pathways in placemaking should be explored to help the Rustbelt region successfully transition to the New Economy to meet the needs of its current and prospective populations.

PLACEMAKING
The "development or redevelopment of value-added real estate that integrates essential elements of local and regional allure (e.g., mixed use, walkability, green spaces, energy efficiency) to generate an improved quality of life, a higher economic impact for the community, enhanced property tax revenue and better return to the developer and investors, while minimizing negative environmental and social impacts."

About the Study

Through the "Rebuilding Prosperous Places" initiative, the Michigan State University (MSU) Land Policy Institute (LPI) and its numerous partners endeavored to better understand

placemaking in order to aid in its implementation in Michigan communities. The objectives of this initiative were to:

1. Identify barriers to and other perceptions about placemaking among key real estate development stakeholder groups.

2. Explore the economic value of placemaking by assessing its impact on property values in selected urban areas in Michigan.

3. Evaluate the impact of placemaking on workforce housing, and discover methods for incorporating workforce and affordable housing into placemaking developments.

The ultimate goal of this study has been to help Michigan and the Rustbelt region to catch up to and surpass other successful places in their ability to build placemaking projects that attract growth through the education of relevant stakeholders, transformation of policies, removal of barriers and creation of incentives.

Four main methods were utilized to address these objectives. First, numerous existing efforts surrounding placemaking were investigated to determine what knowledge, and knowledge gaps, currently exist. Previous efforts to uncover the barriers to placemaking, such as the Urban Land Institute's (ULI) survey of developers in 2004,[1] identified things like "neighborhood opposition" and "local regulations" as perceived hurdles. In addition, several examples of successful programs and actual projects were discovered that can provide some guidance to Michigan communities, including numerous in-state examples, like Campus Martius in Detroit and Lansing's Stadium District.

Second, the barriers to and incentives for placemaking, as perceived by local governments, financial institutions and developers in Michigan, were assessed through qualitative surveys. Opportunities for capitalizing on incentives and successful strategies, perceived and real barriers that must be overcome and potential areas for education and facilitation to assist in placemaking processes were identified. For instance, a majority of respondents from the three survey groups agreed that placemaking is an important component of strategies to achieve high-impact economic activity in Michigan communities. Still, such issues as access to financing and lack of information about the true value of placemaking features were cited as barriers that keep these complex projects from moving forward.

Third, to better understand the economic impact that placemaking projects can have, the marginal effects of placemaking elements (walkability, mixed use, access to green spaces) on property values in three Michigan cities (Lansing, Traverse City and Royal Oak) were estimated. The results showed that certain placemaking features were found to have a positive relationship to property price. For instance, living within walking distance

1. See the Urban Land Institute's Policy Form Report on *Barriers and Solutions to Land Assembly for Infill Development*, 2004: http://www.uli.org/ResearchAndPublications/Reports/~/media/Documents/ResearchAndPublications/Reports/Urban%20Revitalization/LandAssembly.ashx.

The ultimate goal of this study has been to help Michigan and the Rustbelt region to catch up to and surpass other successful places in their ability to build placemaking projects that attract growth through the education of relevant stakeholders, transformation of policies, removal of barriers and creation of incentives.

of a river, lake or school was associated with a higher priced home in Lansing. Interestingly, however, living within close proximity (quarter-mile) of grocery stores, was associated with a lower priced home in Royal Oak. Differences were also discovered between communities in terms of which placemaking features appear to be desirable. Clearly, assessing the value of placemaking attributes is a complex endeavor.

Finally, in order to ensure that the enhanced quality of life that is created by placemaking does not have negative social effects, the methods for including workforce and affordable housing in these types of developments were evaluated. Several examples of places where this inclusion has been successfully achieved are presented as models for Michigan communities, including two developments near downtown Grand Rapids, Division Park Avenue and Serrano Lofts, that are geared toward workforce affordability. In addition, the hedonic study of home prices was broken down into three models that reflected different levels of affordability (see the Full Report for details). There appeared to be some differences in marginal values for placemaking elements between the model for all homes and the model for homes affordable to the workforce (i.e., those at or below 120% of median household income levels). For instance, in Lansing, having a larger number of full-service restaurants within walking distance of a home generally was associated with a higher home price; however, for homes under

the workforce affordability limit, there was not a significant impact. These relationships warrant further investigation.

These methods and findings are explored more in-depth in the following report, in addition to a discussion of limitations of the models and data, and the need for further research to better understand the values and perceptions of placemaking. Finally, recommendations for state and local policy and placemaking efforts are provided. Due to the apparent differences between communities, it is recommended that communities undergo individualized assessments of their vision for placemaking within neighborhoods, and develop master plans and zoning to reflect those goals. Also, there is a clear need for education and information provision around placemaking for the various stakeholder groups associated with these efforts. Next steps for the project team include a deeper and geographically broader analysis through a second phase research and outreach initiative to address these recommendations.

Table of Contents

Table of Contents (cont.)

Appendices

List of Figures

List of Tables

Part 1: Introduction

AS LONG AS HUMANS HAVE DWELLED ON EARTH, WE HAVE FOUND WAYS TO MAKE OUR PLACES MEANINGFUL. THE MAKING OF PLACES—OUR HOMES, OUR NEIGHBORHOODS, OUR PLACES OF WORK AND PLAY—NOT ONLY CHANGES AND MAINTAINS THE PHYSICAL WORLD OF LIVING; IT ALSO IS A WAY WE MAKE OUR COMMUNITIES AND CONNECT WITH OTHER PEOPLE. IN OTHER WORDS PLACEMAKING IS NOT JUST ABOUT THE RELATIONSHIP OF PEOPLE TO THEIR PLACES; IT ALSO CREATES RELATIONSHIPS AMONG PEOPLE IN PLACES (SCHNEEKLOTH AND SHIBLEY, 1995).

In recent years, the use of the term *place* and *placemaking* has escalated among real estate developers, realtors, architects and planners, as well as local, regional and national policy makers. The growing interest is the result of the realization that cultivating a *sense of place* is an increasingly important requirement for attracting people, firms and local economic development prospects in general. The various contexts in which the terms place and placemaking are used today suggest an increased understanding of the connections between a physical location; its natural, constructed and cultural assets; its economic activities; and its short- and long-term prospects for prosperity. Community leaders are increasingly recognizing that they have a greater capacity to manage their resources and place-based assets in order to achieve more sustained and comprehensive forms of economic development than before.

Understanding how place-based assets add to the geographic notion of place is important. The combination of natural, cultural and built (constructed) assets is what positions a place for success, especially in the New Economy (Adelaja et al., 2009). Furthermore, understanding how *place persona* can be constructed to enable a location to be more competitive is critical to "placemaking." One important element of placemaking is, therefore, the design, location and construction of real estate developments, which have the potential

to crystallize economic activities at levels beyond what is conventional. In other words, place is a combination of several attributes, which taken as a whole, connote more value to communities than their sole parts. It is this synergy of attributes within a place that must be better understood. Since place and placemaking have become such hot topics, it is necessary to examine more wholly the many aspects—including the costs and benefits—of placemaking, especially when it involves real estate.

Project Rationale

Real estate-based placemaking development projects typically provide more diverse uses than traditional real estate development projects, such as an individual strip mall, an isolated office building, or an isolated recreational park. A

"placemaking" project leverages the compounded effects of multiple uses to generate farther-reaching impacts on the community. Such a project may include a mixed-use development that not only serves a residential or commercial purpose, but perhaps combines them, and has additional features, such as public or semi-public gathering spaces, throughways for pedestrian traffic, an arts and entertainment venue, a collection of art or sculptures or vibrant landscaping that attract people and businesses, which in turn, adds value to the community. The idea behind placemaking is to target a real estate project that has the capacity to generate value over and above what is conventional.[2]

One purpose of this report is to estimate market values for specific components of placemaking through the utilization of the hedonic pricing method supported by rich data sources. It is hypothesized that placemaking features add value to real estate, and that such values positively contribute to overall community prosperity. It is also expected that improving planning for and realizing greater implementation of placemaking projects across Michigan will add to the overall economic allure of the state. Prior hedonic pricing research has often been hindered by having only a few essential housing components to examine—typically due to data limitations. As of late, however, it has been possible for researchers and practitioners to devise tools that help measure elements of mixed-use, like VivaCity's GIS-based analysis tool (Porta, et. al, 2007); walkability (Leslie et al., 2007); resident satisfaction of the built environment (Kweon et al., 2010); among several other placemaking components. Such studies supply indispensable findings that will guide and help this project to further understand the many features of placemaking, how they are valued, and the ways in which they can be applied in Michigan cities.

Placemaking projects have been demonstrated to create value, allure and community benefits. But they also have the potential for being unaffordable to various segments of the population (Haughey and Sherriff, 2010; Bohl, 2007), due to rising housing and rent prices that tend to push out the workforce. Oftentimes, affordable or workforce housing is difficult to incorporate into placemaking projects, primarily due to the higher premiums such developments command. Therefore, another purpose of this project is to document workforce housing and its applicability in placemaking.

The report will first highlight literature related to place and placemaking, and their implications for poverty reduction and providing workforce housing. Next, it will summarize challenges and barriers to placemaking. Third, survey results collected from developers, bankers and local units of government on their perceptions of placemaking will be discussed. Fourth, the hedonic pricing method will show the financial benefits of placemaking components. Finally, the report will conclude with a discussion of the findings along with recommendations and final remarks.

Understanding the Significance of "Place"

The historical or traditional concept of place describes a specific location of physical geography. Simply speaking: "A place is a spatial setting that has been given meaning" (Tuan, 1977). Contemporary concepts of place acknowledge that a location can be transformed into a location of interest when one looks at the combination of assets that makes a particular geographic place worthwhile and distinctive. This concept of place is central to understanding the built environment—the physical context in which

2. For more information on conventional development types, see Leinberger (2001) and page 13 in this report.

we live, work, interact, travel and procure goods and services—and it is something that has transformed over time.

During the period of Industrialization, places became known by what they produced. Major industrial locations served as epicenters of economic activity. Cities, such as Pittsburgh (PA) and Detroit (MI), became recognized for their ability to leverage the resources of their surrounding regions into products, and job opportunities in specific industries, such as steel and automobiles. This era brought a different realization to the concept of place, whereby the definition evolved to also include the industrial assets and other elements of the built environment, alongside physical geography. During this era, large cities and towns began to feature multiple locations with unique and distinct assets and features (i.e., districts). Thus, places that presented a range of economic activity through a multitude of districts and cultural characteristics were the ones that flourished.

The next iteration of the concept of place began to emerge in the 1990s as the New Economy paradigm intensified. Even before this time, many cities began the shift from centers of production to centers of consumption (Glaeser et al., 2001), as marked by decreases in manufacturing industries coupled with increases in the technology and services sectors (Lee and Wolpin, 2006). The onset of the New Economy also shifted the meaning of the term "place" to increasingly focus on features that were most attractive to people. Today, place no longer refers to just a specific location, along with its assets, whether natural or built. Place connotes the degree of allure that a geographic location has to offer.

When the term "place" is used today, it is often in the context of sense of place, which relates to the special feeling that people have about a location, or the emotional response elicited when they come in contact with a place's characteristics—appealing design, beautiful landscape, attractive buildings, optimal configuration of amenities, locational functionality, integration of the features of the natural and built environment, attractiveness, livability, opportunity for fun and entertainment, and economic and social functionality (e.g., job opportunities, ethnic diversity, housing choices). More simply, sense of place integrates several dimensions: the physical environment, human behaviors, and social and/or psychological processes (Relph, 1997; Brandenburg and Carroll, 1995; Stedman et al., 2004), along with cultural and spiritual ones (Aravot, 2002).

While the definition of place has evolved, there is not so much a gap in public understanding of place and how it has evolved as there is a wide brushstroke. With definitions of place ranging from its general description of physical geography to locations that have specific attributes driving greater economic activity, there is an inconsistency of its use among academics, elected officials, developers, financers and citizens. Despite these inconsistencies, the use of the term continues to expand. Place now encompasses more than just location and its assets; it now includes such features as desirability, walkability, mixed-use, safety and bikability, along with many others.

Place typically describes a physical location, such as an intersection, a downtown district, an airport, a neighborhood, or an area of known specialized activity. However, the CLEAR Network provides a standard, contemporary definition of place as "a livable community, which has an identifiable character, sense of place and provides for high quality of life" (The CLEAR Network, 2004). Similarly, the Project for Public Spaces (PPS) describes place by considering the elements that enhance the provision

Description of Placemaking

In academic circles, placemaking is described in terms of its overall purpose. For instance:

- "Creating livable communities, which have an identifiable character, sense of place and provide for a high quality of life" (The CLEAR Network, 2004).
- "Placemaking is the way all of us as human beings transform the places in which we find ourselves into places in which we live . . . It is not just about the relationship of people to their places; it also creates relationships among people in places" (Schneekloth and Shibley, 1995).
- "Placemaking is a multi-faceted approach to the planning, design and management of public spaces. Put simply, it involves looking at, listening to and asking questions of the people who live, work and play in a particular space, to discover needs and aspirations" (Project for Public Spaces, N.D.).

of public and private benefits to individuals, families and local businesses. Locations that capitalize on local community assets, inspiration and the potential to create an environment that promotes health, happiness and well-being are poised to become high-quality places. Finally, Pierce et al. (2010) delve deep into the inter-relationships between place, politics and society, and conclude that all places are relational, in that they are all produced through "networked politics," which recognizes an innately human interest and ability to plan, build, rebuild and influence the politics, economics and physical distinction of a place.

What is "Placemaking?"

These definitions and concepts of place support the role of placemaking, which implies that there are systematic and understood methods for influencing the appeal and attractiveness of a location by adequately managing its assets and infrastructure, based on a better understanding of what creates the best livable community. Both internationally and domestically, placemaking can be understood through several components or features. As a result, placemaking has been used to redesign suburban neighborhoods (Forsyth and Crewe, 2009), guide the rebuilding process following a disaster (Cuff, 2009), establish the designs of places based on historic culture or art (Markusen and Gadwa, 2010), re-use brownfields (Franz et al., 2008) and underutilized land (Stevens and Ambler, 2010), direct equitable gentrification (Hankins and Walter, 2011), and even to provide a paradigm that guides urban policy (Imbroscio, 2011), among many other applications in urban, rural, regional and community-based initiatives. In this report, placemaking is used to describe location-based approaches and strategies that drive economic development strategies by leveraging assets.

Across the nation, communities have realized that they have power to influence their development and place-based strategies and, thus, are seeking even more ways to understand and implement placemaking. Researchers and policy makers are increasingly working to promote the principles of placemaking; but in order to do this, they must understand what placemaking is amidst the numerous interpretations and definitions. Schneekloth and Shibley (1995) categorize the

range of placemaking into three approaches: academic, professional and intensely personal.

Intensely personal or communal understandings of placemaking describe the experience of placemaking. Similar to the professional description, this perspective focuses on process; however, it emphasizes the role of community members.

There may be competing notions between these definitions that hinder effective placemaking strategies. Schneekloth and Shibley (1995) argue that professional placemakers often overlook the academic and intensely personal/communal definitions. This oversight can create tension between developers and community members. As PPS states, "The term can be heard in many settings—not only by citizens committed to grassroots community improvement, but by planners and developers who use it as a fashionable 'brand' that implies authenticity and quality even when their projects do not always live up to that promise." However, professional placemakers also highlight that their roles are necessary in reaching the vision that community members seek to achieve. All relevant parties must be able to work together for placemaking to be successful.

Why is Placemaking Important?

Placemaking is important because it has established the ability to create high value and highly demanded places that benefit the local economy by incorporating such concepts as entertainment, commercial, retail, public spaces, eco-consciousness, energy efficiency, walkability, cultural economic development, business community centers, entrepreneurial development and food and wellness into developments. These things not only add to quality of life, but they enhance long-term value to property owners, local units of government and, ultimately, the community.

Professional Placemakers

Professional "placemakers" are generally categorized as developers, local units of government, economic development agencies, real estate agencies and banks, among others. Their descriptions of placemaking largely focus on their roles in the process of placemaking.

- "Placemaking is the use of strategic assets, talent attractors and sustainable growth levers to create attractive and sustainable high-energy, high-amenity, high-impact, high-income communities that can succeed in the New Economy" (Adelaja, 2008).
- "Placemaking offers developers, public officials and consumers unbeatable opportunities to collaboratively create thriving, profitable, sustainable environments to live, work and play. Great placemaking requires bold vision, entrepreneurial business models, and long-term commitment from private and public sector players" (ULI, 2008).
- "Placemaking is both an overarching idea and a hands-on tool for improving a neighborhood, city or region. It has the potential to become one of the most transformative ideas of this century."[3]

3.See Project for Public Spaces, "What is Placemaking?": http://www.pps.org/articles/what_is_placemaking/.

Changing market trends, demographics and governmental policy are encouraging the expansion of these types of projects. These projects add value because they command a higher per-unit price, thereby enhancing the tax base and attracting buyers, renters and visitors who have high economic impacts (Cervero, 1996; Cortright, 2009; Smart Growth Network, 2006). Placemaking projects have the ability to enhance the community by improving quality of life by offering more affordable housing, increasing accessibility to resources and opportunities through innovative transportation schemes and walkability, and encouraging the use of green infrastructure and design (Arigoni, 2001; Project for Public Spaces, N.D.). Furthermore, density—whether population, business clusters or both—has the potential to catalyze and enhance these placemaking components.

The numerous benefits of well-designed density can energize placemaking efforts. Economically, accounting for density at the local level is crucial for explaining variations of productivity at the state level (Ciccone and Hall, 1996). Likewise, a diverse cluster of firms is more productive in larger cities, since firms benefit from both increased competition between firms and more interactions, as firms in denser areas are almost 10% more productive than firms in less dense areas (Combes et al., 2009). Densely populated urban areas are also productive hubs of innovative output, and play a vital role in the flow of knowledge, invention and information (Carlino et al., 2007; Audretsch and Feldman, 1996). In addition to interactions between firms, urban density and vibrancy of civic networks are directly related to stocks of social capital within local communities (Putnam et al., 1994). Although cities have typically been thought of as merely having production advantages with consumption disadvantages, urban density facilitates consumption by providing critical urban amenities, such as a diverse array of consumer goods and services, aesthetics and architecture, strong public services, and the ease of individuals, goods and knowledge mobility (Glaeser et al., 2001). These urban amenities not only provide economic value, but play a critical role in shaping the social worth of urban density.

Yet, increased density typically translates into higher housing and leasing costs. Thus, questions still remain as to the efficacy of placemaking projects in regard to non-market rate housing (Litman, 2009), public and private funding mechanisms (Glaeser and Gottlieb, 2008), incentives and barriers. Of the many barriers, a few that hinder placemaking projects from occurring include regulatory structures, institutional factors and, in some cases, concerns from the public (NIMBYism, or Not in My Backyard).Regulatory barriers include zoning ordinances and financial lending terms. Institutional barriers refer more to the status quo—that development has happened in a given way for a period of time and it is difficult to adjust that course. Finally, public concerns over density, land use changes, taxation and a project's perceived benefits versus its proposed costs can threaten placemaking projects.

Barriers to Placemaking

For the past half-century, conventional development models have been used to design America's built environment. These models encourage "sprawling strip commercial space and subdivision housing," due to an evolved desire for conformity, a focus on short-term returns, and the ability to compare and trade "bundles" of similar real estate types (Leinberger, 2001).

These types of conventional development are surely contradictory to many of the central defined tenets of placemaking (see Kunstler, 1993, 1996; Halprin, 1989). Over time, placemaking has emerged from the impressions of urban design and creating a sense of place, as opposed to making "placelessness" (Aravot, 2002).

Previous attempts to improve urban places, most notably through the urban renewal programs of the 1950s and 1960s, proved largely unsuccessful and even detrimental to many cities' long-term well-being (Pritchett, 2003). Created by the Housing Act of 1949, which promised to deliver federal dollars to blighted urban areas for redevelopment, urban renewal programs sought to clear slums and provide cities with improved low-income housing, among other things (Teaford, 2000). Ultimately, as a result of the programs' ambiguity, there existed constant controversy over the application of policies, and many of the programs' housing funds were misused, as pre-existing low-income housing was removed to make way for commercial areas and higher-income housing, or poverty was concentrated into even denser areas with massive public housing projects. The 1956 Federal Aid Highway Act led to the development of numerous highways that were oftentimes routed through vibrant and culturally significant urban neighborhoods, thereby separating these areas from jobs, services and utilities, in addition to effectively removing them from the urban center (Sevilla, 1971). Many of the negative impacts of urban renewal programs are seen today, in such cities such as Boston (MA), Detroit (MI) and Philadelphia (PA), where numerous urban neighborhoods still face long-lasting economic, land use and social ills (Bennett, 2000).

In some ways, placemaking and sense of place date back to the 1960s and 1970s (Jacobs, 1961; Cullen, 1961; Alexander, 1979; Aravot, 2002), and their popularity has ebbed and flowed with various design, planning and community movements (Aravot, 2002). Yet no matter how desirable placemaking appears in theory, its practice and implementation has struggled, mostly due to politics, a shift to a post-industrialist society, the redesign of cities and regions, expanding transportation networks and persistent suburban growth (Aravot, 2002), to name a few. Citizens have also played a very strong role.

One of the most important components of placemaking is people. Placemaking has been criticized as being an architectural or planning-based solution to urban decline that ignores the people in the affected cities and tends to ignore lower-income groups (Aravot, 2002). The sense of community one feels and the overall society in which one lives, works and recreates, ultimately creates a strong sense of place and strong feelings associated with it. Therefore, it is necessary to recognize that several land development projects, whether coined as placemaking or not, have not always been welcomed by the affected communities.

Place-based investment in a low-income community may be too small to significantly lift its people out of poverty, and may instead benefit employers and inbound migrants. More importantly, such policies may make the place more attractive to outsiders, thereby increasing rental costs, while providing a greater benefit to homeowners and landlords (Glaeser and Gottlieb, 2008). On the other hand, there has been debate as to whether it makes more sense to invest in people rather than place (Crane and Manville, 2008). One focuses on improving an individual's mobility, thereby allowing him or her to improve their quality of life. Conversely, the other focuses on investing in place, which aims to improve locations and communities with deep-

rooted poverty or other social issues. Davidson (2009), however, argues that such a dichotomy is illusory—investing in either people or places will inherently, through geography, have an effect on one or the other. Several prescriptions for processes in placemaking call for public participation, community involvement and grassroots efforts (Hou and Rios, 2003; Alexander, 2009; Martin, 2003) that enable citizens to manifest their own sense of place in the placemaking process.[4]

While numerous barriers stand in the way of implementing various forms of placemaking, part of this report focuses on the regulatory and financial types. See Table 12 in Appendix E for a comprehensive list of barriers to placemaking. The challenges associated with funding and executing placemaking projects in communities are discussed more fully in "The 'Placemakers'" section on page 12.

Alternative Incentives and Mechanisms for Placemaking

Based on the literature and contemporary examples, there has been, and there continues to be, a strong interest in placemaking. But there are some key obstacles blocking its ability to flourish. What incentives exist? Why should developers and the community, for that matter, want placemaking?

Glaeser and Gottlieb (2008) studied the economics of placemaking. They argue that America's greatest placemaking of the past occurred through the effects of transportation projects: canals, railroads and highways. Indeed, the consequences of each of these types of transportation projects changed the landscape and local economies they passed through. Building roads may have actually incented certain (perhaps undesirable) forms of

placemaking to flourish in "low agglomeration" (low-density, sprawled out) areas, which do not produce as many positive externalities as denser, more populous areas (Glaeser and Gottlieb, 2008).

Other incentives related to placemaking developments have included tax credits to lure or retain firms and companies (Markusen and Gadwa, 2010), mixed-income options for residents (Brophy and Smith, 1997) and incentives to clusters of businesses (Porter, 2000). While such incentives may boost economic activity, they have been criticized as being ineffective at creating jobs and the other benefits they aim to provide (Hansen and Kalambokidis, 2010).

Placemaking incentives may be achievable through policy mechanisms. For instance, Safe Routes to School funding availability written into the Federal transportation bill[5] provides opportunities to improve or build infrastructure that promotes walking and biking, while making streets safer for children (TenBrink et al., 2009; Rodriguez and Vogt, 2009). A similar state-level program is Complete Streets, which aims to increase safety and accessibility for all users (Glanz and Sallis, 2006; Geraghty et al., 2009) through mandated improvements and enhancements to transportation-related infrastructure.

4. According to the Project for Public Spaces, one of the 11 principles of placemaking is that it "can't be done alone."

5. The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users authorizes transportation-related funding.

Another policy-related mechanism that can be used to encourage placemaking is the use of form-based codes: "Form-based codes are land-development regulations that emphasize the future physical form of the built environment" (Madden and Spikowski, 2006). Developers and planning officials are becoming increasingly interested in these codes, due to their ability to allow mixed-use and other types of developments that developers want to build, but are often not legally able to do, due to the often outdated and inflexible nature of zoning codes. Such cities as Denver (CO) and Miami (FL) have rewritten their zoning codes, because they found that they actually limited the opportunity for or made illegal the types of development they wanted to see (Madden and Spikowski, 2006).

Placemaking Success Stories

Even though placemaking has faced resistance, there are successful placemaking implementation stories from across the world. The Project for Public Spaces currently lists 688 "Great Public Spaces." These spaces can be further narrowed down by building, park, transportation, neighborhoods and districts, and markets, along with others. Many of the places included in this repository feature public spaces that demonstrate high levels of:

- Access and linkages;
- Comfort and image;
- Uses and activities; and
- Sociability.[6]

Other placemaking features can be explained through Smart Growth and mixed-use. There are numerous examples of successful placemaking stories to be found. And while placemaking "success" is somewhat subject to opinion, preference and personal perception, a few examples are highlighted below that have managed to incorporate workforce/affordable housing, mixed-use, in-fill development and open space or green infrastructure into their features.

National Examples

The City of Baltimore (MD) has rebounded from its reputation as a "shrinking city" to one that has effectively utilized placemaking. The Urban Land Institute highlighted the renovation of an old brick canning factory in Baltimore—a former brownfield site and listed on the National Register of Historic Places. Miller's Court was transformed into a mixed-use development with loft apartments and commercial space and has become a "neighborhood catalyst." Several incentives were utilized to fund the project, and it has been certified LEED Gold. All of its residents are teachers, and it won an award in 2010 for being a Jack Kemp Workforce Housing Model of Excellence.

New Pennley Place in Pittsburgh (PA), is a mixed-income and mixed-age infill redevelopment. Residents of several affordability categories (HOPE VI, Section 8, HUD (U.S. Department of Housing and Urban Development) Section 202) live in a redeveloped apartment building, or in newly built townhomes on a total of 7.25 acres. Out of 174 units, 32 are considered market rate—priced to be affordable to families earning 80% or less of the area median income. The previous site—Pennley Place—had fallen into disrepair in the 1990s, and this project is an example of how local programs (labor union assistance and social services) recreated a more desirable place to live in an area of the City that had not seen residential investment in more than 30 years.

6.See Project for Public Spaces: "Great Public Spaces." Available at: http://www.pps.org/great_public_spaces/.

Noji Gardens in Seattle (WA), is a mixed-income community located four miles south of downtown Seattle. Funding was primarily secured through Section 108 Community Development Block Grant float loans, sub-market rate loans from Fannie Mae and the National Community Development Initiative. This project was unique in that it utilized manufactured housing on two-thirds of the 6.5 acre site. Traditional single-family units were constructed along the periphery, as a transition to the surrounding neighborhood. Since Seattle is an expensive city to live in, many workforce families face a housing shortage or must live farther out from the downtown area. HomeSight—a nonprofit developer—works in the Greater Seattle area to provide affordable housing. The manufactured housing used in this project incorporated higher quality standards than traditional manufactured housing, while offering more affordability. The total cost of Noji Gardens was reduced by 15% by using modular construction. Thus, 51% of homes were reserved for households with incomes less than 80% of area median income. The remainder were not reserved for any particular income, but were still priced below market rate.

Michigan Examples

In Michigan, there are several success stories, too. Campus Martius in downtown Detroit was awarded the Urban Land Institute's Top U.S. Urban Park in 2010, and was named one of the Top 10 Great Public Spaces in 2010 by the American Planning Association. The park attracts around 2 million visitors each year, and is estimated to have leveraged $700 million in adjacent development, including Compuware's world headquarters.[7] Another example is the Detroit Riverfront, which is attracting recreation enthusiasts and connecting parts of downtown that were once less accessible to non-motorized modes of transportation. Detroit has also experienced some new real estate developments along with budding art, food and farming scenes.

Michigan's capital city, Lansing, has seen increasing placemaking developments take shape. In 2008, the Stadium District opened its doors to residents and businesses. Located across the street from Cooley Law School Stadium, it currently houses the Lansing Chamber of Commerce, the Lansing Visitors Bureau, the Michigan University Research Corridor, a national bank, the Lansing Economic Area Partnership, the Great Lakes Chocolate and Coffee Co., and others. Above the commercial units, one- and two-bedroom units are offered for lease or sale. The units are not, however, aimed at the workforce/affordable market. But, since the property is in a Neighborhood Enterprise Zone, tax benefits are realized by those interested in owning a unit.

Just south of downtown Grand Rapids, renovations began on two side-by-side developments in early 2011. Division Park Avenue features 30 units with one- and three-bedroom options. The other building, Serrano Lofts, features 15 units. Both developments are designed to be affordable to the workforce.

In Kalamazoo, the Metropolitan Center redevelopment is in the works. Four buildings that have sat vacant for 40 years are the focus of the redevelopment. A mix of owner equity, federal, State, historical and community funding sources made the $11.3 million project feasible. The project will feature more than 10,000 square feet of retail space, and will include 28 rental units. This redevelopment, along with the two in Grand Rapids, is seeking LEED certification.[8]

7.See Campus Martius: http://www.campusmartiuspark.org/.

8.See *MiBiz*: December 12, 2011, Volume 24, No. 6.

Great Lakes Chocolate and Coffee Co. in Lansing's Stadium District.

This list of placemaking success stories is not meant to be comprehensive, but merely illustrative of the many types of redevelopment programs, incentives and impacts out there. Since many elements of placemaking are subjective, we recognize that some elements of these examples may not be favored by some residents or businesses, but may be enjoyed by others. What makes a quality place in the eyes of many is beyond the scope of this report. Yet, we recognize that there are many other examples and types of placemaking features that exist, and we do try to understand the perception of them from different points of view.

The Value of Placemaking

Placemaking and its components are commonly said to have value. Who does this value accrue to? What are those elements? The literature abounds with examples of how amenities, such as parks, lakes, rivers and forests, affect land and real estate values. Examples underscoring their benefits to cities and regions are also abundant.

From the regional science research, such things as beaches, lakes, rivers, forests and parks (i.e., amenities) have been analyzed in attempts to understand their effects on population, income and employment changes (Deller et al., 2001; Benson et al., 1998; Green, 2001; Dissart, 2007, and others). At the local scale, the same features of place have been examined so as to determine their impact on residential and commercial real estate prices (Luttik, 2000; Tyrväinen, 1997; Thorsnes, 2002). In many studies, the hedonic pricing method is the most commonly utilized method, which is described later in this report. The essential findings from these research studies has been that such things as a beach, a forest or a park equate to higher home values or succeed in attracting firms and/or people, and as a result elevate incomes. Taken together, these separate components of place, in some way or another, compose the features of placemaking, which is to say that placemaking—while nebulous as a researchable question—ultimately has value.

For instance, Pivo and Fisher (2010) found that a 10-point increase in walkability (measured using WalkScore) equated to a price premium of 1% to 9% for office, retail and industrial properties. Cortright (2009) found that a one-point increase in walkability was associated with an increase of $500 to $3,000 in home values in most markets

What is important is to recognize the growing need to document the contributions of placemaking attributes, and for that information to contribute to placemaking efforts in communities.

examined. A Co-Star study found that LEED-certified buildings sold for $171 more per square foot than non-LEED buildings. Such findings indicate that elements of placemaking have value, even though there has been doubt as to their efficacy among communities and regions.

Cervero (2009) argued that the goals of placemaking and economic productivity seem to be in conflict—although they do not have to be. Examples from San Francisco (CA), Seoul (South Korea) and Hong Kong (China) highlight that placemaking enhancements add value to real estate, as long as viable public transportation and walking options are available (Cervero, 2009). Recall from a previous section, Glaeser and Gottlieb (2008) outlined transportation's role in placemaking and argued that it had far-reaching consequences for placemaking.

Moving away from transportation, Gibson (2010) studied art and culture's role, and its ability to create or sustain vibrant places. In Grand Rapids (MI), ArtPrize describes itself as a "radically open competition." It's open to any artist in the world who can find space, and it is up to the people of the City to provide the venues. Grand Valley State University estimated the total economic impact of the event in 2010 to be upwards of $7 million.[9] It is one thing to understand that various cultural assets, including buildings add value to real estate prices and the property tax base. It is another to more precisely be able to explain the dollar enhancement in property values and the local tax base from specific cultural features associated with real estate. What is important is to recognize the growing need to document the contributions of placemaking attributes, and for that information to contribute to placemaking efforts in communities.

The "Placemakers"

The many possible combinations of stakeholder interactions and outcomes, combined with various design elements and funding strategies, make placemaking a complex activity. The process involves developers, lenders, local planning officials and, in some cases, consumers of housing products. Thus, a "placemaker" is any stakeholder involved in the placemaking process. This section focuses on three important stakeholder groups: financial institutions; local units of government and developers.

Financial Institutions

Financial institutions use established investment models to analyze real estate development project proposals. Unfortunately, these models do not always realize the economic benefits of placemaking projects, which make financial institutions leery of investing in them (Leinberger and Kozloff, 2003). Instead, banks are more likely to fund conventional real estate projects.[10] The 19 standard product types evolved

9. *Business Review West Michigan*, "ArtPrize 2010 Generated $7 Million Economic Impact, Grand Valley State University Estimates": http://www.mlive.com/business/west-michigan/index.ssf/2011/03/artprize_2010_generated_7_mill.html.

10. Real estate development is codified into 19 standard product types, including: 1) Office build-to-suit; 2) Office speculative suburban low-rise; 3) Industrial build-to-suit; 4) Industrial speculative warehouse; 5) Industrial research and development/flex; 6) Retail neighborhood; 7) Retail power; 8) Retail urban entertainment; 9) Hotel limited service; 10) Hotel full-service business; 11) Apartment low-density suburban; 12) Apartment high-density suburban; 13) Miscellaneous self storage; 14) Miscellaneous assisted living; 15) Residential entry level attached; 16) Residential entry level detached; 17) Residential move-up attached; 18) Residential move-up detached; and 19) Residential executive detached. Types 1–14 are Income Products, and types 15–19 are For Sale Products (Robert Charles Lesser & Co., from Leinberger, 2001). For a complete breakdown of the real estate types, see Leinberger (2001).

out of a desire from Real Estate Investment bankers on Wall Street to trade (buy and sell) similar products like commodities. Real Estate Investment Trusts (REITs) perpetuate conventional investment practices that can deter investment interests away from progressive projects, such as placemaking. In other words, traders are, thus, able to buy and sell large quantities of similar real estate products without having intimate knowledge of those products (Leinberger, 2001). A trader is much less likely to buy and sell a product for which there is no standard definition. To illustrate, Leinberger (2001) describes a "neighborhood center as a retail product that occupies 12 to 15 acres, anchored by a supermarket/drug store of between 50,000 and 70,000 square feet. It also includes in-line stores of national chains and franchises. The buildings occupy 20% of the site and are set back from the street; the balance of the land is surface parking. The location has a minimum of 20,000 people living within a three-mile radius, and will have demographic characteristics appropriate for the particular supermarket chain. The center will be sited on a street with at least 20,000 cars per day passing by. It will preferably be on the 'going-home' side of the street."

Financial institutions also use a relatively short time horizon when analyzing investments in real estate. The short-term bias of conventional financing stems from the theoretical assumptions grounded in direct cash flow (DCF) and internal rate of return (IRR) methods for comparing alternative investments (Leinberger, 2007). Conventional project types, which have well-documented track-records based on their standard product types, are almost always expected to have lower probable risks and lower discount rates than progressive projects, which are not well-documented or understood and tend to be considered risky projects and need higher discount rates[11] to obtain financing. Higher discount rates make progressive projects less attractive than conventional developments that have lower discount rates, because developers and financial institutions face greater financial burdens (Leinberger, 2007). It is important to understand the role that financial institutions play in placemaking, and how progressive behavior that would support placemaking might be enabled through public policy, education and training. Public/private partnerships with a mix of public and private investment may help de-risk placemaking developments for financial institutions (see Hamlin, 2002; Hamlin and Lyons, 2003).

Local Units of Government

Just as securing lending from a financial institution presents challenges for placemaking developments, so too do some zoning ordinances. Despite strong suggestions from developers for local governments to improve the efficiency of the regulatory process, developers continue to regard government regulations as the most significant problems in doing business (Ben-Joseph, 2003). The adding of new requirements and delays to regulatory review processes are not only evidence that subdivision approval processes have not been streamlined, but that the process has actually become more complicated, longer and burdensome. According to local officials, developers' plans must often be reviewed and approved by multiple agencies, which can cause approval delays. Approval delays also occur when officials find that developers did not provide them with required or sufficient information to approve their plans.

11. The discount rate is used by financial institutions to measure the "risk" of an investment. A higher discount rate signifies a higher probable risk.

A survey by Warbach et al. (2004) examined the regulatory nature of Michigan specifically. Aside from their survey, little information has been compiled for evaluating Michigan's local regulatory environments. In accordance with the 'home-rule' tradition in Michigan, planning and zoning is administered at the local level, "where decisions of local concern can be made by government units closest to the areas affected" (Ben-Joseph, 2003). There are a number of local units in charge of planning and zoning procedures in Michigan and, thus, many different regulatory environments.

The National Survey of Experience with Alternative Development lists zoning ordinances, subdivision regulations, parking standards and street width requirements as common types of local regulations that make it difficult for developers to obtain approval for alternative placemaking development project plans. Project timelines are often altered by the planning, public comment and approval processes. Furthermore, *Density through Design* found that disagreements between citizens and officials over higher-density development implementation are normally based on perceptions rather than technical issues. Most communities prefer to maintain the existing visual aesthetics and policies regarding housing development. Arguments against denser developments included: Traffic and congestion, reduced property values, adverse impacts on local aesthetics and increased costs for community services (schools and sewer infrastructures). These concerns may be unfounded, or they may be allayed through proper planning to alleviate these potential problems.

According to a 2009 Michigan Public Policy Survey conducted by the University of Michigan's Center for Local, State, and Urban Policy, 69% of local units of government were not engaged in placemaking for economic development, 21% were and 10% did not know. Local units that are designated as cities, have higher populations or are located in the southernmost regions of the state tended to be more engaged in placemaking. When asked about their confidence in placemaking as an economic development strategy, the plurality of respondents (29%) were neither "confident" nor "unconfident" that it can be effective. Again, cities were more likely to answer "completely confident" than other types of units. The population of the jurisdiction and its region follow the same trends as the question addressed directly above.[12]

It is important for local officials to understand the potential of placemaking projects to enhance their tax revenue bottom lines by enhancing ratables in the community. In the cases where certain real estate adds more to tax ratability than others, perhaps the community might consider subsidizing such real estate if such investments can yield better long-term tax revenues. With respect to local officials, better understanding of costs and benefits could lead

12.See the University of Michigan's Center for Local, State, and Urban Policy's Michigan Public Policy Survey (MPPS), Spring 2009 Data Tables: http://closup.umich.edu/michigan-public-policy-survey/spring-2009-data/.

to more beneficial development patterns for residents and local governments.

Developers

Developers are, ultimately, the ones who design, plan and build real estate projects, and are subject to abiding by zoning codes and securing financing before building a project. In 2002, the Urban Land Institute administered a national survey of 693 developers to better understand the barriers private developers face when pushing alternative development projects, such as placemaking. A sizable disconnect seems to exist between development interests and development implementation. More than one-third of the surveyed developers had never proposed an alternative development project. Of those who had, nearly half of them had experienced project rejections, and more than two-thirds had some aspect of their projects altered. Alterations included a reduction in proposed density levels, a lessening of the mix of land uses, fewer housing types or a cutback in the pedestrian- or transit-oriented amenities of the development.

A majority of the developers surveyed perceived a greater demand for alternative development than is locally permitted, but also perceive "neighborhood opposition" and "local regulations" as the most significant obstacles to meeting demand. These alternatives cost more, but financial institutions and local officials are not always ready to recognize the benefits that the added costs could yield. Therefore, developers face the challenge of having to fully internalize the cost of placemaking projects, even when there are public tax revenue benefits and community economic development benefits. Uncovering the value contributions of placemaking projects is one of the goals in this project.

Placemaking and Affordability

Before the Great Recession of 2008, more Americans than ever owned a home and prices were increasing in all of America's metros. Appreciation in housing had made it more difficult for low to middle income earners to afford owning or renting a home (Urban Land Institute, 2006). In 2001, roughly one in seven households was paying more than half their income on housing, or living in sub-standard conditions (Center for Housing Policy, 2002, cited in ULI, 2006). Furthermore, the National Housing Conference reported that school teachers, police officers, nurses, retail salespersons and janitors could not qualify to purchase a median-priced home earning a median income in most U.S. cities (Center for Housing Policy, 2002, cited in ULI, 2006). As a result, much of the workforce must live farther from their jobs, thus paying higher transportation costs. While the economic downturn may have alleviated high home prices, buyers now face restricted credit and inadequate employment scenarios. Yet even with severely slashed home values nationwide, there is a high demand for walkable urban places. These are places that have achieved a critical mass of walkability, entertainment, transportation options, employment concentration, grocery stores and safe streets (Leinberger, 2001). Affordability also remains untenable in these places for much of the workforce—especially renters. Therefore, the concern that placemaking real estate developments may be priced out of the reach of the workforce is warranted.

In Michigan, however, things are different. As of October 2011, the average listing price for a home in the Great Lakes State was $192,335, which placed it at 45th out of all 50 states, plus the District of

Columbia.[13] As of the 2009 American Community Survey, Michigan ranked 38th in the nation, with a median home value of owner-occupied homes at $132,200. The U.S. median owner-occupied home value was $197,600.[14] Based on these figures, it is clear to see that Michigan, as a state, does not suffer an affordability problem. This affordability is not necessarily consistent across communities, however. In reality, it faces an over-supply problem. On the other hand, Michigan has an abundance of vacant housing. As of the 2010 Census, Michigan had 724,610 vacant housing units, up 300,000 homes in a decade. At roughly 16% (national vacancies were approximately 11%) of the state's total number of housing units, many of these homes are bank- or government-owned—essentially removed from the market and subject to wear and tear not found in owner-occupied units. The economic downturn, lack of access to home financing, five consecutive years of population loss and job loss have seriously contributed to the state's abundance of vacant housing and declining home values. In response, it is no accident that cities, regions and the state are motivated to seek incentives to correct these crumbling economic underpinnings and address the abundance of what now is termed "uninhabitable" vacant housing.

As discussed at the beginning of this part, Michigan has developed several tools (aside from State and County Land Banks) for redeveloping abandoned property and providing incentives for development. One of the indirect goals of these incentives is to attract people and jobs back to cities and the state that, in turn, would reduce the number of vacant properties, fill in the holes of population loss and incent further business development. Furthermore, the redevelopment toolbox used by the Michigan State Housing Development Authority (MSHDA) and the Michigan Economic Development Corporation (MEDC) has been increasingly shaped by placemaking principles. Such principles as placemaking, Smart Growth, New Urbanism and Transit-oriented Development have become increasingly popular in economic development and redevelopment circles.

Critics have charged that Smart Growth and other placemaking design elements have actually elevated home and land prices, thus making housing unaffordable to many household segments. This criticism is most often directed at Portland (OR) and its urban growth boundary (Staley et al., 1999; Cox and Utt, 2000; Arigoni, 2001). Aside from these charges, though, home prices have already ballooned to a point where many households cannot afford housing close to where they work.[15] Smart Growth advocates argue that Smart Growth principles do not intend to restrict growth, but rather direct it more smartly (Arigoni, 2001) through denser development in urban areas, protection of farmland, providing a variety of transportation options, encouraging community collaboration, creating walkable neighborhoods, among several others.[16] To better understand placemaking and its connection to workforce housing, we surveyed several "placemakers" in Michigan in an attempt to answer questions on perceptions, barriers and associating workforce housing with placemaking.

13. See Trulia, "U.S. Home Prices and Heat Map": http://www.trulia.com/home_prices/.
14. U.S. Census Bureau, 2009 American Community Survey One-Year Estimates, Table R2510 Median Housing Value of Owner-Occupied Housing Units (Dollars): http://fastfacts.census.gov/servlet/GRTTableSS?_bm=y&-_box_head_nbr=R2510&-ds_name=ACS_2009_1YR_G00_&-format=US-30&-_useSS=Y.
15. The national recession may have changed this somewhat, but many U.S. metros still have exorbitant rents for numerous segments of the workforce.
16. See Smart Growth Online, "Smart Growth Principles": http://www.smartgrowth.org/engine/index.php/principles/.

Part 2: Placemaking in Michigan

IN GENERAL, SURVEY RESPONDENTS PERCEIVED AN ADDED VALUE ASSOCIATED WITH PLACEMAKING. IF THE DEVELOPER COULD FIND THE FUNDING AND OTHER COMMITMENTS NECESSARY TO BUILD IT, IN MANY CASES, HE/SHE COULD CAPTURE A BETTER RETURN. HOWEVER, NOT RECOGNIZING SUCH VALUE, BANKERS COULD EASILY BE UNIMPRESSED, THEREBY CONTINUING TO FUND ONLY THOSE PROJECTS THAT MEET SIMPLE FINANCIAL LITMUS TESTS THAT ARE BASED ON STANDARD QUANTIFIABLE ATTRIBUTES INHERENT TO A PROPERTY. SIMILARLY, WHILE LOCAL COMMUNITIES MIGHT POTENTIALLY BENEFIT, ELECTED AND APPOINTED OFFICIALS MAY NOT FULLY UNDERSTAND PLACEMAKING, LET ALONE ENCOURAGE, SUBSIDIZE OR ALTER ORDINANCES FOR THEM. THEREFORE, A MORE FAVORABLE POLICY ENVIRONMENT FOR PLACEMAKING WOULD INVOLVE INCORPORATING KNOWLEDGE OF THE VALUE OF SPECIFIC PLACE ATTRIBUTES INTO THE ACTIVITIES OF THE ABOVE MENTIONED PLACEMAKERS.

Many Michigan land development professionals, development firms, local officials and the public may support placemaking, but barriers and misconceptions continue to impede its implementation. Traditional sprawling patterns of land use in Michigan have threatened its land-based industries and the social and economic health of the state (Michigan Land Use Leadership study, 2003; Warbach et al., 2004). As regions in the state sprawled outward, the downtowns and neighborhoods in many cities began to hollow out. This hollowing-out effect coincided with population and employment loss in these places. The result has been blight, low-performing schools, abandonment, infrastructure decay and other ills. Many programs and incentives have been developed to battle these problems.

Development Incentives

Developers and local economic development officials have several options in the form of incentives and subsidies (although as of 2010, many of these programs have changed in Michigan). Currently, MSHDA manages the federal Neighborhood Stabilization Program (NSP), which is a U.S. Department of Housing and Urban Development (HUD) program designed to

buy, sell, fix, demolish or redevelop foreclosed and abandoned properties, particularly in distressed communities. Under the first phase of NSP (NSP1), Michigan received $98.6 million to address areas of greatest need in the state. Eligible activities include: 1) Acquisition and rehabilitation of foreclosed properties; 2) Demolition of blighted structures for future redevelopment; 3) Demolition of blighted structures for green space or immediate redevelopment; and 4) Redevelopment of vacant or demolished lots for either single-family owner-occupied housing or public facilities or land banks. Under NSP2, MSHDA was awarded $223.9 million to administer similar programs as NSP1, to increase its focus on particularly urban regions. Additionally, MSHDA hopes to expand land banks' ability to purchase and hold properties. One focus of this program is to provide

increased and better housing to lower-income households in close proximity to employment centers. The MSHDA's main partners in this effort include municipalities and land bank authorities.[17]

Another popular redevelopment tool in Michigan is the Brownfield Redevelopment Authority (PA 381 of 1996, as amended). This program functions to provide credits to developers wanting to redevelop a property that is contaminated, blighted or functionally obsolete. These credits have been vital for providing a large enough incentive for developers interested in developing otherwise unattractive parcels. Once a property is rehabilitated, tax increment financing allows a portion of the tax revenue captured by the local unit of government to be returned to the developer, which offsets the costs of various clean-up activities. Since 2010, the incentives available to redevelop brownfields has shifted toward an evaluation process that requires local units of government to provide additional assistance through such mechanisms as tax increment financing (TIF), property tax abatements, NEZ or local revolving funds. The MEDC manages an annually apportioned pool for brownfield redevelopment incentives and works in conjunction with the Michigan Department of Environmental Quality, MSHDA and the U.S. Environmental Protection Agency.[18]

The Michigan Strategic Fund (MSF), in conjunction with the MEDC, administers Michigan's Community Development Block Grants (CDBG). This program, which is federally administered by HUD, is available for community and economic development (infrastructure and direct assistance to businesses), downtown development (infrastructure, façade improvements, signature building), blight elimination and planning. The housing components of CDBG are managed by MSHDA. Each year, Michigan receives approximately $36 million to carry out close to 150 projects throughout the state. The CDBGs can be used as placemaking-enhancing tools. For instance, infrastructure funding can provide the additional boost necessary for making a project feasible or connect it to other core areas in a city. Façade improvements can prevent buildings from further deteriorating or can provide the necessary upgrades needed for a building to maintain its historical charm. The Downtown Signature Building Program allows a community to secure a building or property that a developer would not typically purchase, with the intent of transforming the parcel into a downtown focal point.[19]

Finally, MSHDA offers several additional programs to nonprofits and local units of government for the purpose of providing more affordable housing, helping homebuyers, preserving neighborhoods and providing technical assistance. The Neighborhood Preservation Program aims to fund local units of government and/or nonprofits that desire to create positive neighborhood changes, such as attitudes, health and behaviors. Activities focus on beautification, demolition, public improvements and marketing. The MSHDA also considers, on a case-by-case basis, providing funding to community-based nonprofits for providing affordable multi-family housing.

17. See MSHDA, "Neighborhood Stabilization Program": http://www.michigan.gov/mshda/0,1607,7-141-5564-249111--,00.html.
18. See Michigan Economic Development Corporation, "Brownfield Development": http://www.michiganadvantage.org/Brownfield-Redevelopment/.
19. See Michigan Economic Development Corporation, "Community Development Block Grants": http://www.michiganadvantage.org/Community-Development-Block-Grants/.

In short, there are several programs available to developers, local units of government and nonprofit organizations for making places more affordable, livable, walkable and desirable. Furthermore, some grant guidelines require that these various units work together to achieve their desired outcomes. However, even with these incentives, many placemaking projects tend to suffer or fail from a lack of understanding on what benefits placemaking can actually provide. The next part addresses this issue.

Placemaking Survey Results

There are four major categories of actors and players in placemaking.

1. The potential property buyer may or may not prefer certain property attributes in making his/her property purchase decision.

2. The developer must consider how many and which types of placemaking elements to build into a project, and how much they can leverage from existing community assets through the site selection process.

3. Local officials not only regulate building structures and other infrastructure, but must also decide whether a placemaking project is of significant enough public value that it needs to be subsidized by the government.

4. Real estate finance organizations, which may recognize the value of placemaking projects and incorporate these into loan terms, or alternatively, use existing "straight" formulas that value properties without accounting for their uniqueness.

In order to better understand the interest and motivations of these groups, we conducted several surveys in collaboration with our partners. Three categories of "placemakers" were surveyed for the purpose of better understanding their experience with placemaking in their respective industries. Consumers or buyers were the only group excluded from the survey, due to the fact that their reaction to placemaking attributes can be captured, to a certain extent, through the hedonic pricing study, described in the next part. The surveys were designed to gain insights into the barriers and perceptions faced by, and the experiences of, the placemakers in Michigan. The surveys were not intended to be representative of these stakeholder groups; they were designed to provide exculpatory information, and were intended to gain preliminary insights into barriers of and perceptions to placemaking in Michigan, to compare and contrast findings from previous studies, and to provide a practical context for advancing the placemaking dialogue between these three placemakers in Michigan, and beyond.

This section highlights the survey findings. The most relevant findings from the surveys are discussed here, broken down by the type of placemaker.

Local Government Officials

The central questions asked of local government officials included the following: 1) Do you perceive placemaking to be vital people and job attractors?; 2) Does your community allow for such concepts?; 3) What barriers or challenges do placemaking projects confront?; 4) What planning and zoning-related placemaking impediments exist in your community?; and 5) Does financing have an impact on placemaking project proposals? Our survey results have shed some light on these questions.

The majority of respondents from local units of government agreed that, generally, placemaking is important for increasing economic development, enhancing property values, increasing tax revenues and enhancing community belonging.

The majority of respondents[20] from local units of government agreed that, generally, placemaking is important for increasing economic development, enhancing property values, increasing tax revenues and enhancing community belonging. Roughly 80% of respondents answered that their community had been involved in a placemaking project. Interestingly, respondents indicated that placemaking was desirable and necessary for attracting and attaining growth, but also felt that there were significant barriers to its implementation. For instance, more than 85% of respondents answered that placemaking was necessary for attracting people and jobs. However, 82% felt that placemaking efforts were often challenged by complicated permitting, environmental clean-up and developers' concerns. Equally, some 86% also agreed that placemaking was hindered by a lack of financing.

The perceived influence of zoning ordinances on placemaking was mixed. Several respondents answered that there were no restrictive ordinances in their community pertaining to mixed-use developments, while others said zoning restricted the number of businesses allowed on one parcel. Another said zoning laws were a problem, and yet another said there was simply a lack of knowledge about how zoning influences placemaking. Clearly, zoning ordinances differ significantly from community to community.

20. Survey respondents included planning commissioners, council members, managers, commissioners or trustees and zoning administrators. Twenty respondents participated in the survey.

Regardless, 82% of the respondents said their zoning ordinances allowed for mechanisms that would permit the inclusion of placemaking elements—on a case-by-case basis or within certain zones. Furthermore, 79% of respondents said that it was likely or very likely that a placemaking development would receive a favorable review for such flexible measures. Roughly half of the respondents said that most non-traditional commercial or residential development types would receive approval within two to six months. About a quarter said it would take six to 12 months. Interestingly, more than half of the respondents felt there was a lot of public participation on development projects only when they were controversial. A quarter of respondents answered there was typically no public participation.

On the issue of workforce/affordable housing, more than three-quarters of respondents agreed that it was important or very important in placemaking projects, as a mechanism to attract knowledge workers and encourage economic development. However, about half of the respondents said their master plan did not provide details for workforce/affordable housing. Again, about half of the respondents said there were zoning ordinances in place hindering the development of workforce/affordable housing, such as restrictions on the minimum lot size, square footage or not allowing apartments. Lastly, close to 90% of respondents answered that workforce/affordable housing had either very rarely or never been incorporated in placemaking developments in their respective communities.

Overall, respondents from this group tended to agree that placemaking was important, but that it, or specific elements of it, could be hard to implement in their communities, due to zoning

Downtown in Howell, MI.

restrictions or public distaste. Curiously, some elements of placemaking were more prevalent than others. For example, nearly all respondents felt entrepreneurial start-up space had some level of importance in placemaking. Yet, 63% said that their master plan did not account for it, and 44% said zoning ordinances impeded it. As a result, it was no surprise that 61% said it was incorporated into almost none of the development projects in their communities. Similar trends prevail for mixed-use, paths and trails, bike lanes, transit stops, green and open spaces, LEED certification, form-based code, public space, arts and culture and local food opportunities.

Such findings indicate that there is an appreciation of placemaking—a positive perception—but that there are other forces holding it back. It may be that zoning ordinances and master plans are focused more on the fundamentals, as opposed to placemaking-type developments, which tend to be larger, more complex and involve many partners. It must also be noted that the survey participation rate was low. No respondents answered from a large city—only rural areas and communities identified as small city/village/township/charter township. This is problematic and does not help clarify the overall perception of placemaking among this group of "placemakers." Regardless, the support for placemaking among this subset of respondents appears to be sound, while their master plans may not reflect this support and zoning may impede its implementation.

Developers

The questions for developers with respect to placemaking included the following: 1) Do you see value in placemaking projects?; 2) Do you perceive that these projects yield better profitability or return?; 3) What are the barriers to implementing such projects?; 4) Is workforce housing commonly a component of your placemaking development projects?; 5) Do you have difficulty selling these development ideas to banks?; and 6) Do you see banks as potentially being better informed on this issue? Our survey results reveal answers to these questions. Eleven developers responded to the survey.

Commercial and residential real estate developers are another set of placemakers. Developers are the people most deeply involved in the planning, design and construction aspects of developments. Their relationships with financers and representatives from local units of government are important, since they must typically seek outside financing, while being able to effectively present development proposals to planning commissions.

Close to 70% of developers that responded to the survey said that they have been involved in or led developments that incorporated placemaking features.

Close to 70% of developers that responded to the survey said that they have been involved in or led developments that incorporated placemaking features. Nearly two-thirds agreed or strongly agreed that "supporting placemaking needs to be an important part of Michigan strategies to enhance property values and create high-impact economic activity attraction." Sixty-one percent of respondents said that placemaking projects have the potential to generate higher profits for developers. This was further illustrated by the fact that 15% strongly agreed and 39% agreed that "placemaking projects tend to be more expensive to produce than traditional development, but the long-term benefits outweigh the higher upfront costs."

Only 15% of respondents disagreed, while 31% were not sure with this statement. Furthermore, 70% of the respondents said that they agreed or strongly agreed that financial institutions do not fund placemaking projects, due to higher risks, longer return timeframes and lack of information. Half of the respondents said having access to a placemaking toolkit or checklist would enable better communication, valuation and understanding of the benefits of placemaking between developers and financial institutions. Additionally, when asked what would create a development environment in Michigan that was more conducive to placemaking, 90%—the highest among all response choices—felt it very important or important that better information about placemaking's economic and quality-of-life benefits be made available for local governments, financial institutions, developers, realtors and citizens.

When developers were asked to consider a hypothetical placemaking development project, 80% of the respondents indicated that in order to maximize profits and meet local/state regulations, 50–100% of the project would be devoted to market-rate housing, whereas nine out of 10 respondents said less than 10% would be devoted to subsidized housing. These responses confirmed the idea that placemaking and workforce housing may not be

considered as simultaneous goals. Indeed, 70% of respondents said they did not access state or federal resources for subsidy programs that would allow them to add placemaking elements, such as affordable housing, to their developments.

Clearly, developers understand the importance of placemaking developments. Aside from challenges brought on by tighter lending restrictions, a lagging economy and local regulations, developers are also troubled by NIMBYism and skepticism regarding placemaking-type developments. That developers agreed or strongly agreed that an education or information package be made available to the entities involved in placemaking is an encouraging finding.

Bankers

Some of the questions that were asked of bankers included: 1) Do you value placemaking as a strategy to enhance or create prosperity in Michigan?; 2) Does the valuation system recognize the value added from placemaking attributes?; 3) What aspects of properties add value to the overall market value of the property?; 4) Do you view placemaking projects as being more risky than traditional developments?; and 5) What incentives might be most appropriate to encourage you to help finance these complicated projects? Sixteen bankers responded to the survey.

Bankers, investors and lenders are an important cohort of the placemakers. They are the ones who decide to fund or invest in development projects when a developer or development group requires financing. Since the onset of the most recent recession, lending—particularly in real estate—has become increasingly scrutinized by regulators. Every banker that completed a survey said that the recession has, to some degree, affected their institution's lending terms and practices. Therefore, lenders have tended to be extremely risk-averse, meaning they finance only the soundest of development proposals. Since placemaking projects often command a higher premium, making the "sell" on why more financing is needed has become even more difficult for developers in this recessed economy.

Approximately 53% of surveyed bankers said that, compared to more traditional developments, placemaking developments range from somewhat risky to very risky to finance.

Approximately 53% of surveyed bankers said that, compared to more traditional developments, placemaking developments range from somewhat risky to very risky to finance. Yet 70% of respondents agreed or strongly agreed that placemaking needs to be an important part of strategies in Michigan to create high-impact economic activity attraction. Furthermore, 75% of bankers strongly agreed or agreed that placemaking developments, along with more efficient and sustainable types of development benefit the entire community. A very high majority of those surveyed also said a developer's experience and/or past success factors into their eligibility of receiving financing.

While placemaking projects appear to be risky in the eyes of bankers, they also appear to be beneficial to the state and local communities. Fortunately, there are ways of de-risking. For instance, 84% of bankers said that tax credits and other abatements were very important or somewhat important for easing placemaking financial challenges. More specifically, 88% said loan assistance programs, public financing, tax credits, grants or other supplemental funding sources that reduce development costs factor

into crafting more favorable lending terms. To the same degree, things like expedited permitting or development fast-track approval that reduces a project's timeline would make lending decisions easier.

Even though there appears to be support for placemaking among bankers, 69% agreed or strongly agreed that they would be much more likely to fund a development that adhered to the standard real estate types. Seventy-five percent said that they had not changed their lending procedures and/or requirements in an effort to more readily respond to placemaking development types. But, most bankers (83%) felt having access to more tools, data and knowledge that showed the benefits of placemaking would influence their decision to finance such projects. Also, most agreed or strongly agreed (72%) that having access to a placemaking checklist or toolkit would enable better communication, valuation and understanding of the benefits of placemaking between bankers and developers.

What We Learned from the Surveys

In general, survey respondents perceived an added value associated with placemaking. If the developer could find the funding and other commitments necessary to build it, in many cases, he/she could capture a better return. However, not recognizing such value, bankers could easily be unimpressed, thereby continuing to fund only those projects that meet simple financial litmus tests that are based on standard quantifiable attributes inherent to a property. Similarly, while local communities might potentially benefit, elected and appointed officials may not fully understand placemaking, let alone encourage, subsidize or alter ordinances for them. Therefore, a more favorable policy environment for placemaking would involve incorporating knowledge of the value of specific place attributes into the activities of the above mentioned placemakers. It might also involve programs that fill the gaps in financing between what developers *can* invest, and what financers *are willing* to invest.

A more favorable policy environment for placemaking would involve incorporating knowledge of the value of specific place attributes into the activities of the above mentioned placemakers.

Part 3: Placemaking Valuation Methods

THORSNES (2002) FOUND THAT BUILDING LOTS THAT WERE LOCATED FACING PRESERVED FORESTLAND SOLD FOR $5,800 TO $8,400 MORE THAN THOSE LOTS THAT DID NOT. LE GOFFE (2000) FOUND THAT LIVESTOCK FARMING ACTIVITIES LED TO LOWER RENTAL PRICES FOR COTTAGES, WHILE GRASSLAND WAS ASSOCIATED WITH HIGHER VALUES. LEGGETT AND BOCKSTAEL (2000) FOUND THAT WATER AND WATER QUALITY AFFECTED WATERFRONT HOMES; BEING NEAR WATER POSITIVELY IMPACTED VALUES, WHILE HIGHER CONCENTRATIONS OF POLLUTANTS NEGATIVELY AFFECTED VALUES. BENSON ET AL. (1998) TOOK THEIR STUDY A STEP FURTHER—INSTEAD OF ESTIMATING VALUES BASED ON OCEAN VIEWS, THEY ALSO SPECIFIED THE QUALITY OF THE VIEW. ACCORDINGLY, THEY FOUND THAT DISTANCE FROM THE OCEAN AND VIEW QUALITY WERE RELATED TO HOME VALUE, BUT AT DIFFERENT LEVELS BASED ON QUALITY.

For this study, the values of placemaking features were estimated using the hedonic pricing method (HPM), which prescribes that a house's value is based on its many structural and locational attributes. Structural attributes include, but are not limited to, the number of bedrooms and bathrooms, square footage, porches and decks, and number of stories. Locational attributes often include parks, schools, forests, water and views. A robust HPM model will include as many attributes as possible to accurately estimate the value of each of the features associated with the house (Luttik, 2000), and allows one to compare rents or values based on housing characteristics (Malpezzi and Vandell, 2002). Such comparisons can be made for differing units in the same place, or for the same types of units across different places. The regression coefficients that are estimated from the HPM model represent the implicit prices of housing attributes (Malpezzi and Vandell, 2002).

Over time, HPMs have evolved from striving to find a firm theoretical ground, to understanding the effects of omitted variables and functional form, to designing a model that serves a specific purpose (e.g., estimating the value of an ocean view) (Malpezzi and Vandell, 2002). In an extensive review, Malpezzi and Vandell (2002) found that the seminal works of Lancaster (1966) and Rosen (1974) focused not so specifically on goods, but rather on the *characteristics* of goods. This distinction is what provides the framework for hedonic pricing, particularly with regard to housing. In other words, a house's value is the sum of its many structural and locational attributes' values.

As the HPM has evolved, additional housing, neighborhood and proximity-related attributes have become available for use in HPM models. This advancement in the availability of attributes is due, in part, to geographic information systems (GIS) (Kong et al., 2007) and to better, more detailed, data collections. Instead of simply decomposing the value of each housing attribute, one can now determine how much the value of a park, forest, farm, water or a nice view is accounted for in housing values. Cheshire and Sheppard (1995) compared various models, some without amenity features and some with. Those models that included both land and neighborhood amenities—a more "complete model"—generated more robust estimates of the effects of housing attributes. The result of including as many housing and locational features as possible and, thus, having a more fully specified model, has broadened the applicability of hedonic pricing methods to various research questions.

The HPM has been used extensively to estimate several housing feature values. Luttik (2000) found that houses with both a garden and facing bodies of water were priced 28% higher than those that lacked these features. Similar price premiums were found for a house that overlooked water (8%–10%), open space (6%–12%) and attractive landscaping (5%–12%). Tyrväinen (1997) found that apartments located near urban forests, water and wooded recreation areas also had higher values. Thorsnes (2002) found that building lots that were located facing preserved forestland sold for $5,800 to $8,400 more than those lots that did not. Le Goffe (2000) found that livestock farming activities led to lower rental prices for cottages, while grassland was associated with higher values. Leggett and Bockstael (2000) found that water and water quality affected waterfront homes; being near water positively impacted values, while higher concentrations of pollutants negatively affected values. Benson et al. (1998) took their study a step further—instead of estimating values based on ocean views, they also specified the quality of the view. Accordingly, they found that distance from the ocean and view quality were related to home value, but at different levels based on quality. In other words, closer and unobstructed ocean views were related to higher values than farther spaced, partially obstructed views. Pardew et al. (1986) found that a government-provided sewer hookup accounted for roughly one half of a parcel's value in a rural Nevada community. Commercial real estate values have also been examined using the HPM. A CoStar study found that green building certifications contributed to higher building values for commercial properties. A LEED-certified building was priced at $24.14 more per square foot, while EnergyStar status provided an additional $13.99 per square foot.[21]

The value of many other features have been estimated using HPM: The value of remoteness (Sengupta and Osgood, 2003), the effects of airport noise, school quality, transport and crime (Nelson, 1979), and urban cultural amenities (Clark and Kahn, 1988) were all found to have a significant effect on property value. As with any model, there are limitations and assumptions in HPMs. Matters of functional form, specification and estimation bias are covered by Milon et al. (1984), Sheppard (1999), Leggett and Bockstael (2000) and Cheshire and Sheppard (1995).[22]

Similar to Cheshire and Sheppard (1995), Geoghegan et al. (1997) and Cho et al. (2006), this study estimates the values of several locational attributes, while holding constant structural features. Many of the locational attributes are classified as community characteristics, or more aptly, placemaking features. The measurements of several of these features were obtained using GIS and through data transformation, which allowed the inclusion of many variables that were not traditionally available in public databases or attainable through surveys. Thus, using the HPM, the value of placemaking features was estimated using the vast hedonic literature as a guide, while simultaneously generating new estimates for features not typically measured in past studies.

21. CoStar Group, "CoStar Green Study": http://www.CoStar.com/Partners/CoStar-Green-Study.pdf.
22. These references are intended for academic audiences.

Part 4: Data and Estimation

WE ARE MORE INTERESTED IN PROPERTY ATTRIBUTES THAT ARE RELATED TO PROXIMITY FEATURES AND NEARBY BUSINESS ESTABLISHMENTS THAN STRUCTURAL ATTRIBUTES, SUCH AS NUMBER OF BEDROOMS, SQUARE FEET, ETC. (YET WE STILL DISCUSS THESE FACTORS IN THE RESULTS PART). THE DISTANCES FROM SOLD HOMES TO SUCH FEATURES AS PARKS, SCHOOLS, RIVERS, LAKES, ETC. AND ESTABLISHMENTS WERE OBTAINED USING GIS. SEVERAL DISTANCES THAT COULD BE CONSIDERED "WALKABLE" WERE CALCULATED FOR SPECIFIED BUSINESS ESTABLISHMENTS. THE WALKABLE INTERVALS THAT WERE CALCULATED OBTAINED ARE: WITHIN A QUARTER-MILE, A QUARTER-MILE TO A HALF-MILE; A HALF-MILE TO A MILE; AND A MILE TO ONE-AND-A-HALF MILES. THESE INTERVALS, AND THE BUSINESSES INCLUDED IN THIS CALCULATION, WERE GENERALLY INFORMED BY METHODS USED BY WALKSCORE.

One objective of this study is to explain property values based on placemaking attributes. To achieve this objective, the sale price of homes in Lansing, Traverse City and Royal Oak from 2000 to 2010 was collected to determine what a homebuyer paid for a given property. The sale price, combined with assessor data, as well as other data sources for locational and community attributes, was used to construct a hedonic model. By using the sale price of homes that sold rather than assessed values, we assume that this price is an accurate representation of what the market (a collection of homebuyers, in this case) valued, in terms of property features, nearby amenities, and proximity to businesses and other institutions, during the study period.

Accounting for Workforce and Affordable Housing in Hedonic Pricing

Contrasting workforce housing and market rate housing, particularly through placemaking attributes, is another objective of this study. Workforce housing is an important factor in the economic sustainability of regions. By definition, workforce housing is housing between 60%–120% of area median income which, itself, varies across the reference communities.[23] More importantly, the definition of affordable housing, which is used in this study, is subject to interest rates, since they are based on what a person or household at a certain income level can afford when applying for a mortgage.

To demarcate the home prices and attributes data into three category sets based on the definition of affordable housing used above, the following approach was taken: 1) Compile a list of all homes sold in the reference city between 2000 and 2010; 2) Of all property sold in the reference city between 2000 and 2010, extract homes from the list at prices below the high end of affordable housing for the workforce; and 3) Of all property sold in the reference city between 2000 and 2010, extract homes from the list at prices below the low end of affordable housing for the workforce.

For the purpose of this report, Category 1 represents all homes sold that data sources report as having one or more bedrooms. Category 2 represents all properties (with reported bedrooms) that are affordable by members of the workforce in the city, according to HUD definitions. Category 3, which includes homes affordable to households and

23. See U.S. Department of Housing and Urban Development, Income Limits: http://www.huduser.org/portal/datasets/il.html.

individuals at lower incomes, is included to explore whether or not less expensive housing was subject to unique market structure during the study period. Our analysis centers primarily on comparing Category 1 results to Category 2 results (that is, all housing versus workforce housing), while noting comparisons between Categories 2 and 3, where applicable. The maximum home price of these categories varies from city to city.

An investigation of interest rates on June 6, 2011, revealed offers for Federal Housing Administration (FHA) 30-year fixed interest rate mortgages of between 4.25% and 4.38%, with zero points for those with a fair credit rating (scores from 660–699). Non-FHA mortgage rates ranged from 4.5% to 5.1% with zero points. Associated fees ranged from $0 to $2,400.[24] For the purpose of selecting Categories 1–3 above, we assumed that the homebuyer had 20% for the down payment, and financed the remainder, with no need for primary mortgage insurance (PMI). We also assumed that zero points and zero fees were paid. Finally, we assumed an FHA loan at a rate of 4.5% (a bit higher than those posted on June 6 for FHA loans, but at the low end of private loans). This was considered an average "best case" mortgage for a home purchaser, and thus highlights properties a prospective homeowner of median family income could afford with the traditional down payment percentages and meeting the recommended guidelines of income-to-home debt ratios. Obviously, a higher interest rate would have meant that a homebuyer could not afford to purchase as expensive a home. Other variations could have occurred depending on credit score, other recurring debts and fees paid, as well as the total down payment amount (e.g., they were able to purchase a home under the FHA loan guidelines, and they did so with as little as 3.5% down).

The maximum ratio allowed by FHA for total mortgage payments (including all interest, taxes, insurance, etc.) can be no more than 29% of a homebuyer's gross monthly income. The maximum ratio when including all debt payments (such as car, student loans, credit cards, etc.) can be no more than 41% of the gross monthly income.[25] HUD defines affordable housing as that which is not more than 30% of a household's gross income. For this study, we use the 30% rate for home purchases and make the assumption that purchasers had other recurring debt totaling no greater than 11% of their gross income and, therefore, did not include this in our calculation.

We were not able to identify whether or not rent controls were in place for sold properties. Also, we did not identify properties that benefitted from Renaissance Zones incentives. Finally, we were not able to denote foreclosures in our dataset and, thus, cannot control for this factor.

Study Area

Three separate analyses, based on the affordability categories above, were performed for each case city in Michigan. See Figure 1 and Table 1 for a complete breakdown of these cities.

Lansing, MI

Our first case study, Lansing (see Figure 2), is the largest city by both population and area, with 114,297 people (as of the 2010 census) and 36 square miles (of land), giving it a population density of 3,175 people per square mile. Michigan's capital city was once typified as a traditional manufacturing city. Lately, the City has made strides in attracting and growing entrepreneurs, boosting its finance and real estate sectors and nourishing a bioeconomy, and has grown as a major insurance center. It is also a regional healthcare destination and it neighbors Michigan

24. Google Advisor, Mortgages Overview: https://www.google.com/advisor/home.

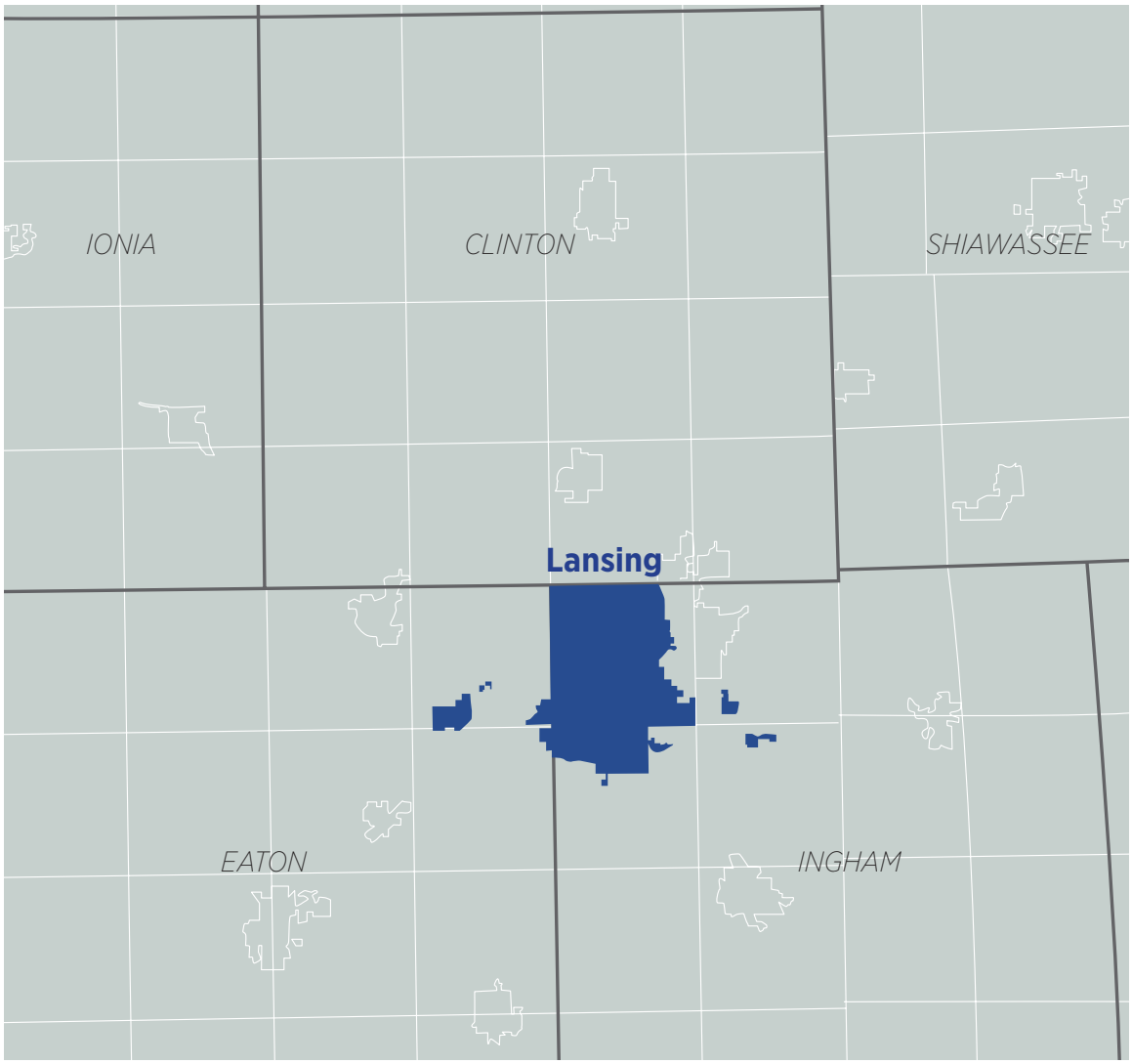
25. FHA Requirements, "Debt Ratios": http://www.fha.com/fha_requirements_debt.cfm.

Table 1: Category Classifications

City	Category	Housing Type	Range of Housing Prices for Sold Properties	Properties (with # of Bedrooms Listed) in Category
Lansing	1	All Sold Properties with Bedrooms	$500 – $1,188,250	3,334
	2	Workforce	<$179,000	3,234
	3	Affordable	<$89,000	1,808
Traverse City	1	All Sold Properties with Bedrooms	$25,000 – $2,900,000	1,212
	2	Workforce	<$210,000	915
	3	Affordable	<$105,000	204
Royal Oak	1	All Sold Properties with Bedrooms	$20,000 – $844,120	7,112
	2	Workforce	<$295,000	6,649
	3	Affordable	<$147,000	1,572

Figure 1: Map of Case Study Cities in Michigan

Figure 2: Map of Lansing, MI



State University. The City still retains several key manufacturing industries alongside some emerging biotechnology firms. Most of the neighborhoods within the City are fully built and each have varying housing and design characteristics.

Lansing's median household income for 2009 was $35,774.

Lansing's median household income for 2009 was $35,774.[26] Accordingly, we investigated what would have been affordable to households making from $21,464.40 to $42,928.80 (60%–120% of the median household income). Given the above assumptions of a household allocating no more than 30% of gross income, a person of median family income in Lansing could afford to pay $536.61 per month on the 60% median income side, and $1,073.22 per month on the

26. U.S. Census Bureau, American Community Survey, "2009 One-Year Estimates Data Release": http://www.census.gov/acs/www/data_documentation/2009_release/.

Old Town in Lansing.

120% median income side in mortgage/taxes/insurance payments.

On the high side, a household with a maximum monthly payment of $1,073.22, an interest rate of 4.5% and 20% down, could afford a home of about $179,500 ($35,900 down, a mortgage of $143,600, with $4,011 in annual taxes for a primary residence[27]), with an estimated total housing payment (including tax and insurance) of around $1,061.85.[28] On the low side, a household with a maximum monthly payment of $536.31, an interest rate of 4.5% and a 20% down payment could afford a home of about $89,000 ($17,800 down, a mortgage of $71,200, and $2,081 in annual taxes for a primary residence[29]), with an estimated total housing payment (including tax and insurance) of around $534.18.[30]

27. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
28. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.
29. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
30. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.

Traverse City, MI

Traverse City is nestled on Grand Traverse Bay in the northwestern region of the Lower Peninsula (see Figure 3). The Traverse City region has grown considerably in population over the past 10 years, with Grand Traverse County's population growing approximately 12% from 2000 to 2010. Traverse City is the smallest case study city, with an area of only 8.4 square miles (of land) and a population of 14,674 people. The population density of the City is 1,743 people per square mile, which makes it the least dense case study city. Traverse City is a regional business, healthcare and tourism hub. It relies heavily on tourism, by virtue of being located on Lake Michigan, along with natural resource industries (agriculture, timber, mining and fishing). The City is famous for its annual Cherry Festival, its many orchards, and its Great Lakes-related recreation activities. Traverse City offers a sharp contrast to Lansing, in terms of population, area, industry and housing characteristics.

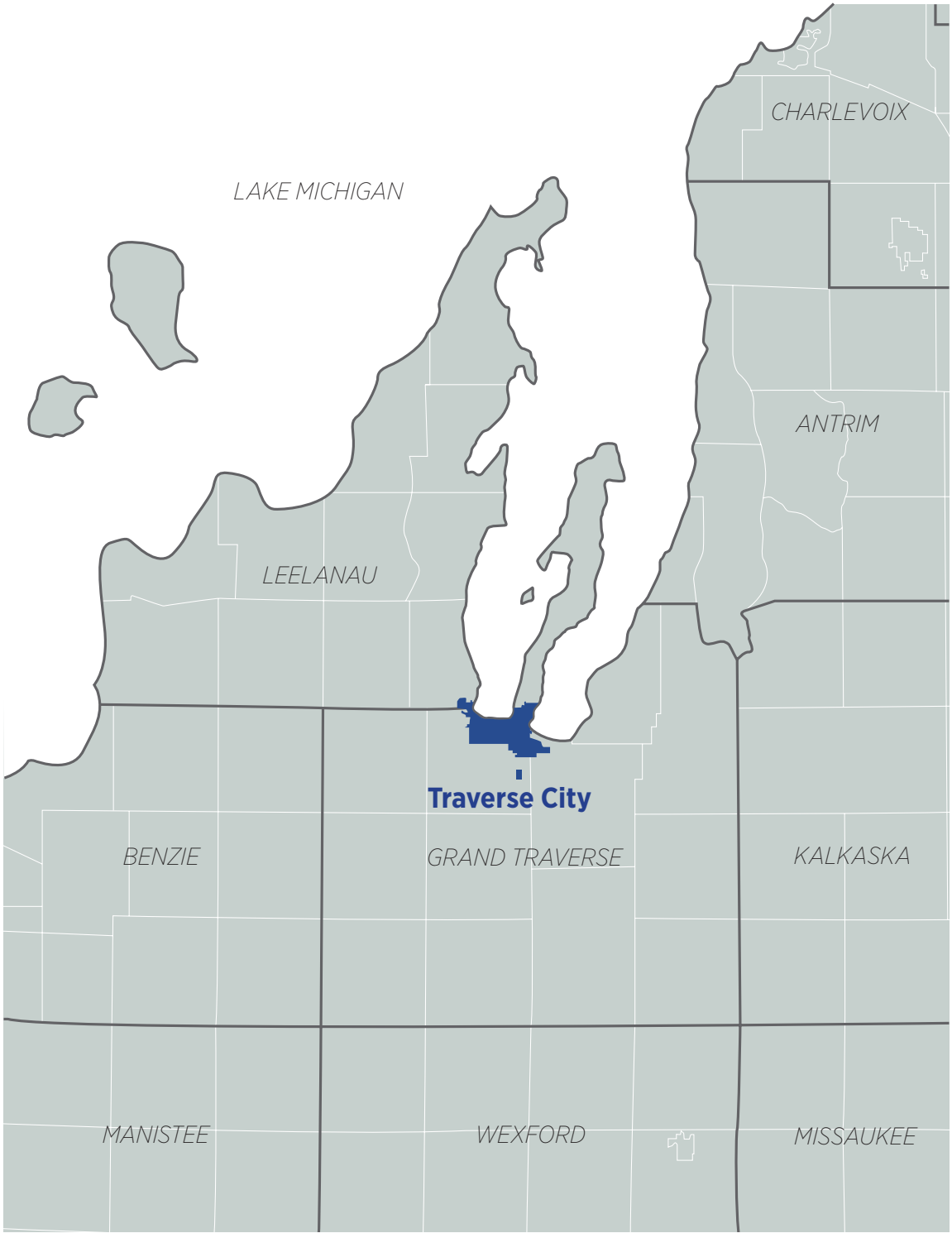
Traverse City's median household income for 2009 was $39,327.[31] We determined what was affordable to households making from $23,596.20 to $47,192.40 (60%–120% of the median household income). Given the above assumptions of no more than a 30% share of gross income, a person of median family income in Traverse City could afford to pay $589.91 per month on the 60% median income side, and $1,179.81 per month on the 120% median income side in mortgage/taxes/insurance payments.

Traverse City's median household income for 2009 was $39,327.

On the high side, a household with a maximum allowable monthly payment of $1,179.81, an interest rate of 4.5% and 20% down, could afford a home of about $210,000 ($42,000 down, a mortgage of $168,000, with $3,834 in annual taxes for a

31. City-data.com, 2011 Onboard Informatics.

Figure 3: Map of Traverse City, MI



primary residence[32]), with an estimated total housing payment (including tax and insurance) of around $1,170.73.[33] On the low side, a household with a maximum allowable monthly payment of $589.91, an interest rate of 4.5% and 20% down could afford a home of about $105,000 ($21,000 down, a mortgage of $84,000, with $1,917 in annual taxes for a primary residence[34]), with an estimated total housing payment (including tax and insurance) of around $585.37.[35]

Royal Oak, MI

Royal Oak is an inner-ring suburb of Detroit and is located in Oakland County (see Figure 4). As of the 2010 census, it had 57,236 people and an area of 11.8 square miles, which gives the City 4,850.5 people per square mile and makes it the densest case study city. It abuts the City of Ferndale, which borders Detroit, the state's most populous city. Royal Oak is known to feature many placemaking attributes, some of which relate to its proximity to Detroit. The City's mix of boutique stores, varied housing, and bars and restaurants, combined with its cultural events, make it a quintessentially eclectic city.

Royal Oak's median household income for 2009 was $54,754.

Royal Oak's median household income for 2009 was $54,754.[36] We calculated what was affordable to households making from $32,852.40 to $65,704.8 (60%–120% of the median household income).

Restaurant in downtown Royal Oak.

Given the above assumptions of no more than a 30% share of gross income, a person of median family income in Royal Oak could afford to pay $821.31 per month on the 60% median income side, and $1,642.62 per month on the 120% median income side in mortgage/taxes/insurance payments.

On the high side, a household with a maximum allowable monthly payment of $1,642.62, an interest rate of 4.5% and 20% down, could afford a home of about $295,000 ($59,000 down, a mortgage of $236,000, with $5,323 in annual taxes for a primary residence[37]), with an estimated total housing payment (including tax and insurance) of around $1,639.36.[38] On the low side, a household with a maximum monthly payment of $821.31, an interest rate of 4.5% and 20% down could afford a home of about $147,000 ($29,400 down, a mortgage of $117,600, with $2,653 in annual taxes for a primary residence[39]), with an estimated total housing payment (including tax and insurance) of around $816.95.[40]

32. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
33. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.
34. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
35. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.
36. City-data.com, 2011 Onboard Informatics, "Royal Oak, MI": http://www.city-data.com/real-estate/ROYAL-OAK-MI-48067.html.
37. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
38. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.
39. According to estimates from the Michigan Department of Treasury, "Property Tax Estimator": https://treas-secure.state.mi.us/ptestimator/PTEstimator.asp.
40. FHA Mortgage Calculator: http://www.fha.com/calculator_afford.cfm.

Figure 4: Map of Royal Oak, MI

Estimation Technique

The hedonic pricing method was utilized to derive values for housing and placemaking characteristics in Lansing, Traverse City and Royal Oak. Following Geoghegan et al. (1997), and others, the hedonic pricing method utilized in this report is: $SP_i = \alpha + ST\beta + N\gamma + P\tau + E\rho + \varepsilon$, where SP is a vector of home sale price in the ith year, ST is a vector of several structural and temporal (season and year of sale) characteristics, N is a vector of neighborhood attributes, P is a vector of proximity (obtained using GIS) features and E is a vector of nearby business establishments (also obtained using GIS). α, β, γ, τ and ρ are the parameter coefficients and ε is the error term.

For each city, an ordinary least squares (OLS) regression was performed. The dependent

variable is the sale price of residential properties. Properties that sold more than once during the 10-year period were not removed or treated differently. Thus, multiple sale prices may be examined for a single property. The independent variables are the property's attributes. Using these variables, the model explains the variation in sale price based on the property's many attributes, which include placemaking features, structural features, proximity to amenities, etc. The model yields coefficients that reflect the marginal dollar contribution of a unit increase in a specific attribute. For example, it could be found that for each additional 100 feet closer a home is to a restaurant, $50 is added to the sale price.

Because several observations (sold homes) had missing data attributes, the regression was restricted to observations for which there was comprehensive information. The regression for each city produced results based on similar property attributes and other features, which appear in Table 5 in Appendix A. However, since the three models are not identically specified (i.e. have different numbers and measures of independent variables) across the three cities, the results are not statistically comparable. In other words, we cannot say with any level of certainty that a property's being closer to a restaurant in Traverse City makes it more valuable than a comparable one in Lansing. Therefore, any interpretation of the result *between* cities should be done so loosely and anecdotally.

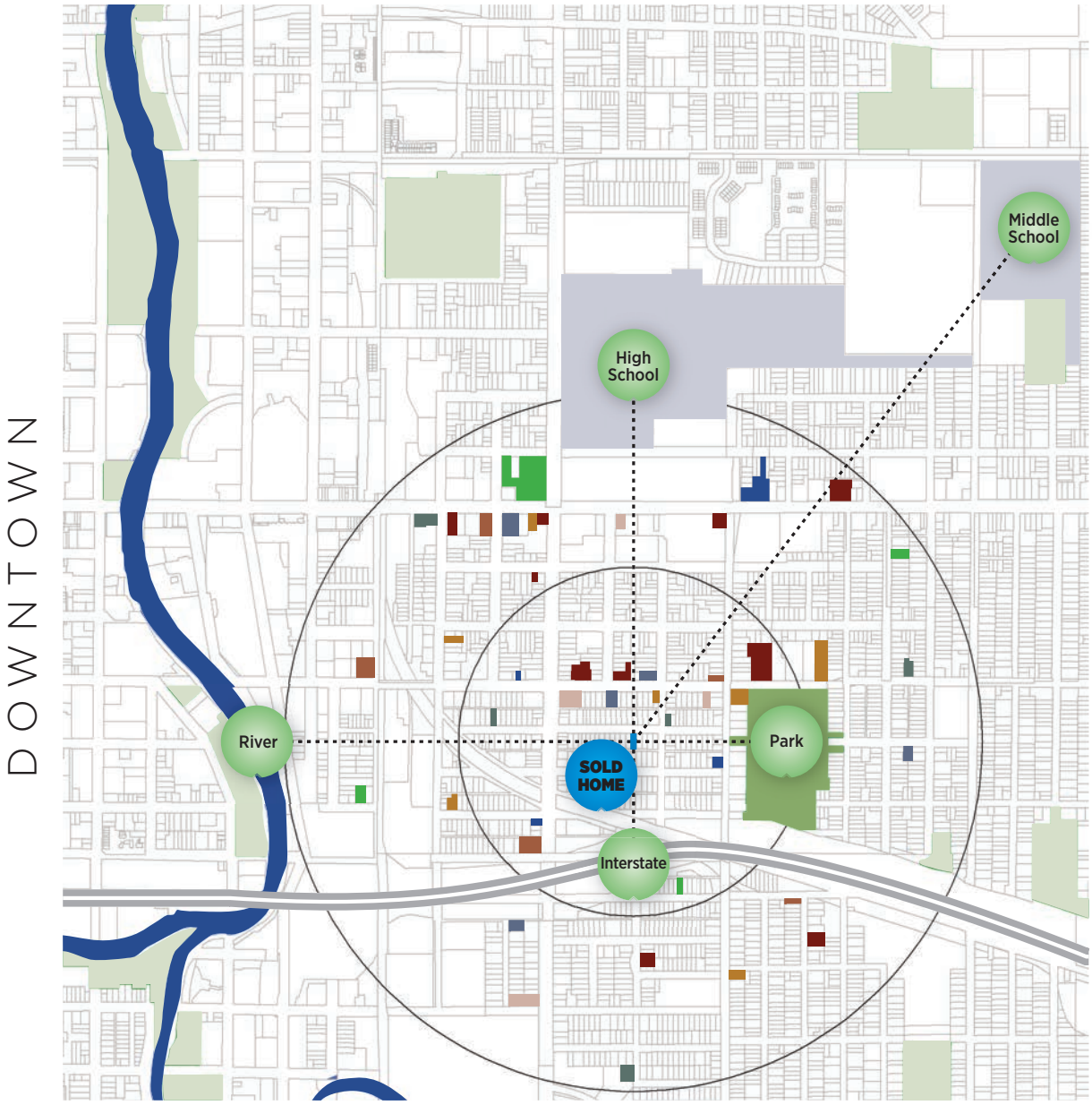
We are more interested in property attributes that are related to proximity features and nearby business establishments than structural attributes, such as number of bedrooms, square feet, etc. (yet we still discuss these factors in the Results part). The distances from sold homes to such features as parks, schools, rivers, lakes and establishments were obtained using GIS. Several distances that could be considered "walkable" were calculated for specified business establishments. The walkable intervals that were used to calculate proximity are: Within a quarter-mile, a quarter-mile to a half-mile; a half-mile to a mile; and a mile to one-and-a-half miles. These intervals, and the businesses included in this calculation, were generally informed by methods used by Walkscore.[41] Figure 5 illustrates some of the distances and features included in the HPM model used in this study.

To obtain hedonic estimates for these features, we controlled for several structural attributes that also affect a home's value. These control variables were included to allow for full specification of the models. Without including these factors, the parameter estimates for placemaking and place-based features would be biased. The control variables include such things as number of bedrooms and bathrooms, presence or absence of a front porch, exterior siding material, home heating method, and many more. Tables 6, 7 and 8 in Appendix B list all of the variables used in the analysis. The regressions ran for Categories 1, 2 and 3 used the same sets of variables.

In general, a positive coefficient for a variable indicates that it adds value to a home's sale price, which implies that it improves the municipality's tax base and indirectly provides other community benefits. A negative coefficient indicates the opposite, meaning that that attribute detracts from the price, and implicitly, the tax base. Variables (or factors) found to be statistically insignificant indicate that such attributes are statistically no different from zero.

41.See Walkscore: http://www.walkscore.com/methodology.shtml. Walkscore assigns the highest possible points when amenities (stores, schools, restaurants, etc.) are within a quarter-mile of a home address.

Figure 5: Concept Map of Hedonic Pricing Method



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.
Note: This map is for illustrative purposes only. The features and establishments shown are not meant to represent any specific community or city.

Part 5: Results

PROPERTIES LOCATED CLOSER TO RIVERS WERE TYPICALLY SOLD FOR MORE, AT LEAST FOR CATEGORIES 1 AND 2. EACH FOOT CLOSER TO A RIVER ADDED ALMOST $9 AND $5, RESPECTIVELY. FOR EACH FOOT CLOSER TO A LAKE, HOMES IN CATEGORY 1 WERE SOLD FOR AN ADDITIONAL $7.77. LAKES WERE INSIGNIFICANT FOR THE OTHER PROPERTY CATEGORIES. FOR CATEGORY 3 PROPERTIES, EACH ADDITIONAL FOOT CLOSER A SOLD HOME WAS TO A PARK SUBTRACTED $11.05 FROM ITS PRICE. THIS MAY BE RELATED TO CRIME AND SAFETY, SINCE WHEN THE DISTANCE WAS SQUARED, THE VALUE BECAME POSITIVE, INDICATING THAT THERE WAS A NON-LINEAR RELATIONSHIP BETWEEN HOME VALUES AND DISTANCE TO PARKS. IN OTHER WORDS, BEING CLOSE TO A PARK WAS VALUABLE—JUST NOT TOO CLOSE, IN SOME INSTANCES.

In this part, findings are presented for each city. Although placemaking features are the focus of this part, the control variables are also discussed. It is essential that, when interpreting the results, the reader understand the context of the hedonic price estimates. Each statistically significant variable—most of which are reported in this part—must be interpreted in the context of all else being equal. To illustrate, picture two identical homes: They have the same number of bedrooms, bathrooms, square footage and stories, and are located the same distance from schools, parks and other amenities. The only difference between the homes, however, is that one does not have a garage. Thus, the hedonic price for the variable garage can be interpreted as: The presence of a garage adds $\$x$ to the home with a garage, where x is the value that having a garage adds to a property, all else being equal. The same is true for all of the other features used in the analysis.

The full regression output can be found in Tables 9, 10 and 11 in Appendix C. Also recall that Category 1 refers to all sold properties (with bedrooms listed in the source data), Category 2 refers to workforce homes and Category 3 refers to affordable homes, with the designation of each Category defined in the previous part. These categories were defined in order to explain how specific placemaking attributes contribute value to each of the defined property types. Ultimately, we are trying to determine if, for example, a grocery store adds more marginal value to workforce housing (Category 2) than, say all categories of housing (Category 1).

Results for Lansing, MI

Three regressions were run for properties sold in the City of Lansing. The first regression was for all properties with bedrooms reported in the data source (Category 1). The second was for all properties with bedrooms reported, under the

Table 2: Category Breakdowns for Lansing, MI

Category	Housing Type	Range of Housing Prices for Sold Properties
1	All Sold Properties with Bedrooms	$500 – $1,188,250
2	Workforce	<$179,000
3	Affordable	<$89,000

price of $179,000 (Category 2). The third was for all properties with bedrooms reported, under the price of $89,000 (Category 3) (see Table 2 for information on these three categories). Some of the independent variables included in the model were year of sale, parcel size, age, number of bedrooms, garage size, pool size, number of fireplaces and number of stories. Also included were neighborhood characteristics, such as location in a neighborhood enterprise or renaissance zone, crime statistics and median household income. A set of distance variables captured proximity to nearby assets, such as interstates, rivers, lakes, parks, trails, airports, downtown, major corridors, institutions, schools and a variety of businesses and services. For a full list of variables, see Tables 5–11 in the Appendices.

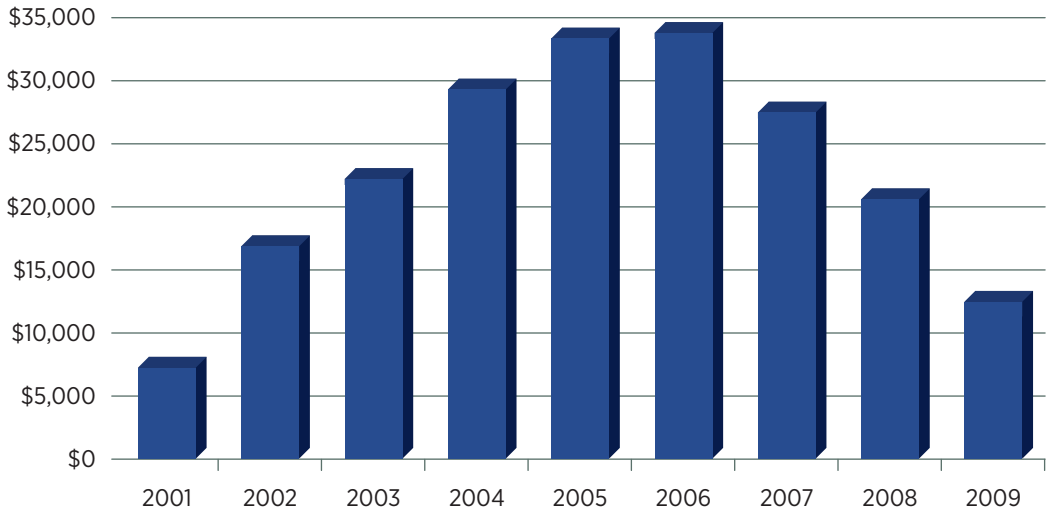
For the Category 1 model, the adjusted R-squared is 0.733. For Category 2, it is 0.698, and for Category 3 0.364. This indicates that 73.3%, 69.8% and 36.4% of the variance of home sale prices in Lansing (in each category) are explained by the independent variables in the models for Categories 1, 2 and 3, respectively (see Tables 9–11 in Appendix C).

The regression results will now be discussed in more detail. More attention will be given to all properties and properties that fit the workforce housing description in this part. Some comparisons are made to findings from the affordable housing model. All of these results can be found in Tables 9–11 in Appendix C.

Control Variables

Property values in Lansing peaked in 2006 at $33,735 for Category 1 and $31,334 for Category 2, compared to year 2000 prices. In other words, homes sold for $33,735 and $31,334, respectively, more than in 2000, all else being equal (see Figure 6). Sale prices were highest in the summer months in each category. These estimates track well with what happened in the real estate market and based on seasonality, according to feedback provided by representatives

Figure 6: Lansing Category 1 Home Sale Prices Compared to Year 2000 Prices



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

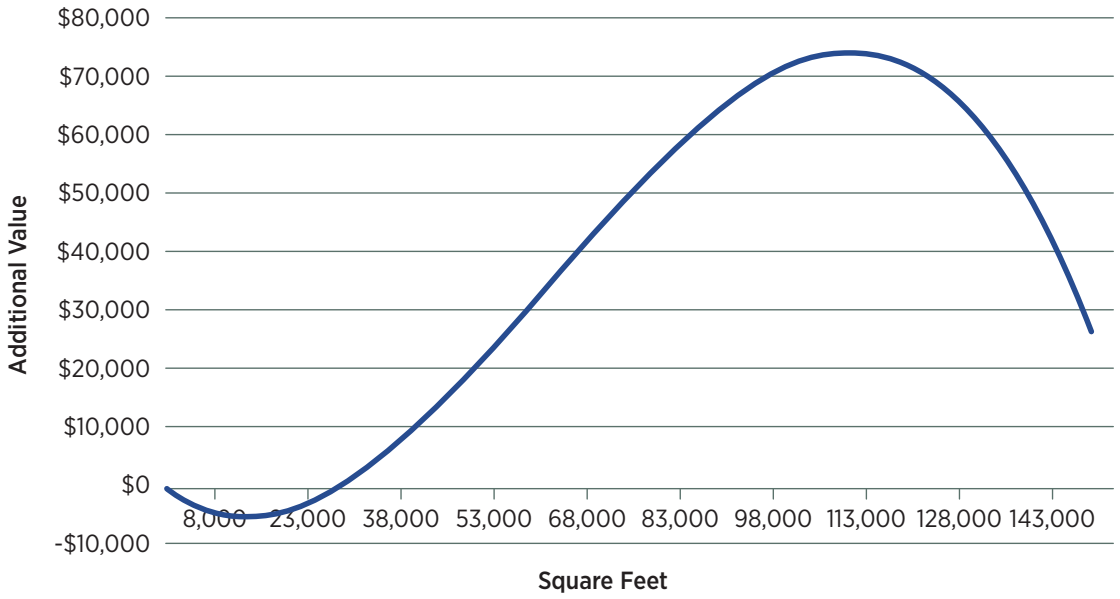
from the Michigan Association of Realtors during an advisory team meeting. Therefore, these findings reflect what was observed in reality.

In Category 1, parcel size, total home square footage, number of bedrooms and number of full bathrooms all added to property value, all else being equal. The number of full bathrooms added value to Category 2 properties. Number of bedrooms, however, was insignificant for both Categories 2 and 3. Property age (year the home was built subtracted from 2010) was significant for all price scenarios, indicating that older homes that sold, tended to be worth more. There appeared to be a non-linear relationship between price and parcel size and floor space. Consequently, Figure 7 illustrates that, as a Category 1 parcel's total area increases in size, price was expected to decrease until about 0.3 acres (13,500 square feet). At this size, prices began to rise and became positive at roughly 0.6 acres (28,500 square feet). The price peaked at about 2.5 acres, at which point having this much land began to detract value (as observed through sale price). The average property size of sold homes in Lansing was 8,451 square feet (approximately 0.20 acres).

Figure 8 shows that for each additional square foot (in floor space), sale price increased gradually until about 6,000 square feet, at which point value began to increase more rapidly. For each additional square foot of floor space, a home's price increased by $46. Category 2 homes saw a similar increase ($45), while Category 3 realized the greatest value of having extra space ($69).

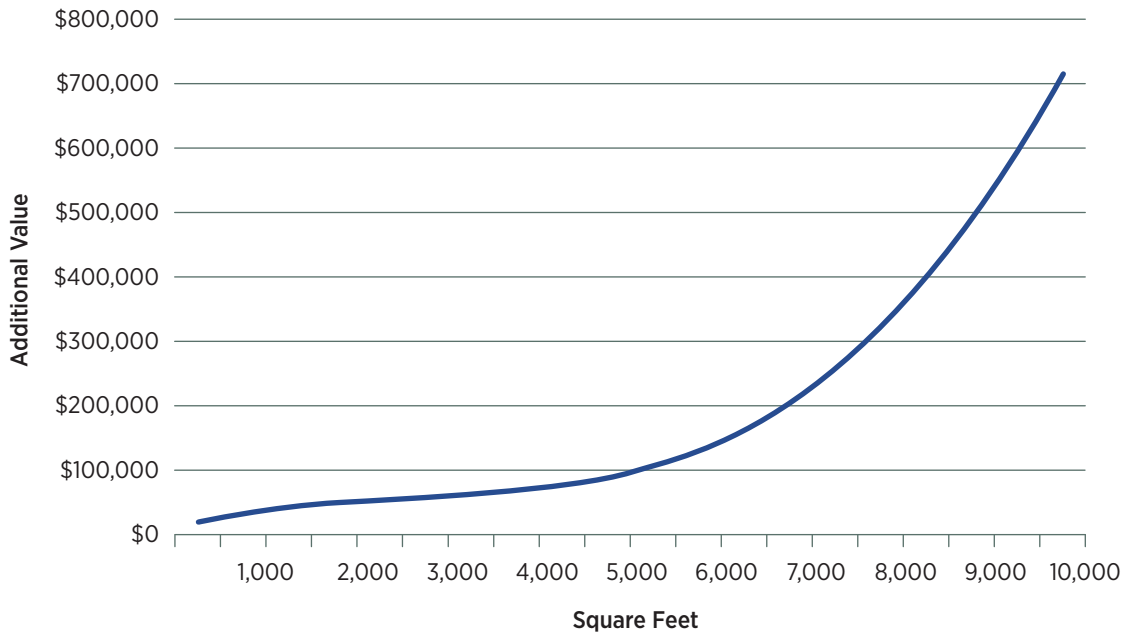
Heating fuel and home exterior type were also analyzed. For heating fuel types, the only statistically significant factor among all properties and workforce housing was steam (relative to electricity) for Category 1. For Category 3 homes,

Figure 7: Value of Each Additional Square Foot of Parcel Area for Category 1 Properties in Lansing



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Figure 8: Value of Each Additional Square Foot of Floor Space for Category 1 Properties in Lansing



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

coal, gas and oil detracted from a home's value when compared to those heated by electricity. House exterior types were measured against aluminum. For Category 1, asbestos and asphalt reduced price, while brick added to it. For Categories 1 and 2, a brick exterior was associated with an additional $6,000 or so. While for Category 3, a brick exterior was associated with an additional $12,121 in value.

Basement square footage, porches and decks, garage size and number of fireplaces were each associated with higher sale prices in all property Categories. For example, each additional square foot of basement space added an additional $11.73 of value to a home in Category 1. Each additional square foot of garage area could add anywhere from $12.54 (Category 3) to $29.76 (Category 1) to a home's sale price, all else being equal.

Several neighborhood characteristics were also examined. Category 1 and 2 properties that were sold in a Neighborhood Enterprise Zone (NEZ) tended to sell for less. The NEZs were enacted in 1992 in Michigan to provide incentives to local units of government to develop and rehabilitate residential housing.[42] Homes were probably less valuable in these zones due to prolonged blight and other socio-economic hardships. Properties that sold in Renaissance Zones, on the other hand, were valued more. Developed in 1996, Renaissance Zones are geographic areas that exempt businesses and residents from paying certain State taxes.[43]

42.See the Michigan Economic Development Corporation, "Neighborhood Enterprise Zone (NEZ)": http://www.michiganadvantage.org/cm/files/Fact-Sheets/NeighborhoodEnterpriseZone.pdf.
43. See Michigan Economic Development Corporation, "Geographic Renaissance Zones": http://www.michiganadvantage.org/cm/files/Fact-Sheets/GeographicRenaissanceZones.pdf.

In each of the three models, the number of property crimes that occurred within a half-mile of a given property was statistically insignificant. The number of violent crimes had a negative effect on Categories 2 and 3. It was insignificant for Category 1. As expected, the median household income of the block group in which a property was located was positively associated with home prices in all three models.

Racial diversity was associated with lower sale prices for Categories 1 and 2. Racial homogeneity was a dominant attribute of society's housing paradigms as communities were oftentimes easily categorized along distinct ethnic lines (Potter, 1989). The effects of these policies are still seen today. Studies have found that there are lower home values in places with high concentrations of minority populations (Macpherson and Sirmans, 2001). However, home values are not the only method by which to measure the value of diversity. Turner and Rawlings (2009) highlight many benefits of diversity, including community openness, potential for better schooling outcomes and relationships, cultural sensitivity and many others. Also, many Michigan cities were segregated—sometimes intentionally, other times not—by political boundaries (Darden et al., 1987).

Educational attainment was linked to higher sale prices. For instance, for every 1% increase in the population age 25 and older with a graduate or professional degree, a home was valued $1,506 more, for Category 1 properties. Category 2 properties sold for $651 more. Adelaja et al. (2009) found that places with a higher percentage of the population with at least a bachelor's degree tended to grow in population. Glaeser and Saiz (2003) similarly found that because educated cities grow more quickly than comparable cities with less human capital, education levels had a positive impact on housing price growth at the metropolitan level.

Age diversity and the number of children age 5 to 17 in the surrounding area showed no significant effect. Further investigation into previous research reveals little to explain the relationship between age diversity, the number of children in an area and property values and why this was found to be insignificant.

Educational attainment was linked to higher sale prices. For instance, for every 1% increase in the population age 25 and older with a graduate or professional degree, a home was valued $1,506 more, for Category 1 properties. Category 2 properties sold for $651 more.

Two categories of placemaking variables were identified and utilized in this analysis: 1) Proximity variables, which describe distance to key green, economic and market assets; and 2) Variables related to types of nearby walkable businesses, such as retail, grocery, eating and drinking establishments, and other types of destinations.

Proximity Features

The distances from various features, such as interstates, rivers, lakes, parks, airports, downtown and others, to sold properties were computed using geographic information systems (GIS). It was hypothesized that several of these place-based features would have a positive impact on home sale prices. Likewise, it was also possible that they could have a negative effect. In the regression output, positive coefficients indicate decreasing value, whereas negative ones indicate increasing value as one moves farther away from the property.

Only sold properties in Category 2 were statistically significant when examining proximity to the nearest interstate. For every foot closer to an interstate, properties in this category were worth $4.28 less, all else being equal. Properties located closer to rivers were typically sold for more, at least

The Michigan State Capitol building in Lansing.

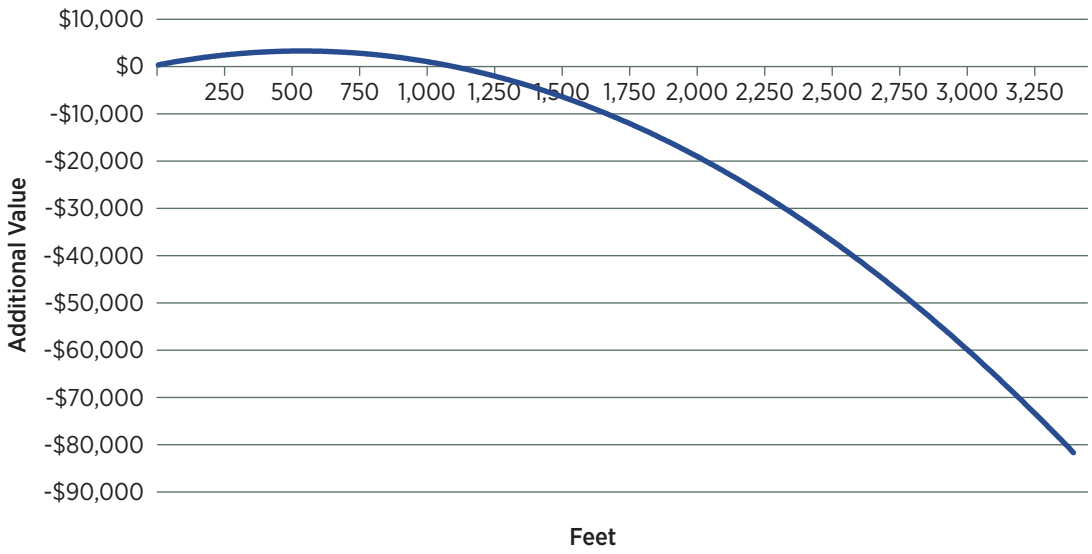
for Categories 1 and 2. Each foot closer to a river added almost $9 and $5, respectively. For each foot closer to a lake, homes in Category 1 were sold for an additional $7.77. Lakes were insignificant for the other property categories. For Category 3 properties, each additional foot closer a sold home was to a park subtracted $11.05 from its price. This negative effect may be related to crime, safety and park activities. However, there appears to be a non-linear relationship between sale price and distance. When the distance measure was squared, the marginal value became positive, indicating that being close to a park was valuable—just not too close. Figure 9 illustrates this relationship. For each additional foot farther from the park, value increases up to 530 feet, providing a $2,928 premium. From there, each additional foot farther away from a park begins to marginally detract from the sale price. Likewise, being inside the 530-foot mark tends to correlate with lower marginal values.

For each foot closer to the Lansing Capital Region International Airport, a sold home was worth anywhere between $3.60 (Category 1) and $3.98 (Category 2) more. Homes that sold close to downtown Lansing were worth considerably more than those that were not. In Category 1, for each foot closer to downtown, a home's sale value increased by $20.59; $11.87 for Category 2; and $8.23 for Category 3. However, properties that sold closer to Old Town and Michigan Avenue were not associated with higher sale prices for Categories 1 and 2. These distances were insignificant for Category 3. While Old Town and Michigan Avenue may be "up and coming" and popular destinations for shopping, socializing and visiting, it is possible that the hedonic prices in these areas were estimated to be lower, due to higher-than-average concentrations of poor housing stock, and due to struggling with problems of the past, such as blight and abandoned commercial or industrial buildings.

Homes that sold close to downtown Lansing were worth considerably more than those that were not. In Category 1, for each foot closer to downtown, a home's sale value increased by $20.59; $11.87 for Category 2; and $8.23 for Category 3.

On the other hand, homes that sold close to Michigan State University experienced positive benefits. For each foot closer to MSU, a sold home was worth $5.19 (Category 1) and $5.59 (Category 2) more. Similar results were observed for middle schools (grades 6–8). For each foot closer to a middle school, a sold home was valued at an additional $1.46 (Category 1) and $1.34 (Category 2). For high schools, the same was true for Category 1 ($1.61). But not for Category 3, where for each additional foot closer to a high school, the home's sale value decreased by $2.72. Proximity to elementary schools, however, was found to be statistically insignificant for all categories.

Figure 9: Value of Each Additional Foot Farther from Parks for Category 3 Properties in Lansing



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Figure 10 illustrates the marginal value of living closer to some of the various placemaking attributes discussed directly above for Category 1. Based on the results, the greatest marginal value was realized when living closer to Downtown Lansing. Living close to a river, lake, MSU, the airport and schools also had positive marginal effects.

Nearby Walkable Retail, Eating and Drinking and Other Establishments

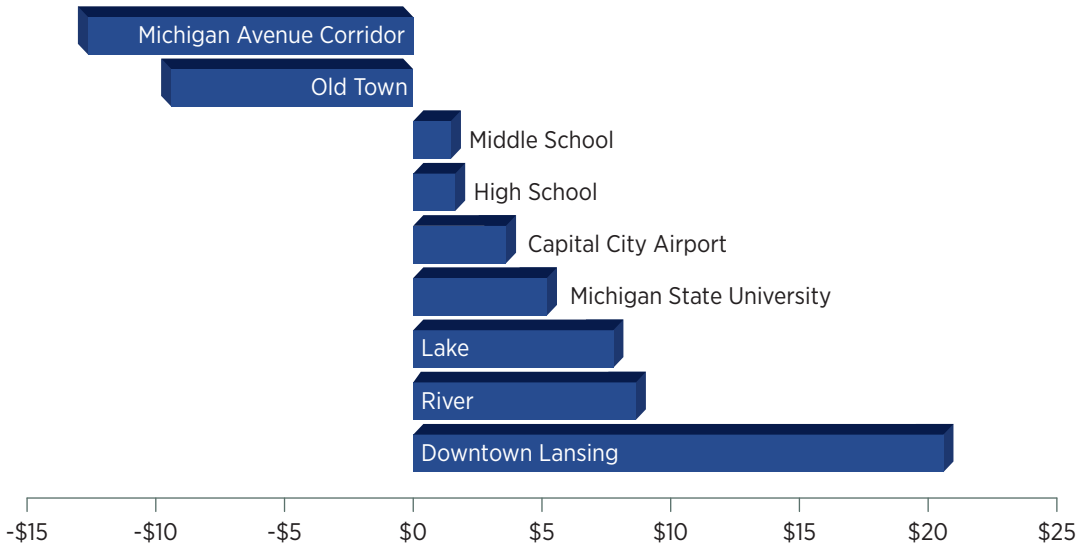
Using Dun and Bradstreet National Establishment Time Series (NETS) data, this subsection examines whether having a given number of business establishments within a quarter-mile, half-mile, one mile or 1½ miles affects property values. The model uses several distance ranges (¼ mile, ¼ mile–½ mile, ½ mile–1 mile, and 1 mile–1½ miles). This was done for several types of business establishments.

For Categories 1 and 2, the number of motor vehicle and parts dealers nearby had a negative effect on property prices. Generally, homes that were located a mile to 1.5 miles away from these types of businesses were worth anywhere from a few hundred dollars to more than $1,000 more than those that were located less than one mile from them.

The number of furniture and home furnishing stores were statistically insignificant, as related to the sale price of Categories 1 and 2 properties. However, Category 3 homes prices were affected by them. For each additional establishment located between a quarter- and a half-mile, Category 3 prices decreased by about $2,700.

Interesting findings were uncovered for grocery stores. The number of grocery stores within a quarter-mile and a half-mile detracted from both Category 1 and 2 property prices. The number of stores between a mile and 1.5 miles also detracted from Category 3 property values. However, for each additional specialty food store within a quarter-mile of Category 1 properties, sale prices tended to

Figure 10: Marginal Value of Living Closer to Various Placemaking Attributes in Lansing



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

be $5,161 more. Specialty stores had no effect on the other property categories. The prevalence of beer, wine and liquor stores was associated with lower home prices for Category 2 and 3 (within a quarter-mile). Lastly, for each additional health and personal care store between a quarter- and a half-mile, a Category 2 property's sale price was expected to increase by $2,207. Oddly, the number of nearby gasoline stations had a positive effect on Category 3 properties. For each additional gas station located a quarter-mile from Category 3 properties, its price was expected to increase by $4,033.

Clothing and clothing accessories stores had no statistical effect on any of the property categories. Sporting goods, hobby and musical instrument stores, however, did have positive effects on all three categories. The impacts were observed primarily for those stores that were located within a half- to 1.5 miles. Book, periodical and music stores between a half-mile and a mile were associated with positive sale prices for Category 1. However, when these stores were more than a mile away, they tended to detract from property prices. A greater number of general merchandise stores within a half-mile to a mile away from Category 1 properties subtracted from home values. Conversely, a greater number of these establishments between a quarter- and a half-mile from Category 3 properties was associated with higher sale values. Miscellaneous store retailers tended to have negative property effects across the board. The number of performing arts companies within a quarter-mile of Category 3 properties was associated with higher home prices. However, for all other categories, the effect was insignificant. The number of spectator sports establishments, on the other hand, was associated with negative home prices for all property categories.

Additionally, the number of promoters of performance arts, sports and similar events were associated with sizable positive property price

adjustments. For each additional business of this type located a quarter-mile from Category 1 properties, home prices were expected to increase by more than $12,000. Similarly, the same effects were seen for Category 2, but not to that degree. These businesses appeared to have no effect on Category 3 properties. Conversely, greater numbers of amusement parks and arcades at each of the distance categories were associated with negative property values across the property types. However, the prevalence of other amusement and recreation industries was associated with positive property sale values for Categories 1 and 3.

For each full-service restaurant within a quarter-mile of Category 1 properties, a home's value was expected to be an additional $3,449. However, this amount changed to -$2,437 for Category 3 properties. This measure was insignificant for Category 2. The number of limited-service eating places was positively associated with home values across all of the defined property categories, but at varying distances. The number of nearby drinking place establishments was found to be negatively associated with home values for both Categories 1 and 3. Lastly, the number of nearby religious organizations contributed positively to Category 2 properties when located within a quarter-mile to a half-mile, and half-mile to a mile ranges.

Nearby commercial property had a sizable impact on home prices. For instance, for each additional percentage of commercial property square footage within a half-mile of a Category 1 residence, its sale price was higher by more than $7,000. The same was true for nearby residential property—but not to the same extent as commercial property. However, places of high job concentration tended to slightly devalue homes. For each additional employed person within a mile, home prices tended to be $1.20 lower. This may seem contradictory; but areas with high concentrations of commercial floor space may not actually employ that many people. Furthermore, people could have been employed at places that were not necessarily classified as commercial. Major job centers, such as a hospitals or manufacturing plants, may employ a lot of people, but are not considered a commercial land use.

This concludes our summary of findings for the City of Lansing. We now turn our attention to Traverse City, which has different housing, community, neighborhood and economic characteristics that distinguish it, and the results, from that of Lansing. Generally, property sale prices were higher in Traverse City. Also, since a different dataset was utilized, the control variables and placemaking features examined in Traverse City differed slightly than what was utilized for the analysis of Lansing.

Results for Traverse City, MI

Three separate regressions were also run for Traverse City. The first included all properties that sold between 2000 and 2010; these were the Category 1 properties. The second included properties (Category 2) that sold for less than $210,000. Finally, the third included all properties that sold for less than $105,000, or Category 3 properties. Any properties that did not indicate number of bedrooms were excluded from this analysis. The Category 1 model examined 1,212 cases (sold properties); Category 2 had 915 cases; and the Category 3 model had 204 cases. The results appear to be statistically compelling. The adjusted R-squared for the Category 1 model is 0.831, indicating that 83.1% of the variance in the dependent variable (sale price) was explained by the independent

variables (property and place attributes). For Categories 2 and 3, the adjusted R-squared is 0.972 and 0.987, respectively (see Table 3).

Control Variables

For Categories 1 and 2, pre-recession home prices peaked in 2010 and 2005, respectively, when compared to year 2000 prices. A Category 1 home that sold in 2010 was worth $71,497 more than in 2000, and a Category 2 home that sold in 2005 was worth $29,995 more than in 2000, all else being equal (see Figure 11). Adjusting for seasonality, home prices tended to be lower in the fall, winter and spring months for all three property categories, when compared to the summer months. In other words, homes sold at higher prices in the summer.

Parcel square footage was positive for both Categories 1 and 2. To illustrate, for each additional square foot of parcel area in these Categories, they were priced $2.32 and $0.74 more, respectively. However, Figure 12 illustrates that there was a non-linear relationship between price and parcel, meaning that at some point, having too much property detracts from value. Concerning the age of a home, for Category 1, an older home was associated with less value. The square footage of a structure added value to each property type. For each additional square foot, Category 1, 2 and 3 homes were worth $128, $139 and $53 more, respectively. Garage space added value to Category 2 homes, but was insignificant for the other categories. The number of fireplaces added enormous value to Category 1 properties

Traverse City Film Festival in Traverse City.

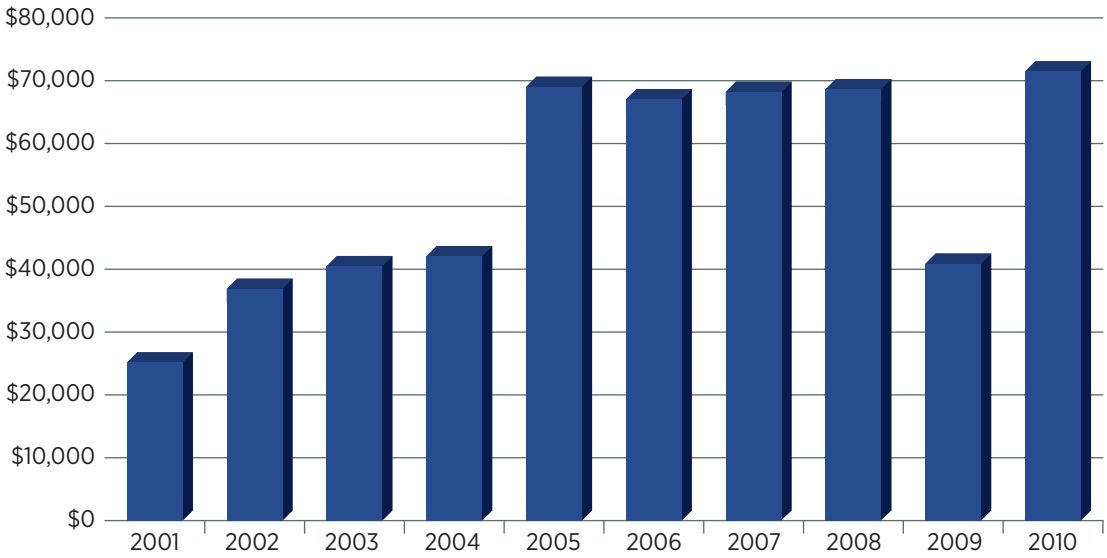
($22,264 for each additional one) and moderate value to Category 2 properties ($3,694 for each additional fireplace). Fireplaces did not have any statistically significant effect on Category 3 property prices.

Concerning bedrooms, bathrooms and half-bathrooms, bedrooms had the greatest positive effect on sale price. For each bedroom, a home in Category 1 was expected to be worth an additional $54,784. However, since this estimate seemed high, there might not be a linear relationship between bedrooms and value, and if we consider this relationship non-linear, estimating the number of bedrooms cubed showed that additional bedrooms added value at a decreasing rate (i.e., each added bedroom was worth less than the last). Similarly, this was true of full bathrooms for Category 1 properties. The number of half-baths was insignificant for Categories 1 and 2, yet they added considerable value for Category 3 homes. For home exteriors, no materials were found to add value when compared to aluminum. However, block, brick

Table 3: Category Breakdowns for Traverse City, MI

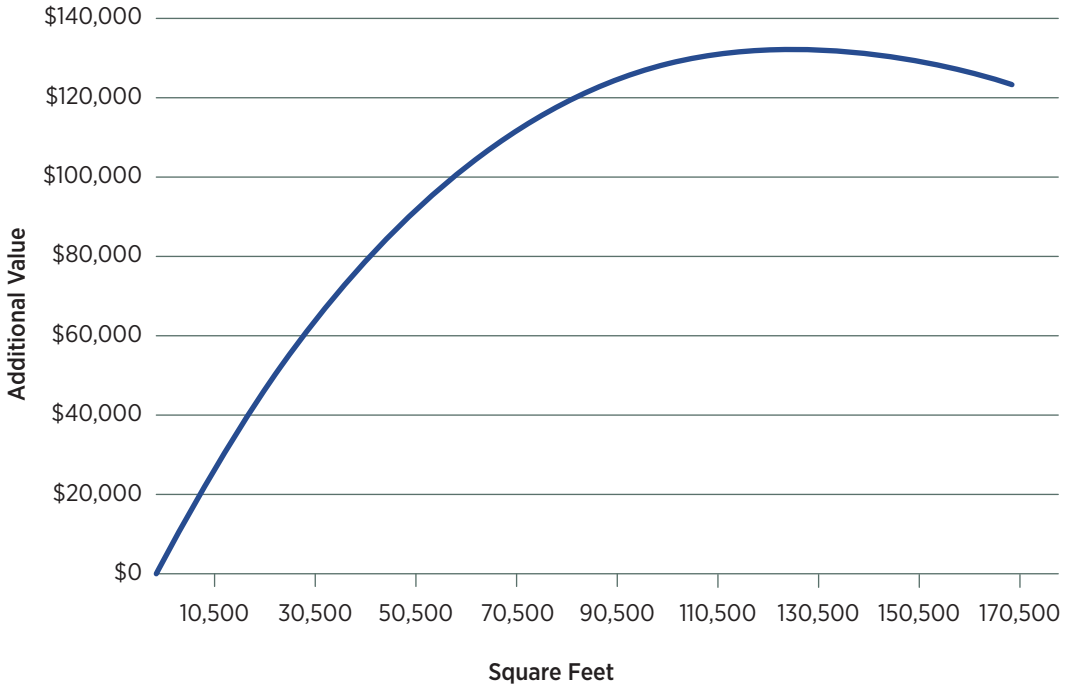
Category	Housing Type	Range of Housing Prices for Sold Properties
1	All Sold Properties with Bedrooms	$25,000 – $2,900,000
2	Workforce	<$210,000
3	Affordable	<$105,000

Figure 11: Traverse City Category 1 Average Home Sale Prices Compared to Year 2000 Prices



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Figure 12: Value of Each Additional Square Foot of Parcel Area for Category 1 Properties in Traverse City



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

and vinyl were associated with lower values than aluminum across different property categories.

Category 1 and 3 properties tended to sell for more when located in higher income block groups. For instance, for each additional $1 increase in median household income, homes in these categories were expected to be worth $1.77 and $2.18 more, respectively. In other words, increasing surrounding affluence translated into higher home values—an unsurprising, but reinforcing, finding. Correspondingly, the percentage of poverty in a census tract was associated with lower home values, particularly for Category 1 properties. The percentage of the population with an associate's or a bachelor's degree tended to positively impact home values, while those with a graduate or a professional degree negatively impacted home prices in Category 1.

Proximity Features

Distance to rivers and lakes did not have considerable effects on Traverse City property sale prices. This might be due to the location of these features and the small geographical area of the City. Parks tended to be negatively associated with home value for Category 2 properties, but had no significant effect on the others. Similar to Lansing, however, there was once again a non-linear relationship between sale price and distance to parks. In Traverse City, the distance of a nearby park translates into a much higher premium than what was observed in Lansing. For each additional foot farther from a park, value increases up until about 1,500 feet, providing a $29,368 premium. Beyond this distance, value begins to decline. Also, a house that sold inside of the 1,500 mark had less of a premium associated with its distance to a park. Figure 13 illustrates this function.

Category 2 properties located closer to the airport tended to be less valuable. For each additional foot closer to the airport, these properties sold for $39 less. One of the most significant, but unsurprising, findings was that homes located close to Lake Michigan tended to sell for more. For each additional foot closer to Lake Michigan, homes in Category 1 were worth $24 more. However, Category 2 homes tended to be affected negatively on this measure (-$6). A home's proximity to schools and institutions of higher learning was statistically insignificant.

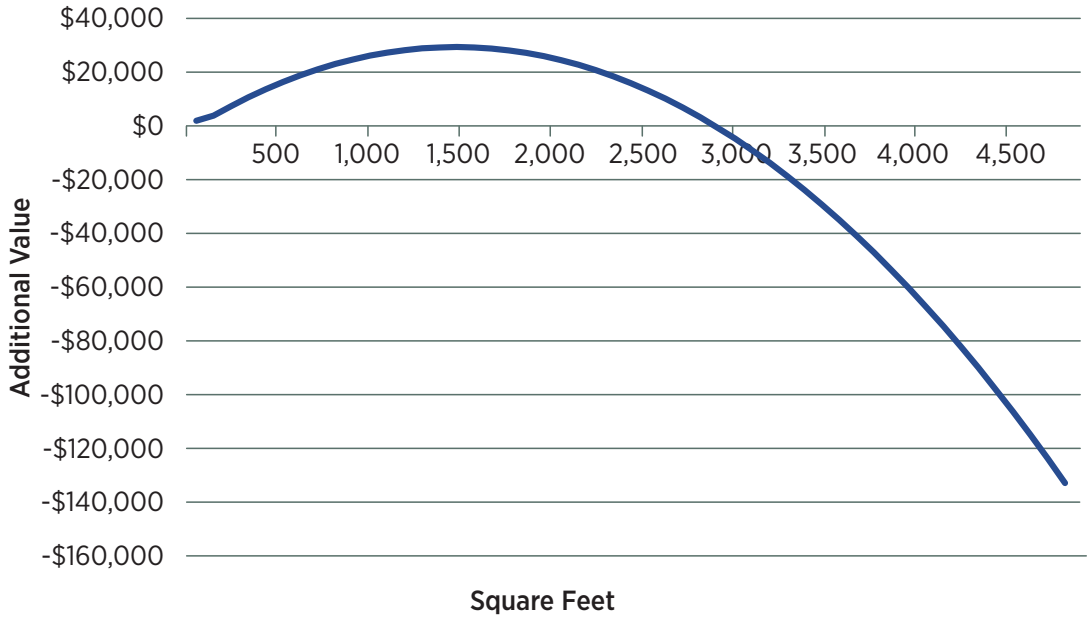
One of the most significant, but unsurprising, findings was that homes located close to Lake Michigan tended to sell for more. For each additional foot closer to Lake Michigan, homes in Category 1 were worth $24 more.

Nearby Walkable Retail, Eating and Drinking and Other Establishments

Using the NETS data, this subsection examines whether having a given number of business establishments within a quarter-mile, half-mile, one mile or 1.5 miles affects property values. The model used several distance ranges (¼ mile, ¼ mile–½ mile, ½ mile–1 mile, and 1 mile–1 ½ miles). This was done for several types of establishments, including motor vehicle and parts dealers, electronics and appliance stores, eating and drinking establishments, gas stations, and many more.

The number of motor vehicles and parts dealers within a half-mile to a mile of Category 1 properties had a positive effect on home sale prices. The same was true for Category 2 properties when located a quarter-mile to a half-mile away. However, a higher number of these establishments next to Category 3 properties had an adverse effect on prices. The number of nearby furniture and home furnishings stores for Category 1 properties had a positive effect on values when located between a half-mile and 1.5 miles away. Conversely, the prevalence of electronics and appliance stores generally had a negative relationship

Figure 13: Value of Each Additional Foot Farther from Parks for Category 3 Properties in Traverse City



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

with Category 1 property prices, while having a positive effect on Category 2 property values when between a quarter-mile and a half-mile away.

The number of nearby building material, garden equipment and supply dealers had wide-ranging negative effects on Categories 1 and 3. However, it added value for Category 2 housing when located at various distances. The number of grocery stores within a quarter-mile to a mile had a significant impact on Category 1 prices. For instance, for each additional grocery store within a half-mile to a mile of a property, the price of a home was expected to increase by $15,978. Health and personal care stores tended to add value when located within a quarter-mile of a home. On the other hand, specialty stores were negatively associated with home prices when located within a quarter-mile of Category 1 properties. They were found to be insignificant for the other categories. The prevalence of beer, wine and liquor stores was associated with negative and positive sale prices for Category 2 and Category 3 housing, respectively.

The number of clothing and clothing accessory stores located within a quarter-mile of Category 1 properties had a significant and sizable impact. For each additional store within a quarter-mile, a home's value was expected to be higher by $12,102. The same was true for Category 2 housing, but by only $8,786. For Category 3, proximity to these stores added $5,682 when between a half-mile and a mile. Proximity to general merchandise stores had a positive effect on Categories 1 and 3, and a negative effect on Category 2 properties. The same was true for miscellaneous store retailers.

The number of nearby performing arts companies had no significant effect on Category 1 properties. Category 2 housing was negatively influenced, whereas Category 3 was positively influenced.

The number of nearby promoters of arts, sports and other events related negatively to Category 1 properties and positively to Category 2 and 3 properties. The incidence of nearby amusement parks and arcades tended to add value to Categories 1 and 3. For each additional establishment of this type within a quarter-mile to a half-mile equated to an additional $25,049 to home sale price among Category 1 properties. Gambling establishments were found to be statistically insignificant to all property types at all distance measures.

The number of nearby full-service restaurants was associated with lower prices for Category 3 properties. The number of limited-service eating places was only significant for Category 2, and they tended to be associated with lower property prices at any distance over a quarter-mile. Prevalence of bars also tended to be associated with lower values in all three property categories and at various distances.

The number of churches or religious organizations was associated with lower prices for Category 1 properties, but was positively associated with Category 3 values at a quarter-mile to a half-mile distance. For each additional religious organization within this distance, sale price was expected to be higher by $9,771.

Lastly, as an overall measure, the total number of businesses located within a mile of Category 1 properties tended to be associated with lower values. On the other hand, however, more employed people within a mile tended to benefit property prices. Such results may point to the nature of business and employment in Traverse City, whereby many retail businesses are concentrated in the central business district, but may not employ as many people as some of the larger industries in the surrounding areas, such as the Munson Medical Center and the Grand Traverse Mall.

More employed people within a mile tended to benefit property prices. Such results may point to the nature of business and employment in Traverse City, whereby many retail businesses are concentrated in the central business district, but may not employ as many people as some of the larger industries in the surrounding areas, such as the Munson Medical Center and the Grand Traverse Mall.

Results for Royal Oak, MI

Again, three separate regressions were run for the City of Royal Oak. There were 7,112 cases in Category 1 (all properties with bedrooms), 6,649 in Category 2 ($295,000 and lower) and 1,572 in Category 3 ($147,000 and lower). For Categories 1–3, the adjusted R-squared values were 0.952; 0.974; and 0.981, respectively. These statistics mean that 95.2%, 97.4% and 98.1% of the variance in sale price can be explained by various control, neighborhood and placemaking features (see Table 4).

Control Variables

The peak selling price of properties in Royal Oak (compared to year 2000 prices) occurred sooner than in the other two case study cities. For Category 1 properties, prices peaked in 2004, meaning that a home that sold in this year was worth $46,496 more than in 2000 (see Figure 14), all else being equal. Category 2 housing prices peaked in the same year at a value of $38,257, while Category 3 home prices peaked in 2006. Following these peaks, marginal prices gradually declined until they become negative (for Categories 1 and 2) and remain barely positive for Category 3, by 2010 (compared to year 2000 prices). Similar to the other cities, and consistent with real estate trends, homes tended to sell for less in the non-summer

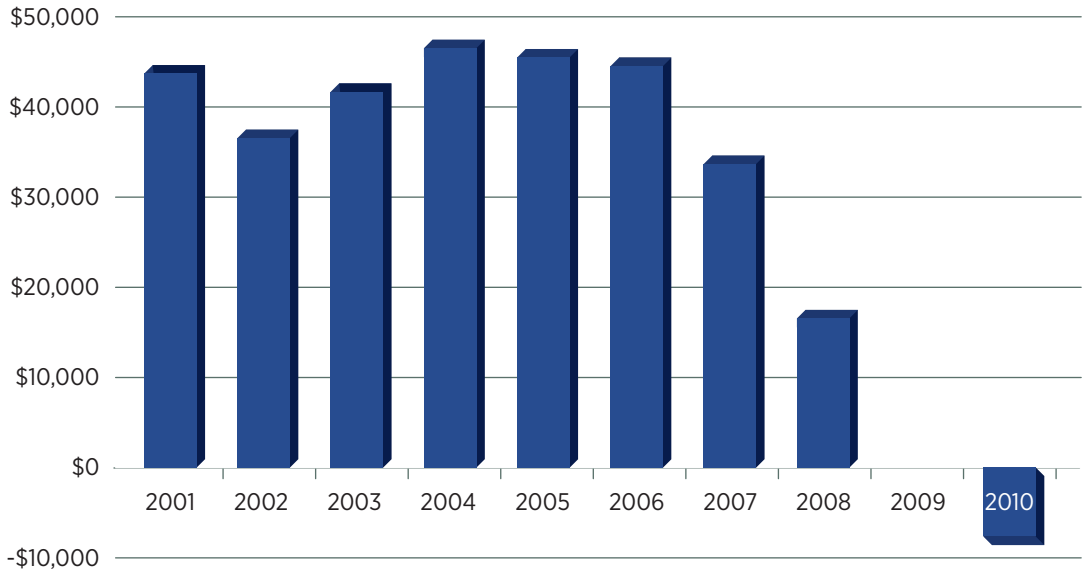
Table 4: Category Breakdowns for Royal Oak, MI

Category	Housing Type	Range of Housing Prices for Sold Properties
1	All Sold Properties with Bedrooms	$20,000 - $844,120
2	Workforce	<$295,000
3	Affordable	<$147,000

months. Sales in the winter months reduced prices (compared to summer month sales) by anywhere between $3,563 (Category 3) to $6,543 (Category 1).

The total parcel size, measured in square feet, was found to be positively related to home prices for all three property categories. It had the highest effect ($2.94 for each additional square foot) on Category 1. Figure 15 shows the non-linear relationship between parcel size and price. For each additional square foot of property, prices increased rapidly until about 59,000 square feet (1.35 acres). After this point, having more property tended to detract from value. Similarly, the size of the home, also measured in square feet, had positive effects on each of the property categories. For each additional square foot of a Category 1, 2 and 3 property, it would be worth $45, $185 and $163 more, respectively. Based on these findings, larger home sizes were more valuable to Category 3 properties. Once again, since there was a non-linear relationship between price and floor space, Figure 16 illustrates this function. Having more square footage added to property value until about 7,500 square feet, at which point having more space began to detract from the sale price.

Figure 14: Royal Oak Category 1 Average Home Sale Prices Compared to Year 2000 Prices



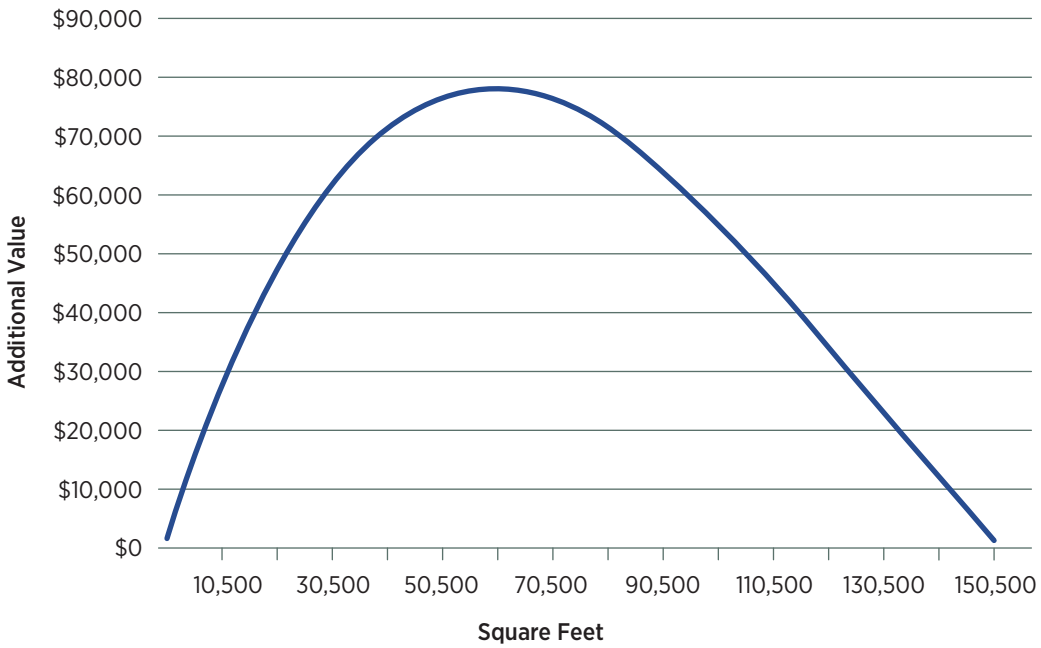
Source: Figure created by the Land Policy Institute, Michigan State University, 2012.
Note: Year 2009 is statistically insignificant and, thus, no different from zero.

Similar to Traverse City, the age of a home in Royal Oak was found to be negatively associated with home value, but only for Category 1. For each additional year of age, a home in this category would be worth $84 less. For each additional bedroom, a Category 1 home was found to be worth an additional $14,129. Bedrooms were not significant for the other property categories. The total number of full-baths added value to Categories 1 and 2, but was not significant for Category 3. The total number of half-baths added value to Categories 1 and 2, but not to Category 3. Lastly, the presence of a garage added value to all three property-type categories. For instance, the presence of a garage at a Category 1 home added $18,857 to its sale price (this garage measure—presence or absence—is different from the floor area measure used for Lansing and Traverse City).

The median household income of the block group was found to be insignificantly related to sale price. Using a measure for income diversity, there was an association to high home values. However, home values were negatively associated with racial diversity. When significant, this was consistent across the three Michigan case study cities. Unsurprisingly, a high concentration of poverty in the census tract where a home sold was also associated with lower home sale prices.

For each additional 1% of the population with a bachelor's degree, Category 1 home values were $883 higher. For a graduate or professional degree, this value increased to $1,341. In other words, higher home values were associated with an educated and more affluent population, which is consistent with expectations.

Figure 15: Value of Each Additional Square Foot of Parcel Area for Category 1 Properties in Royal Oak



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

In Royal Oak, a higher percentage of the population with an associate's degree or higher was associated with greater home values. The percentage of surrounding population having an associate's degree positively affected Category 2 prices, whereas having a bachelor's, graduate or professional degree positively affected Categories 1 and 2. To illustrate, for each additional 1% of the population with a bachelor's degree, Category 1 home values were $883 higher. For a graduate or professional degree, this value increased to $1,341. In other words, higher home values were associated with an educated and more affluent population, which is consistent with expectations.

Proximity Features

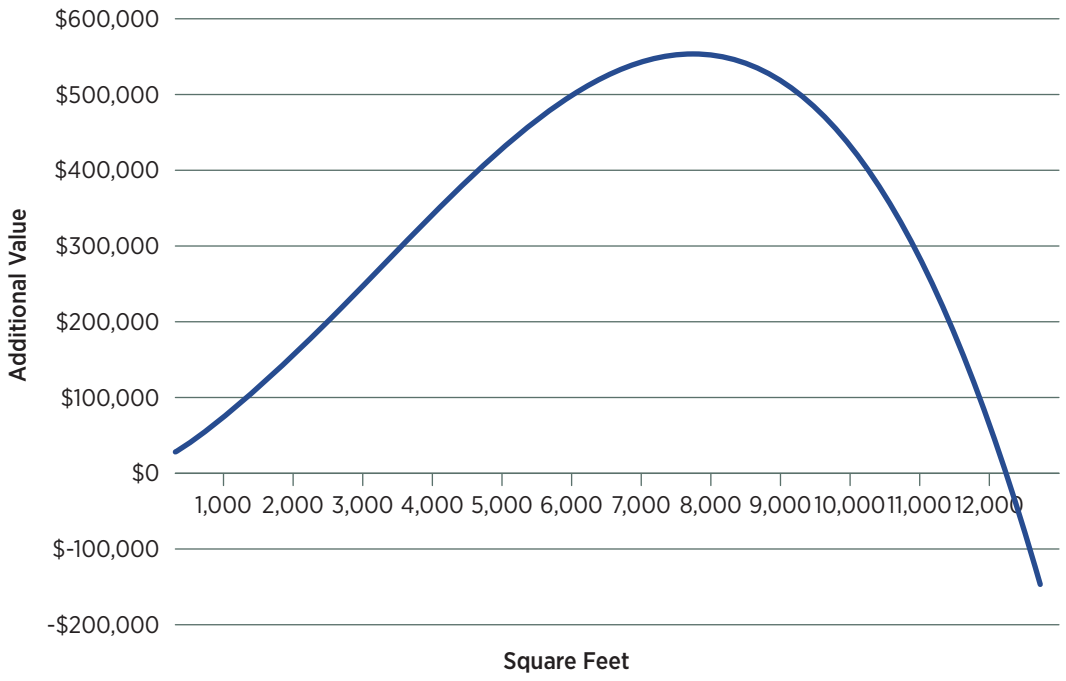
A home's proximity to rivers, lakes and parks was found to be an insignificant factor for home sale prices. This finding was not surprising considering the geography of the City and the high level of urbanity it exhibits. Royal Oak does not contain a river or a lake within its city limits.

Category 1 and 2 properties sold for less when located close to an elementary school. For each foot closer to a school, a home was expected to be worth $3 less. However, Category 3 homes tended to be worth a bit more when situated close to high schools. For each additional foot closer to a high school, homes in this category sold for $2.47 more.

Nearby Walkable Retail, Eating and Drinking and Other Establishments

The number of nearby furniture and home furnishing stores had positive impacts on home prices in at least one distance group for all three property types. For example, each additional

Figure 16: Value of Each Additional Square Foot of Floor Space for Category 1 Properties in Royal Oak



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

store within a quarter- to a half-mile added $2,738 to a Category 1 home's sale price. Moving on to electronics and appliance stores, however, showed that the number of these establishments was insignificant when it came to Categories 1 and 3, but had a negative effect on Category 2 housing. The prevalence of building materials, garden equipment and supply dealers also had a negative effect on Category 1 and 2 properties.

The number of grocery stores had a negative effect on Category 1 home prices when they were located closer than a quarter-mile to this type of home. Their prevalence had a positive effect on Category 2 sale prices at a quarter-mile to a half-mile and a mile to 1.5 miles intervals. Their incidence also positively affected the price of Category 1 properties when located between a quarter-mile and a half-mile away. For Category 3, they had a negative effect at a half-mile or greater. The number of specialty food stores had a positive effect on Category 2 properties at a quarter-mile to half-mile range. Conversely, they had a negative effect on Category 1 properties when located more than a mile away.

In general, the nearby prevalence of beer, wine and liquor stores was found to positively affect sale prices for Category 1 properties, but only when located more than a quarter-mile away. On the other hand, the number of health and personal care stores was found to negatively affect prices when located within a quarter-mile. At other distances, values were statistically insignificant. The incidence of nearby gas stations had negative effects on Category 1 and 2 homes at all distances. The coefficients became less negative as distance increased. Regardless, living anywhere within 1.5 miles of a gas station generally had a negative effect on home values, all else being equal.

The number of clothing and clothing accessories stores located less than a quarter-mile from Category 1 properties had a positive effect on home values. For each additional store within this distance, home values were expected to increase by $1,462. However, these establishments had a negative effect on Category 2 properties at the mile to 1.5 miles range. The nearby prevalence of sporting goods, hobby and musical instrument establishments had positive price effects on Categories 1 and 2, at varying distances. Having a greater number of book, periodical and music stores nearby had positive effects on Category 1 properties when located more than a quarter-mile away, but exhibited a negative effect on Category 3 housing when located between a quarter-mile and a half-mile away. The number of general merchandise stores had a negative effect on each property category at a quarter-mile to a half-mile range. They also had a negative effect on Category 3 housing when located closer than a quarter-mile.

The number of nearby performing arts companies had a negative effect on property prices across all property types and at varying distances. However, the prevalence of spectator sports establishments near Category 1 and 2 properties generally had a positive effect. The number of nearby establishments that promoted performing arts and other similar events had a negative effect on Category 1 properties anywhere between a quarter-mile and a mile. However, they did positively affect Category 3 properties when located between a half-mile and a mile. The incidence of amusement parks tended to detract from sale price for Categories 1 and 2. The number of nearby churches or religious organizations tended to only negatively affect Category 2 housing. Other estimates were statistically insignificant.

Greater numbers of nearby full-service restaurants typically boosted sale prices in Royal Oak. Category 2 properties experienced the greatest benefit when located between a quarter-mile and a mile away. However, when homes were located more than a mile away from these establishments, their sale price tended to diminish. The number of limited-service eating places located near homes had positive effects on each of the three property types, but value only tended to accrue at the half-mile distance. The number of drinking places, or bars, near properties had a substantially negative effect on Categories 1 and 2; as the distance between bars and property becomes greater, coefficients move closer to zero.

Lastly, as an overall measure of business activity near residential properties, the number of businesses located within a mile was included. The coefficients were negative for both Category 1 and 2 properties. This would suggest that sale prices were lower in places where there was a high concentration of businesses. That the proximity to some types of establishments was found to be valuable for all three categories of homes in the results above suggests that there were more, and less, desirable establishments

Business area in Royal Oak, MI.

to live near. There was no way to measure the quality of products, façade and services of nearby businesses, so this possibility cannot be known. The number of employed people nearby had no statistically significant effect on home sale prices.

Greater numbers of nearby full-service restaurants typically boosted sale prices in Royal Oak. Category 2 properties experienced the greatest benefit when located between a quarter-mile and a mile away.

Part 6: Discussion

GIVEN THE DATA AVAILABILITY AND RIGOR OF THE ANALYSIS, WE ARE VERY SATISFIED WITH THE RESULTS. NOT ONLY DID THE MODELS EXHIBIT WHAT REALTORS SAID THEY WOULD EXPECT, BUT THE MODELS ALSO FURTHER PROVIDED ESTIMATES FOR FEATURES THAT OTHER MODELS HAD NOT TAKEN INTO CONSIDERATION. WE CONSIDER THIS BOTH AN ACHIEVEMENT AND AN OPPORTUNITY FOR MODEL SPECIFICATION IMPROVEMENT, INCORPORATING OTHER FEATURES, AND EXECUTING OTHER TYPES OF ANALYSES TO UNCOVER OTHER PLACEMAKING VALUE PREMIUMS.

Since the models for each case study city were specified differently—they used different sets of variables—it is imprudent to directly compare the results between the cities. However, we can still say that there are some apparent differences in the findings between the cities, which may be partly explained by various factors. One noteworthy difference, for example, is that the sale price of homes was affected by the age of the home, but that effect differed across the case areas. Why were older properties more highly valued in Lansing than in Traverse City and Royal Oak? Since the models were not specified the same, some of the factors contributing to this difference in price may be related to those missing variables. On the other hand, maybe not. Perhaps, due to its geography, housing market and economy, Lansing's older properties that sold had more valuable features by way of placemaking, design or location. In any event, there were several factors that contributed to a property's sale price, and it is probable that not all of them were accounted for.

Placemaking Features that Added Value

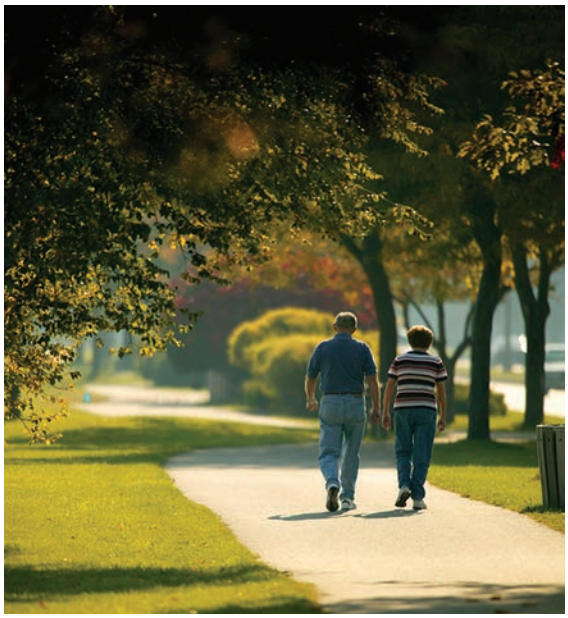
Since placemaking and real estate-related placemaking attributes are the focus of this study, the discussion of the results focuses on those factors. That being said, several other interesting findings were observed. Home prices tended to peak (relative to year 2000) sometime between 2001 and 2010, although that peak occurred in different years for each city, based on the national recession and slow-down of the real estate market. Older (rather than newer) homes tended to sell for more in Lansing, but not in Traverse City and Royal Oak. Perhaps "character" or build quality had something to do with this price premium. Overall, each additional bedroom contributed additional value to properties in every case study, but not consistently across all property types. Overall, the basic—or control—features of a property conformed to what was found in previous hedonic pricing studies. That is, bedrooms, bathrooms, fireplaces and garages add value to a home. Where the cities differed, however, was in how placemaking features added, or in some cases detracted, from property values.

In Lansing, property crimes did not significantly affect home prices, but violent crimes did for Category 2 and 3 properties. When and where a property crime occurred may be less predictable than where areas of violent crimes commonly occur. The after-effects of violent crime tend to linger in communities after they are committed and this could be reflected in home prices. These findings emphasize the importance of safety. The surrounding median household income of properties in Lansing and Traverse City was found to positively influence sale prices, while it was insignificant in Royal Oak. Racially diverse areas tended to have lower property values in Lansing and Royal Oak, wherein Traverse City, only Category 3 properties were affected. Similarly,

nearby poverty also negatively affected home values, which might have something to do with higher proportions of minority populations in the two cities where it was significant. There is often a significant link between poverty and high concentrations of minority populations (Anderson, 1964). In summary, safety, affluence and diversity were important factors that had some bearing on home sale prices.

As can be seen in the Results part, properties in each city were affected differently by nearby amenities and business establishments. Again, we must reiterate that we cannot say with certainty that there were significant differences in placemaking attribute impacts across cities, because each model was specified differently. Therefore, there might be unexamined placemaking—or other—features that explain such findings. On the other hand, there are considerable differences in the types of cities we examined. Recalling the section above, each city is different from another in terms of geography, economy, neighborhoods, etc. Thus, the differences in placemaking attributes are still worth discussing.

Properties that sold in Lansing situated close to rivers tended to be worth more than those that were not. Yet, rivers had no significant effect on homes that sold in Traverse City and Royal Oak. One reason for this difference might be due to both the size and prevalence of rivers in these communities. In Lansing, the Red Cedar and Grand Rivers are both large and offer several recreational opportunities via open space and trails. In Traverse City, the Boardman River runs a relatively short distance from Boardman Lake to Lake Michigan and the nature of the land during its course is a mix of some industrial, residential and commercial. Royal Oak does not have a river.



Traverse City is the only case study city that has a considerable inland lake within its city limits and, statistically, it had no effect on home sale prices from 2000 to 2010. Access to the lake is limited. However, properties closer to Lake Michigan tended to sell for more than those located farther away. There is clearly a price premium for living close to Lake Michigan. In Lansing, homes tended to sell for more when located next to a lake.

Concerning parks, the differences between cities were varied. Proximity to parks had no significant impact on home prices in Royal Oak. There were generally negative effects for Category 2 and 3 properties in Traverse City and Lansing, respectively. However, there appeared to be a non-linear relationship between sale price and distance to parks. Being within or beyond 530 feet for Lansing and 1,500 feet for Traverse City equated to lower marginal values than at those distances. In other words, homes located within walking distance of a park tended to be valued more than those father away. At the same time however, being too close to a park was also associated with a lower marginal value, which may relate to noise, crowds or crime.

In Lansing, properties that were located closer to Michigan State University sold for more than those located farther away.

In Lansing, properties located closer to the airport tended to sell for a higher price. Yet in Traverse City, the opposite was true. There might be unobserved neighborhood factors that contributed to these differences. Royal Oak does not have an airport.

Being closer to downtown, or the central business district, had positive price effects in Lansing, but not in Royal Oak. This measure was not computed for Traverse City. This finding indicates that the downtown had a significant impact on Lansing properties, but that it had no distinguishable effects on Royal Oak properties, perhaps because of the small area of the City. In Lansing, properties that were located closer to Michigan State University sold for more than those located farther away. Furthermore, Category 2 properties benefited more from this close proximity. Homes affordable to the workforce tended to value their closeness to the university. The same can be said about this category and the airport. In Traverse City, there was no significant effect to being closer to Northwestern Michigan College.

The effects of nearby public schools were not consistent across the three cities. In Lansing, there was no price premium for homes that sold close to elementary schools. But for middle and high schools, there was a small increase in home prices when located closer to these types of schools. This was true for Category 1 properties in Lansing. For Category 2, there was only a premium for middle schools. Finally, a home being closer to a high school tended to detract value from Category 3 properties. In Royal Oak, being closer to an elementary school was associated with lower home sale prices for Categories 1 and 2. Category 3 properties, however, tended to sell for higher prices when located near a high school. These findings were difficult to explain. There could be several neighborhood factors and school conditions that affected these differences. It should also be noted that in many instances, "neighborhood" schools might not actually serve those, or all of those, who live nearby.

Rather than discuss each and every establishment type and its varying distances for each of the three cities, we will focus on six establishments: grocery stores, specialty food stores, book, periodical and music stores, and bars and full-service and limited-service restaurants. Results can be compared directly in Tables 9–11 in Appendix C.

The number of nearby grocery stores tended to affect properties in each city differently. In Lansing, not a single property category's value was positively influenced by the number of nearby grocery stores, at varying distances. There may be several factors that explain this, which are discussed in the Part on Recommendations on page 63. In Traverse City, the number of nearby grocery stores only negatively affected Category 3 properties when located closer than a quarter-mile. Conversely, their prevalence tended to positively affect prices for Category 1 properties when they were found between a quarter-mile and a mile. In Royal Oak, the number of grocery stores located closer than a quarter-mile to a home had a negative price impact for Category 1 properties. However, home prices were more positive when there was a greater number between a quarter-mile and a half-mile. Category 2 property values benefitted from having a greater number of grocery stores nearby, whereas Category 3 properties were negatively affected by a greater number of stores at the half-mile distance and greater.

Similar results were found for specialty food stores. In Lansing, the number of these stores within a quarter-mile of Category 1 properties added significantly to home sale prices. Yet, in Traverse City the number of stores within a quarter-mile greatly detracted from prices (for Category 1), while in Royal Oak, Category 1 properties were negatively affected at the mile to 1.5 miles range, and Category 2 properties were positively influenced at the quarter-mile to half-mile range. Similar to grocery stores, the size, location and condition of the store probably had effects on home prices that were not observed through this analysis. Distance was an important factor. While homebuyers might want to live within a walkable distance of grocery or specialty food stores, if there were negative perceptions of the store or if the store itself was in "bad shape," then properties might sell for higher when they were a bit farther away—perhaps still walkable, but "not in my backyard," per se. Again, this issue is discussed in the Recommendations part and deserves more attention.

The number of nearby book, periodical and music stores negatively affected home prices for all three property categories in Lansing when located more than a mile from the property. However, the prevalence of such stores between a half-mile and a mile had a positive effect on Category 1 properties. In Traverse City, the only affected housing category was Category 3 and it was negatively affected when such establishments were located closer than a quarter-mile. In Royal Oak, Category 2 home prices were not affected by these types of establishments. Category 1 property prices were positively influenced when a greater number of such businesses were located more than a quarter-mile away. Category 3 properties in Royal Oak were negatively affected when located between a quarter-mile and a half-mile away. While we discuss this type of business establishment here, instead of say clothing or clothing accessories stores, similar trends were observed across the property categories and cities. Again, it was difficult to explain why these results were found due to a lack of qualitative data on business establishments.

Finally, we turn our attention to eating and drinking establishments. Bars and restaurants are commonly cited as being essential placemaking elements, especially for attracting and retaining talent workers who are interested in a vibrant nightlife, good food and all-around opportunities to have fun and socialize. There exists a potent relationship between these establishments and housing—walkability. Being able to walk or bike to these places, or easily access them via transit, is another oft-cited component of placemaking.

Bars and restaurants are commonly cited as being essential placemaking elements, especially for attracting and retaining talent workers who are interested in a vibrant nightlife, good food and all-around opportunities to have fun and socialize.

Full-service restaurants positively affected home sale prices of Category 1 properties in Lansing. Category 2 properties were not affected and Category 3 properties generally saw home prices decrease the closer the concentration of these businesses were to the property. In Traverse City, only Category 3 properties were affected by the number of nearby full-service restaurants, but only when located closer than a quarter-mile. In Royal Oak, the impact of the number of nearby restaurants was positive. Category 1 and 2 property prices were positively affected by the number of nearby restaurants when located anywhere between a quarter-mile to a half-mile (Category 1) or anywhere between a quarter-mile and a mile (Category 2). For Category 1 properties, negative effects were observed with a greater number of such businesses more than a mile away. For limited-service restaurants, in no property category at no

distance was a negative effect observed. In other words, a greater number of these establishments nearby tended to contribute positively to the home's sale price.

In Traverse City, the opposite was true—but only for Category 2 properties, whereby greater numbers of these businesses nearby tended to detract from home value. In Royal Oak, all three property categories were positively affected, but only at a distance interval of a half-mile or greater. Finally, the number of bars within a quarter-mile of Category 1 and Category 3 properties in Lansing tended to detract from home prices. No other distances were significant. In Traverse City, the prevalence of nearby bars had gravely negative effects on all three property types. In Royal Oak, the same was true except that Category 3 properties were not affected. Based on these findings, bars located close to homes could be more of a liability than an asset.

Differences between Property Categories

One of the stated purposes of this report is to better understand the relationship between placemaking and non-market rate housing. Since the data utilized in this study do not indicate whether a sold property was purchased by a workforce household or one that qualifies for affordable housing credits, it was necessary to analyze homes based on affordability categories. There are many instances when, for example, a Category 1 home price is significantly affected by a placemaking attribute and a Category 2 or 3 home is not. There could be several explanations for this. One has to do with neighborhood effects. There is a possibility (and in many times) the reality that nearby homes are similar. In real estate, "comps"—or comparables—is a measure of home sale price comparability. It is assumed that when a home is listed for sale, nearby homes that are similar will have sold for a similar price. While "comps" were not featured in our model, a pattern of similar housing in a neighborhood, which is close to stores and parks and other features, will likely experience positive or negative effects compared to homes in dissimilar areas. For example, Category 1 homes, which may be clustered in a neighborhood, have positive benefits associated with a public park. Yet, a cluster of Category 3 homes may not realize the same value of having that park nearby.

Another reason why placemaking effects vary across Categories could be due to the models themselves. A smaller number of properties are analyzed in Categories 2 and 3 and could, therefore, be affected by statistical issues, such as degrees of freedom and model inefficiencies. Finally, it is possible that there are external things (not modeled) that influence housing prices across categories. These are captured in the error term.

Limitations and Explanations

Even though some community features that are commonly referred to as a component of placemaking, such as a walkable distance to a park or grocery store were found to negatively affect property value, that does not necessarily mean that there was a causal relationship occurring. It could be that, while parks added to sale prices, there were some parks—or a concentration of parks—that tended to detract from sale prices, whether due to crime, condition or noise. Furthermore, considering that Michigan has been lagging a bit behind in adopting placemaking and other planning and design practices, such features might not yet positively affect home values. This conclusion, therefore, would lead us to recommend that further research attempt to understand why certain features add value to properties.

Since this study utilizes parcel-level data, there were some limitations introduced by having to rely on aggregated data sources for certain characteristics.

Placemaking is an imprecise concept to many audiences. It has to do with sense of place, the physical and built environment, buildings, parks, a mix of land uses, smart growth and other concepts.

Census tract and block group data provided community and neighborhood characteristics, but they might also be too large, geographically, in that they did not provide enough local information. For example, the percentage of population in poverty in a census tract typically detracted from home values in our case study cities. There could, however, be a considerable difference in poverty rates from one block to the next that could affect home values that could not be accounted for in this model. The same could be true for the measure of median household income in a block group.

Some of the home price breaks used to define workforce and affordable housing might seem high. For instance, the maximum home sale price for workforce properties in Royal Oak was $295,000, which was high compared to the other cities and places throughout the state. Since we were only examining sold properties within the city limits of the three case study cities, we were not able to capture where some segments of the workforce might actually live—outside of the city. It was plausible that the workforce could not afford property within the city limits of the examined cities. We recognize this limitation and recommend that future studies examine regional home sales and control for homes that sold in cities, villages and townships.

Placemaking is an imprecise concept to many audiences. It has to do with sense of place, the physical and built environment, buildings, parks, a mix of land uses, smart growth and other concepts. While this study focuses on the real estate components of placemaking, there are still other factors that need to be modeled, but are not available in a usable data format. For instance, quality of place is important information, but is difficult— if not impossible—to gauge using the methods presented in this report. Sense of place among residents would provide much-needed information about neighborhoods and the homes in them, but again, is difficult to model given the chosen framework.

Finally, as with any statistical model, there are limitations regarding the accuracy and predictive power of home values. First and foremost, is the matter of causation versus correlation. Recalling that our model's chief aim was to estimate values of placemaking features, it was important to identify those elements on top of the other features that affect home value. While there is a degree of certainty in the results, it cannot be said that, for example, a home's proximity to a school caused its value to increase or decrease. There was merely a strong correlation between a property's sale price and that feature. That is why when examining each coefficient, it is necessary to realize that it is in the context of "all else being equal," or "all else held constant," meaning that we are examining these factors amongst many other factors. Also, analysis at such a small scale—the parcel level—can be hampered by data availability limitations. For each case city, we did our best to obtain comprehensive data that would further aid in model development.

Given the data availability and rigor of the analysis, we are very satisfied with the results. Not only did the models exhibit what Realtors said they would expect, but the models also further provided estimates for features that other models had not taken into consideration. We consider this both an achievement and an opportunity for model specification improvement, incorporating other features, and executing other types of analyses to uncover other placemaking value premiums.

Part 7: Recommendations

BASED ON THE RESULTS PART PRESENTED PREVIOUSLY, THIS PART MAKES RECOMMENDATIONS FOR FURTHER RESEARCH, IMPROVED DATA COLLECTION AND APPLYING FINDINGS TO COMMUNITIES.

1. Some land uses mix well with residential neighborhoods, and some do not—it seemed to be different for different cities. For example, specialty stores had no property value impacts in Lansing; had negative effects in Traverse City; and had positive impacts in Royal Oak. Therefore, a community's vision and goals should really be considered in master plans, zoning and placemaking. On the other hand, the values of the people that cities want to attract to their communities should also be considered.

2. Further research about the type and quality of grocery stores (and other establishments) within close proximity is needed, because there could be different impacts. Recall that we did not consider chain, size or "quality" of nearby grocery stores. National chains could have different property value impacts than locally owned grocery stores. Similarly, size (floor space), parking lot size and traffic congestion could have effects as well.

3. Further research is also needed on specific building characteristics and households. Green building characteristics, energy efficiency improvements, commute types, race, educational attainment and other data would greatly inform future analysis. Much of these data are either not available or aggregated at higher geographic levels, such as block group and census tract. Further research is also needed on why different impacts were observed at some distances and not others and at various price points in the categories of properties. Additionally, other placemaking elements should be included, such as public spaces, arts and culture and non-motorized transportation enhancements

4. Only examining Michigan cities did not paint the full picture of placemaking and its value contributions, because a) Placemaking was, and still is, not prevalent in Michigan cities; b) New placemaking activities may not yet show a positive impact if implemented recently; and c) Placemaking was examined from a strictly local sense. Having an understanding of how placemaking contributes across a region would be beneficial information.

5. Conducting analysis that translates positive placemaking effects into community economic impacts and property tax revenue impacts would illustrate the community-based benefits of placemaking. These results would help local and regional governments better understand the effects of placemaking at a larger scale.

6. Based on survey results, an education or training program detailing the nuances and benefits of placemaking would be beneficial for bankers, developers and local officials.

7. Recall, 88% of surveyed bankers said that loan assistance programs, public financing, tax credits, grants or other supplemental funding that reduce development costs factor into favorable lending terms. To the same degree, things like expedited permitting or development fast-track approval that reduces a project's timeline would make lending decisions easier. All parties need to seriously take into account the many incentives and time-prolonging factors that affect placemaking developments. In fact, there is currently research underway that attempts to identify programs or mechanisms that can "de-risk" development projects. The idea that when placemaking projects (or progressive developments, as coined by Chris Leinberger) are less risky to the many placemakers, they are viewed more favorably and can, thus, have a positive impact sooner, rather than later.

There is currently research underway that attempts to identify programs or mechanisms that can "de-risk" development projects. The idea that when placemaking projects are less risky to the many placemakers, they are viewed more favorably and can, thus, have a positive impact sooner, rather than later.

Part 8: Conclusion

BASED ON THE RESULTS FROM THE HEDONIC PRICING ANALYSES OF THREE MICHIGAN CITIES, PLACEMAKING FEATURES AFFECT PROPERTIES IN VARIOUS WAYS. THE RESULTS BORNE FROM THESE ANALYSES OUGHT TO BE HELPFUL IN UNDERSTANDING WAYS TO INCREASE HOUSING VALUES THAT, IN TURN, CAN BENEFIT THE COMMUNITY THROUGH AN INCREASED DESIRE TO LIVE AND WORK IN THOSE COMMUNITIES, ALONGSIDE INCREASED TAX REVENUES. HOWEVER, THIS SHOULD REMAIN IN THE CONTEXT OF KEEPING AFFORDABLE WORKFORCE HOUSING SUPPLIES AT LEVELS SOUGHT BY THE LOCAL WORKFORCE.

Placemaking is not a new concept. However, in recent years, several cities and regions have become increasingly engaged in using it as an economic development tool, a population attraction mechanism, and more simply, a brand. Recognizing that people like nice, vibrant places with a variety of things to do, many cities, townships and regions have come to terms with the fact that economic growth is not automatic and that place matters. In the case of Michigan, whose many cities and regions have been built to efficiently move automobile traffic, it is necessary to ask if redevelopment and placemaking in the future will be based on subsidies and incentives; or will they be based on a cadre of "placemakers" who care deeply about, and are committed to providing, a high quality of life and creating a strong sense of place? Will they have the support, data and information needed to make it happen?

The real estate development aspect of placemaking has the ability to attract people and jobs, but tends to be more expensive to build and, as a result, more risky to fund. The literature and a review of some case studies highlight regulatory barriers (mostly zoning), public perception problems and avoidance of density, which has promoted an automobile-friendly built environment, and past failed public programs (urban renewal and public housing programs)

Michigan State University campus, East Lansing.

that have typically prevented placemaking from blossoming. As the contemporary form of placemaking has emerged—one that encourages public space surrounded by increased density, promotes sense of place and vibrancy and encourages progressive real estate development—it has been criticized as being more expensive to build. Thus, developers sometimes struggle to get banks and other funding sources to finance them. Consequently, they seek incentives and subsidies, often in the form of brownfield tax credits for redevelopment and other state or locally based credits for new or other forms of redevelopment.

While placemaking has been elevated to a position of being a desirable development and redevelopment platform for leveraging economic development and attracting knowledge and talented workers, there are challenges associated with providing affordable housing to segments of the workforce that cannot afford some of the more expensive elements of these developments. A body of literature exists on the affordability problems in many of America's largest cities. The result is that many workforce population segments cannot afford to live where they work. Thus, they live outside of the city where they can afford housing, but then spend more on private transportation. Regionally, this impacts both the quality of life of residents and the overall congestion and infrastructure stress placed on local services. However, there

Downtown Traverse City.

are model programs out there that have been able to balance placemaking with affordable and workforce housing. In Appendix F, there is a list of resources available that detail success stories. Publications by Smart Growth America and the Urban Land Institute have led the way in illustrating the balance between these two seemingly contrasting objectives.

In some communities developers are able to incorporate workforce and/or affordable housing through credits (incentives), or are required to do so through regulations. Developers can receive tax credits or other benefits if they designate a certain percentage of a residential development as affordable. On the other hand, some local governments require that multi-family or other mixed-use developments include a pre-designated proportion of affordable housing. Based on our survey results, affordable and/or workforce housing seems to be important to developers and local officials, but in practice, it is seldom utilized.

While placemaking has been recognized as being a desirable development and redevelopment platform for leveraging economic development and attracting knowledge and talented workers, there are challenges associated with providing affordable housing to segments of the workforce due to the more expensive elements of some of these developments.

Based on the results from the hedonic pricing analyses of three Michigan cities, placemaking features affect properties in various ways. The results borne from these analyses ought to be helpful in understanding ways to increase housing values that, in turn, can benefit the community through an increased desire to live and work in those communities, alongside increased tax revenues. However, this should remain in the context of keeping affordable workforce housing supplies at levels sought by the local workforce. As mentioned in the Part detailing Recommendations, it would be beneficial to understand the value accrual of placemaking features, as measured by property values or home sale prices.

More importantly, the hedonic pricing method furnished numerous estimates for the value of placemaking elements. Schools, parks, stores, green infrastructure and other important placemaking features were often found to significantly and positively affect sale prices in the three case study cities of Lansing, Traverse City and Royal Oak. Since each city is different in terms of its economy, socio-economic indicators, size and other factors, the results highlight differences between cities and come close to explaining why these differences occur. The findings present information that has not been seen before for these cities. Policy makers, bankers, residents, academics, real estate professionals and planners can benefit from the information garnered in this report.

Finally, it will be possible to explore results for more cities in the future. Through another grant made possible by the Michigan State Housing Development Authority and the Michigan Association of Realtors, we are extending this analysis to include three additional Michigan cities and six Midwest cities outside of the state. One objective will be to see how the added Michigan cities fare compared to the in-state cities presented in this report, as well as similarly sized cities in other Midwest states. The data made available by several cities, and the processing of spatial information using GIS make this both an interesting exercise in research, as well as practice. Knowing precisely *how* placemaking affects property values and to *what* extent, is valuable information. Refining the methods, collecting additional data and continuing the research on placemaking value contributions will help communities, developers, bankers, citizens and others better understand the value of placemaking features. Furthermore, assigning a price of neighborhood, community and other housing features on property value can pave the way for future research and, as a result, could provide exceptional tools that help communities leverage their placemaking plans and, thus, continue to build on their sense of place and placemaking goals well into the 21st Century.

We are extending this analysis to include three additional Michigan cities and six Midwest cities outside of the state. One objective will be to see how the added Michigan cities fare compared to the in-state cities presented in this report, as well as similarly sized cities in other Midwest states.

Part 9: Appendices

Appendix A: Data Sources

Table 5: Data Sources

Variable	Data Source*	Data Calculations
Sale Year 2001	1, 9, 11	–
Sale Year 2002	1, 9, 11	–
Sale Year 2003	1, 9, 11	–
Sale Year 2004	1, 9, 11	–
Sale Year 2005	1, 9, 11	–
Sale Year 2006	1, 9, 11	–
Sale Year 2007	1, 9, 11	–
Sale Year 2008	1, 9, 11	–
Sale Year 2009	1, 9, 11	–
Sale Year 2010	1, 9, 11	–
Property Sales in December, January and February	1, 9, 11	–
Property Sales in March, April and May	1, 9, 11	–
Property Sales in September, October and November	1, 9, 11	–
Property Square Feet	1, 9, 11	–
Age of Property (2010–Year Built)	1, 9, 11	–
# of Bedrooms	1, 9, 11	–
# of Full-Baths	1, 9, 11	–
# of Half-Baths	1, 9, 11	–
Square Footage of the House	1, 9, 11	–
Heating Fuel Type	1, 9, 11	–
House Exterior Type	1, 9, 11	–
Central Air in Home	1, 9, 11	–
Basement Square Footage	1, 9, 11	–
Total Square Footage of Porches and Decks	1, 9, 11	–
Garage Area in Square Feet (Lansing/Traverse City)	1, 11	–
Garage Y/N (Royal Oak)	9	–

*Listing of Data Sources:
– No data calculations were performed for this variable.

1. City of Lansing Assessor's Office, Lansing, MI 2010.
2. City of Lansing GIS Department, Lansing, MI, 2010.
3. City of Lansing Police Department, Lansing, MI, 2010.
4. Environmental Systems Research Institute, StreetMap, USA, 2006.
5. U.S. Census Bureau, 2010 Census Data.
6. U.S. Census Bureau, American Community Survey, 2005-2009 Five-Year Estimates.
7. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
8. Walls and Associates, NETS: National Establishment Time-Series Database, 2007, Oakland, CA.
9. City of Royal Oak Assessor's Office, Royal Oak, MI, 2010.
10. City of Royal Oak Police Department, Royal Oak, MI, 2010.
11. City of Traverse City Assessor's Office, Traverse City, MI, 2010.
12. City of Traverse City Police Department, Traverse City, MI, 2010.
13. Michigan State University, Land Policy Institute, East Lansing, MI, 2011.
14. Michigan Geographic Data Library, Lansing, MI, 2011.
15. Conservation and Recreation Lands, Great Lakes/Atlantic Regional Office, 2011.

Table 5: Data Sources (cont.)

Variable	Data Source*	Data Calculations
Pool Size in Square Feet	1, 9, 11	–
# of Fireplaces	1, 9, 11	–
Sale in Active Neighborhood Enterprise Zone	1, 9, 11	–
Renaissance Zone	1, 9, 11	–
Condominiums	1, 9, 11	–
Stories in Home	1, 9, 11	–
# of Property Crimes from 2000–2010 within a ½ Mile of Parcel	3, 10, 12	–
# of Violent Crimes from 2000–2010 within a ½ Mile of Parcel	3, 10, 12	–
Median Household Income within Block Group: 2005–2009	6	–
Income Diversity Index	6	Diversity Index
Racial Diversity Index: 2010	5	Diversity Index
% of Poverty in Census Tract: 2005–2009	6	–
% of Population Age 25 and Older with a High School Degree: 2005–2009	6	–
% of Population Age 25 and Older with a Associate's Degree: 2005–2009	6	–
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	6	–
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	6	–
Age Diversity Index	6	Diversity Index
Children Ages 5 to 17	6	–
Distance to Closest Interstate in Feet (Lansing/Royal Oak)	4	Distance Calculated in GIS
Distance to Closest River in Feet	14	Distance Calculated in GIS
Distance to Closest Lake in Feet	14	Distance Calculated in GIS
Distance to Closest Park in Feet	15	Distance Calculated in GIS
Distance to the River Trail in Feet (Lansing)	2	Distance Calculated in GIS
Distance to Lake Michigan in Feet (Traverse City)	13	Distance Calculated in GIS
Distance to Nearest Airport in Feet	4	Distance Calculated in GIS
Distance to Downtown in Feet	13	Distance Calculated in GIS
Distance to Old Town in Feet (Lansing)	13	Distance Calculated in GIS
Distance to the Michigan Ave. Corridor in Feet (Lansing)	13	Distance Calculated in GIS
Distance to Nearest University in Feet	13	Distance Calculated in GIS
Distance to Closest Primary School in Feet	7	Distance Calculated in GIS
Distance to Closest Middle School in Feet	7	Distance Calculated in GIS
Distance to Closest High School in Feet	7	Distance Calculated in GIS
Motor Vehicle and Parts Dealers	8	Prevalence Calculated in GIS
Furniture and Home Furnishing Stores	8	Prevalence Calculated in GIS
Electronics and Appliance Stores	8	Prevalence Calculated in GIS
Building Material/Garden Equipment/Supply Dealers	8	Prevalence Calculated in GIS
Grocery Stores	8	Prevalence Calculated in GIS
Specialty Food Stores	8	Prevalence Calculated in GIS

Table 5: Data Sources (cont.)

Variable	Data Source*	Data Calculations
Beer, Wine and Liquor Stores	8	Prevalence Calculated in GIS
Health and Personal Care Stores	8	Prevalence Calculated in GIS
Gasoline Stations	8	Prevalence Calculated in GIS
Clothing and Clothing Accessories Stores	8	Prevalence Calculated in GIS
Sporting Goods, Hobby and Musical Instrument Stores	8	Prevalence Calculated in GIS
Book, Periodical and Music Stores	8	Prevalence Calculated in GIS
General Merchandise Stores	8	Prevalence Calculated in GIS
Miscellaneous Store Retailers	8	Prevalence Calculated in GIS
Performing Arts Companies	8	Prevalence Calculated in GIS
Spectator Sports	8	Prevalence Calculated in GIS
Promoters of Performing Arts, Sports and Similar Events	8	Prevalence Calculated in GIS
Museums, Historical Sites and Similar Institutions	8	Prevalence Calculated in GIS
Gambling Industries	8	Prevalence Calculated in GIS
Amusement Parks and Arcades	8	Prevalence Calculated in GIS
Other Amusement and Recreation Industries	8	Prevalence Calculated in GIS
Full-Service Restaurants	8	Prevalence Calculated in GIS
Limited-Service Eating Places	8	Prevalence Calculated in GIS
Drinking Places (Alcoholic Beverages)	8	Prevalence Calculated in GIS
Religious Organizations	8	Prevalence Calculated in GIS
% Class-Exempt Property within a ½ Mile of Property in Square Feet	8	Proportion Calculated in GIS
% Commercial Property within a ½ Mile of Property in Square Feet	8	Proportion Calculated in GIS
% Residential Property within a ½ Mile of Property in Square Feet	8	Proportion Calculated in GIS
% Class Land Bank Property within a ½ Mile of Property in Square Feet	8	Proportion Calculated in GIS
% of Area within a ½ Mile of the Parcel with Unknown Use	8	Proportion Calculated in GIS
# of Businesses within 1 Mile	8	Prevalence Calculated in GIS
# of Employees within 1 Mile	8	Prevalence Calculated in GIS

*Listing of Data Sources:
– No data calculations were performed for this variable.

1. City of Lansing Assessor's Office, Lansing, MI 2010.
2. City of Lansing GIS Department, Lansing, MI, 2010.
3. City of Lansing Police Department, Lansing, MI, 2010.
4. Environmental Systems Research Institute, StreetMap, USA, 2006.
5. U.S. Census Bureau, 2010 Census Data.
6. U.S. Census Bureau, American Community Survey, 2005-2009 Five-Year Estimates.
7. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
8. Walls and Associates, NETS: National Establishment Time-Series Database, 2007, Oakland, CA.
9. City of Royal Oak Assessor's Office, Royal Oak, MI, 2010.
10. City of Royal Oak Police Department, Royal Oak, MI, 2010.
11. City of Traverse City Assessor's Office, Traverse City, MI, 2010.
12. City of Traverse City Police Department, Traverse City, MI, 2010.
13. Michigan State University, Land Policy Institute, East Lansing, MI, 2011.
14. Michigan Geographic Data Library, Lansing, MI, 2011.
15. Conservation and Recreation Lands, Great Lakes/Atlantic Regional Office, 2011.

Appendix B: Descriptive Statistics

Table 6: Descriptive Statistics - Lansing, MI

Lansing, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Sale Price	$93,342.36	$45,916.12	$500.00	$1,188,250.00
Sale Year 2000	0.12	0.32	0	1
Sale Year 2001	0.14	0.35	0	1
Sale Year 2002	0.12	0.33	0	1
Sale Year 2003	0.12	0.32	0	1
Sale Year 2004	0.12	0.33	0	1
Sale Year 2005	0.14	0.35	0	1
Sale Year 2006	0.09	0.28	0	1
Sale Year 2007	0.05	0.21	0	1
Sale Year 2008	0.03	0.18	0	1
Sale Year 2009	0.04	0.21	0	1
Sale Year 2010	0.03	0.18	0	1
Property Sales in December, January and February	0.22	0.42	0	1
Property Sales in March, April and May	0.26	0.44	0	1
Property Sales in September, October and November	0.23	0.42	0	1
Property Square Feet	8,472.18	7,017.09	0	165,266.64
Age of Property (2010–Year Built)	60.76	120.41	1	2,010
# of Bedrooms (Not Reported for All Properties)	2.79	0.84	1	22
# of Full-Baths	1.17	0.46	0	8
# of Half-Baths	0.41	0.55	0	3
Square Footage of the House	1,186.51	463.84	0	9,576
Heating Fuel – Coal	0	0.03	0	1
Heating Fuel – Gas	0.88	0.33	0	1
Heating Fuel – Oil	0.05	0.22	0	1
Heating Fuel – Steam (City Provided)	0	0.05	0	1
House Exterior – Asbestos	0.01	0.10	0	1
House Exterior – Asphalt	0	0.05	0	1
House Exterior – Block	0	0.06	0	1
House Exterior – Brick	0.04	0.20	0	1
House Exterior – Wood	0.21	0.41	0	1
House Exterior – Stucco	0	0.06	0	1
House Exterior – Vinyl	0.01	0.08	0	1
Central Air in Home	0.34	0.47	0	1
Basement Square Footage	694.16	415.79	0	3,807
Total Square Footage of Porches and Decks	131.93	121.30	0	967
Garage Area in Square Feet	262.23	229.97	0	1,435
Pool Size in Square Feet	13.74	92.05	0	800

Table 6: Descriptive Statistics - Lansing, MI (cont.)

Lansing, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
# of Fireplaces	0.25	0.49	0	6
Neighborhood Enterprise Zone	0.02	0.13	0	1
Renaissance Zone	0	0.03	0	1
Condominiums	0.11	0.32	0	1
Stories in Home	1.34	0.42	1	2.50
# of Property Crimes from 2000–2010 within a ½ Mile of Parcel	3,556.10	2,685.67	177	15,739
# of Violent Crimes from 2000–2010 within a ½ Mile of Parcel	760.76	512.97	23	2,770
Median Household Income within Block Group: 2005–2009	42,592.62	14,033.59	11,172	86,932
Income Diversity Index	0.88	0.03	0.49	0.93
Racial Diversity Index: 2010	0.45	0.17	0	0.78
% of Poverty in Census Tract: 2005–2009	0.23	0.09	0.04	0.51
% of Population Age 25 and Older with a High School Degree: 2005–2009	0.31	0.09	0.07	0.43
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	0.08	0.02	0.03	0.13
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	0.13	0.08	0.03	0.32
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	0.06	0.05	0	0.31
Age Diversity Index	0.73	0	0.70	0.74
Children Age 5 to 17	0.17	0.06	0.02	0.36
Distance to Closest Interstate in Feet	6,851.11	4,029.45	160.14	15,110.37
Distance to Closest River in Feet	4,557.24	2,919.92	123.08	14,278.59
Distance to Closest Lake in Feet	3,331.05	1,795.94	54.62	9,394.47
Distance to Closest Park in Feet	963.36	586.39	6.20	3,441.61
Distance to the River Trail in Feet	9,202.52	5,836.61	115.49	22,689.06
Distance to Lansing Airport in Feet	23,552.85	11,473.28	3,224.31	46,879.50
Distance to Downtown in Feet	14,702.39	6,419.19	1,430.52	29,304.17
Distance to Old Town in Feet	15,575.71	9,352.52	993.11	34,003.38
Distance to the Michigan Ave. Corridor in Feet	13,648.43	7,140.33	168.40	28,768.03
Distance to MSU in Feet	24,585.63	7,722.47	7,791.75	39,908.07
Distance to Closest Primary School in Feet	2,338.66	1,223.70	119.99	6,184.10
Distance to Closest Middle School in Feet	6,014.15	3,138.78	152.28	14,496.15
Distance to Closest High School in Feet	7,806.21	2,948.66	171.16	13,682.47
Motor Vehicle and Parts Dealers within a ¼ Mile	0.47	1.13	0	8
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	1.92	2.52	0	15
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	5.96	5.15	0	23
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	8.64	6.07	0	32
Furniture and Home Furnishings Stores within a ¼ Mile	0.19	0.45	0	3

Table 6: Descriptive Statistics - Lansing, MI (cont.)

Lansing, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	0.62	0.91	0	5
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	2.36	1.79	0	8
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	4.09	2.33	0	12
Electronics and Appliance Stores within a ¼ Mile	0.20	0.57	0	6
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	0.85	1.20	0	7
Electronics and Appliance Stores within a ½ Mile – 1 Mile	2.93	2.26	0	14
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	4.59	3.35	0	16
Building Material/Garden Equipment/Supplies Dealers within a ¼ Mile	0.25	0.57	0	3
Building Material/Garden Equipment/ Supplies Dealers within a ¼ Mile – a ½ Mile	0.91	1.20	0	6
Building Material/Garden Equipment/ Supplies Dealers within a ½ Mile – 1 Mile	3.07	2.44	0	9
Building Material/Garden Equipment/ Supplies Dealers within 1 Mile – 1 ½ Miles	4.55	2.61	0	14
Grocery Stores within a ¼ Mile	0.33	0.69	0	5
Grocery Stores within a ¼ Mile – a ½ Mile	1.10	1.18	0	6
Grocery Stores within a ½ Mile – 1 Mile	4.06	2.94	0	16
Grocery Stores within 1 Mile – 1 ½ Miles	7.17	3.77	0	18
Specialty Food Stores within a ¼ Mile	0.12	0.38	0	4
Specialty Food Stores within a ¼ Mile – a ½ Mile	0.34	0.68	0	4
Specialty Food Stores within a ½ Mile – 1 Mile	1.38	1.84	0	10
Specialty Food Stores within 1 Mile – 1 ½ Miles	2.27	2.13	0	11
Beer, Wine and Liquor Stores within a ¼ Mile	0.08	0.33	0	2
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	0.23	0.55	0	3
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	0.75	1.06	0	6
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	1.07	1.36	0	7
Health and Personal Care Stores within a ¼ Mile	0.23	0.62	0	5
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	0.95	1.57	0	14
Health and Personal Care Stores within a ½ Mile – 1 Mile	3.07	3.33	0	19
Health and Personal Care Stores within 1 Mile – 1 ½ Miles	5.44	4.39	0	25
Gasoline Stations within a ¼ Mile	0.15	0.40	0	4
Gasoline Stations within a ¼ Mile – a ½ Mile	0.44	0.67	0	4
Gasoline Stations within a ½ Mile – 1 Mile	1.43	1.33	0	8
Gasoline Stations within 1 Mile – 1 ½ Miles	2.44	1.73	0	12
Clothing and Clothing Accessories Stores within a ¼ Mile	0.56	0.78	0	5
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	1.76	2.08	0	17
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	6.62	4.60	0	26
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	9.61	6.33	1	43

Table 6: Descriptive Statistics - Lansing, MI (cont.)

Lansing, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	0.17	0.47	0	5
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – a ½ Mile	0.67	1.07	0	8
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	3.18	2.99	0	14
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	5.24	3.58	0	21
Book, Periodical and Music Stores within a ¼ Mile	0.11	0.36	0	3
Book, Periodical, and Music Stores within a ¼ Mile – a ½ Mile	0.50	0.76	0	7
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	1.48	1.54	0	8
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	2.56	2.27	0	15
General Merchandise Stores within a ¼ Mile	0.14	0.40	0	3
General Merchandise Stores within a ¼ Mile – a ½ Mile	0.44	0.71	0	4
General Merchandise Stores within a ½ Mile – 1 Mile	1.42	1.35	0	8
General Merchandise Stores within 1 Mile – 1 ½ Miles	2.61	1.67	0	9
Miscellaneous Store Retailers within a ¼ Mile	0.89	1.20	0	9
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	2.54	2.26	0	21
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	9.65	6.84	0	39
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	15.12	9.35	0	47
Performing Arts Companies within a ¼ Mile	0.12	0.36	0	3
Performing Arts Companies within a ¼ Mile – a ½ Mile	0.26	0.57	0	4
Performing Arts Companies within a ½ Mile – 1 Mile	1.14	1.24	0	5
Performing Arts Companies within 1 Mile – 1 ½ Miles	1.89	1.51	0	8
Spectator Sports within a ¼ Mile	0.02	0.14	0	1
Spectator Sports within a ¼ Mile – a ½ Mile	0.07	0.26	0	2
Spectator Sports within a ½ Mile – 1 Mile	0.41	0.65	0	3
Spectator Sports within 1 Mile – 1 ½ Miles	0.66	0.86	0	3
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	0.03	0.16	0	1
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	0.09	0.29	0	2
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	0.42	0.62	0	3
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	0.54	0.78	0	3
Museums, Historical Sites and Similar Institutions within a ¼ Mile	0.03	0.20	0	3
Museums, Historical Sites and Similar Institutions within a ¼ Mile – a ½ Mile	0.13	0.45	0	3
Museums, Historical Sites and Similar Institutions within a ½ Mile – 1 Mile	0.88	1.71	0	10
Museums, Historical Sites and Similar Institutions within 1 Mile – 1 ½ Miles	1.50	2.30	0	11

Table 6: Descriptive Statistics - Lansing, MI (cont.)

Lansing, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Amusement Parks and Arcades within a ¼ Mile	0.03	0.20	0	3
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	0.13	0.45	0	3
Amusement Parks and Arcades within a ½ Mile – 1 Mile	0.88	1.71	0	10
Amusement Parks and Arcades within 1 Mile – 1 ½ Miles	1.50	2.30	0	11
Other Amusement and Recreation Industries within a ¼ Mile	0.20	0.49	0	3
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	0.76	1.12	0	7
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	3.38	2.32	0	15
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	5.22	3.14	0	17
Full-Service Restaurants within a ¼ Mile	0.54	0.99	0	7
Full-Service Restaurants within a ¼ Mile – a ½ Mile	2.18	2.59	0	21
Full-Service Restaurants within a ½ Mile – 1 Mile	8.54	7.15	0	38
Full-Service Restaurants within 1 Mile – 1 ½ Miles	13.18	9.52	0	49
Limited-Service Eating Places within a ¼ Mile	0.19	0.56	0	4
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	1.27	2.12	0	14
Limited-Service Eating Places within a ½ Mile – 1 Mile	3.72	4.14	0	21
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	7.02	6.40	0	34
Drinking Places (Alcoholic Beverages) within a ¼ Mile	0.14	0.40	0	3
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	0.50	0.81	0	5
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	1.79	1.97	0	11
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	3.21	3.01	0	16
Religious Organizations within a ¼ Mile	1.24	1.37	0	12
Religious Organizations within a ¼ Mile – a ½ Mile	3.52	2.67	0	21
Religious Organizations within a ½ Mile – 1 Mile	11.65	5.87	0	34
Religious Organizations within 1 Mile – 1 ½ Miles	18.84	7.76	4	43
% of Class-Exempt Property within a ½ Mile of Property in Square Feet	0.20	0.10	0	0.63
% of Commercial Property within a ½ Mile of Property in Square Feet	0.12	0.10	0	0.58
% of Residential Property within a ½ Mile of Property in Square Feet	0.39	0.13	0	0.78
% of Class Land Bank Property within a ½ Mile of Property in Square Feet	0	0.01	0	0.04
% of Area within a ½ Mile of the Parcel within Unknown Use	0.23	0.17	0	0.81
# of Businesses within 1 Mile	583.86	318.51	146	1,983
# of Employees within 1 Mile	7,435.65	8,757.19	669	54,554

Table 7: Descriptive Statistics - Traverse City, MI

Traverse City, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Sale Price	$180,677.66	$132,282.09	$25,000.00	$2,900,000.00
Sale Year 2000	0.06	0.24	0	1
Sale Year 2001	0.07	0.26	0	1
Sale Year 2002	0.07	0.25	0	1
Sale Year 2003	0.09	0.28	0	1
Sale Year 2004	0.11	0.31	0	1
Sale Year 2005	0.09	0.29	0	1
Sale Year 2006	0.11	0.31	0	1
Sale Year 2007	0.11	0.31	0	1
Sale Year 2008	0.09	0.29	0	1
Sale Year 2009	0.08	0.27	0	1
Sale Year 2010	0.12	0.33	0	1
Property Sales in December, January and February	0.15	0.36	0	1
Property Sales in March, April and May	0.24	0.43	0	1
Property Sales in September, October and November	0.30	0.46	0	1
Property Square Feet	21,501.86	37,734.65	0	623,038.68
Age of the Property (2010–Year Built)	14.90	9.54	0	45
# of Bedrooms (Not Reported for All Properties)	2.86	1.16	1	23
# of Full-Baths	1.58	0.66	1	5
# of Half-Baths	0.30	0.48	0	2
Square Footage of the House	1,405.08	584.84	0	4,409
House Exterior – Asbestos	0.03	0.16	0	1
House Exterior – Asphalt	0.01	0.09	0	1
House Exterior – Block	0	0.06	0	1
House Exterior – Brick	0.04	0.19	0	1
House Exterior – Composition	0	0.03	0	1
House Exterior – Lap (Fiber Cement)	0.02	0.13	0	1
House Exterior – Masonite	0	0	0	0
House Exterior – Wood	0.52	0.50	0	1
House Exterior – Stone	0	0.03	0	1
House Exterior – Stucco	0	0.07	0	1
House Exterior – Vinyl	0.21	0.40	0	1
Garage Area in Square Feet	0.77	0.42	0	1
# of Fireplaces	0.38	0.57	0	4

Table 7: Descriptive Statistics - Traverse City, MI (cont.)

Traverse City, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Condominiums	0.17	0.38	0	1
Stories in Home	1.34	0.43	1	3
Median Household Income within Block Group: 2005–2009	47,674.02	13,624.19	27,250	90,515
Racial Diversity Index: 2010	0.07	0.10	0	0.70
% of Poverty in Census Tract: 2005–2009	0.13	0.05	0.06	0.19
% of Population Age 25 and Older with a High School Degree: 2005–2009	0.23	0.04	0.17	0.36
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	0.08	0.01	0.06	0.09
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	0.23	0.04	0.08	0.34
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	0.11	0.04	0.03	0.22
Children Age 5 to 17	0.13	0.06	0.04	0.23
Distance to Closest River in Feet	4,801.49	2,915.05	108.39	11,292.52
Distance to Closest Lake in Feet	4,950.79	3,352.34	121.03	13,120.49
Distance to Closest Park in Feet	1,702.52	1,504.69	0	7,168.80
Distance to Traverse City Airport in Feet	6,717.15	4,107.44	0	18,349.81
Distance to Northwestern Michigan College in Feet	8,605.72	4,973.52	710.47	20,525.50
Distance to Lake Michigan in Feet	3,079.43	2,089.24	55.88	10,397.60
Distance to Closest Primary School in Feet	2,876.87	1438.94	31.92	9358.77
Distance to Closest High School in Feet	7,584.46	4,161.53	398.10	18,722.40
Motor Vehicle and Parts Dealers within a ¼ Mile	0.29	0.62	0	4
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	0.82	1.02	0	5
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	3.41	2.50	0	16
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	5.53	3.86	0	18
Furniture and Home Furnishings Stores within a ¼ Mile	0.66	0.99	0	6
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	1.85	2.12	0	10
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	5.87	3.61	0	17
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	9.18	5.86	0	24
Electronics and Appliance Stores within a ¼ Mile	0.79	1.14	0	5
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	2.28	2.29	0	9
Electronics and Appliance Stores within a ½ Mile – 1 Mile	7.01	4.61	0	20
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	8.76	4.63	0	23
Building Material/Garden Equipment/ Supplies Dealers within a ¼ Mile	0.24	0.65	0	4

Table 7: Descriptive Statistics - Traverse City, MI (cont.)

Traverse City, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Building Material/Garden Equipment/ Supplies Dealers within a ¼ Mile – a ½ Mile	0.76	1.23	0	6
Building Material/Garden Equipment/ Supplies Dealers within a ½ Mile – 1 Mile	3.07	2.3	0	11
Building Material/Garden Equipment/ Supplies Dealers within 1 Mile – 1 ½ Miles	5.57	4.26	0	21
Grocery Stores within a ¼ Mile	0.38	0.72	0	3
Grocery Stores within a ¼ Mile – a ½ Mile	1.43	1.30	0	5
Grocery Stores within a ½ Mile – 1 Mile	3.55	2.32	0	11
Grocery Stores within 1 Mile – 1 ½ Miles	4.44	3.06	0	13
Specialty Food Stores within a ¼ Mile	0.25	0.90	0	7
Specialty Food Stores within a ¼ Mile – a ½ Mile	0.90	1.90	0	10
Specialty Food Stores within a ½ Mile – 1 Mile	3.02	3.66	0	11
Specialty Food Stores within 1 Mile – 1 ½ Miles	2.66	3.44	0	12
Beer, Wine and Liquor Stores within a ¼ Mile	0.19	0.48	0	2
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	0.71	0.88	0	3
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	1.78	1.35	0	5
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	2.03	1.58	0	7
Health and Personal Care Stores within a ¼ Mile	0.47	0.85	0	5
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	1.67	1.78	0	8
Health and Personal Care Stores within a ½ Mile – 1 Mile	4.99	3.33	0	14
Health and Personal Care Stores within 1 Mile – 1 ½ Miles	7.11	4.73	0	25
Gasoline Stations within a ¼ Mile	0.21	0.43	0	2
Gasoline Stations within a ¼ Mile – a ½ Mile	0.59	0.71	0	3
Gasoline Stations within a ½ Mile – 1 Mile	1.87	1.50	0	6
Gasoline Stations within 1 Mile – 1 ½ Miles	3	1.87	0	9
Clothing and Clothing Accessories Stores within a ¼ Mile	0.94	3.58	0	34
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	3.32	8.10	0	37
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	13.63	15.39	0	41
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	13.96	17.29	0	85
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	0.87	1.59	0	11
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – a ½ Mile	2.37	3.01	0	16
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	8.87	5.64	0	21

Table 7: Descriptive Statistics - Traverse City, MI (cont.)

Traverse City, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	10.10	6.20	1	28
Book, Periodical and Music Stores within a ¼ Mile	0.22	0.59	0	5
Book, Periodical and Music Stores within a ¼ Mile – a ½ Mile	0.64	1.02	0	5
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	2.34	1.98	0	8
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	2.76	2.20	0	11
General Merchandise Stores within a ¼ Mile	0.06	0.23	0	1
General Merchandise Stores within a ¼ Mile – a ½ Mile	0.17	0.37	0	1
General Merchandise Stores within a ½ Mile – 1 Mile	0.88	1.45	0	7
General Merchandise Stores within 1 Mile – 1 ½ Miles	1.35	1.89	0	7
Miscellaneous Store Retailers within a ¼ Mile	1.88	3.37	0	30
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	5.99	6.98	0	33
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	20.57	14.95	0	53
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	24.06	15.08	4	66
Performing Arts Companies within a ¼ Mile	0.22	0.57	0	3
Performing Arts Companies within a ¼ Mile – a ½ Mile	0.43	0.79	0	3
Performing Arts Companies within a ½ Mile – 1 Mile	1.63	1.55	0	6
Performing Arts Companies within 1 Mile – 1 ½ Miles	1.76	1.27	0	5
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	0.13	0.34	0	1
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	0.19	0.39	0	1
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	0.78	0.86	0	3
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	0.89	0.79	0	3
Gambling Industries within a ¼ Mile	0.03	0.16	0	1
Gambling Industries within a ¼ Mile – a ½ Mile	0.12	0.33	0	1
Gambling Industries within a ½ Mile – 1 Mile	0.28	0.45	0	1
Gambling Industries within 1 Mile – 1 ½ Miles	0.38	0.56	0	2
Amusement Parks and Arcades within a ¼ Mile	0.22	0.52	0	5

Table 7: Descriptive Statistics - Traverse City, MI (cont.)

Traverse City, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	0.99	1.44	0	7
Amusement Parks and Arcades within a ½ Mile – 1 Mile	3.24	2.59	0	9
Amusement Parks and Arcades within 1 Mile – 1 ½ Miles	2.96	2.59	0	10
Other Amusement and Recreation Industries within a ¼ Mile	0.73	1.36	0	7
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	1.64	2	0	9
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	5.97	4.79	0	19
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	8.93	4.53	0	22
Full-Service Restaurants within a ¼ Mile	1.07	1.92	0	15
Full-Service Restaurants within a ¼ Mile – a ½ Mile	3.28	3.78	0	16
Full-Service Restaurants within a ½ Mile – 1 Mile	11.29	7.37	0	31
Full-Service Restaurants within 1 Mile – 1 ½ Miles	13.99	9.3	1	42
Limited-Service Eating Places within a ¼ Mile	0.63	1.16	0	9
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	1.90	1.90	0	11
Limited-Service Eating Places within a ½ Mile – 1 Mile	6.48	4.40	0	16
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	7.38	5	1	24
Drinking Places (Alcoholic Beverages) within a ¼ Mile	0.36	0.82	0	4
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	0.81	1.22	0	7
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	3.03	3.15	0	11
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	3.25	2.64	0	11
Religious Organizations within a ¼ Mile	1.15	1.72	0	8
Religious Organizations within a ¼ Mile – a ½ Mile	2.87	2.53	0	12
Religious Organizations within a ½ Mile – 1 Mile	8.56	4.56	1	19
Religious Organizations within 1 Mile – 1 ½ Miles	8.91	4.95	1	25
# of Businesses within 1 Mile in 2008	895.57	432.52	115	1,569
# of Employees within 1 Mile in 2008	7,219.62	3,704.62	289	14,060

Table 8: Descriptive Statistics - Royal Oak, MI

Royal Oak, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Sale Price	$190,850.93	$69,603.39	$20,000.00	$844,120.00
Sale Year 2000	0.01	0.10	0	1
Sale Year 2001	0.02	0.15	0	1
Sale Year 2002	0.06	0.23	0	1
Sale Year 2003	0.07	0.26	0	1
Sale Year 2004	0.09	0.29	0	1
Sale Year 2005	0.26	0.44	0	1
Sale Year 2006	0.22	0.42	0	1
Sale Year 2007	0.07	0.25	0	1
Sale Year 2008	0.05	0.22	0	1
Sale Year 2009	0.05	0.22	0	1
Sale Year 2010	0.06	0.23	0	1
Property Sales in December, January and February	0.17	0.37	0	1
Property Sales in March, April and May	0.27	0.45	0	1
Property Sales in September, October and November	0.25	0.43	0	1
Property Square Feet	7,341.91	7,083.93	1,674	263,247
Age of Property (2010–Year Built)	63.55	29.04	0	2,010
# of Bedrooms (Not Reported for All Properties)	2.93	0.67	0	8
# of Full-Baths	1.39	0.56	0	6
# of Half-Baths	0.33	0.50	0	4
Square Footage of the House	1,247.34	425.84	377	6,936
Garage Y/N	0.85	0.36	0	1
Median Household Income within Block Group: 2005–2009	65,904.08	16,890.02	21,458	128,828
Income Diversity Index	0.88	0.03	0.72	0.92
Racial Diversity Index: 2010	0.12	0.11	0	0.70
% of Poverty in Census Tract: 2005–2009	0.06	0.03	0.02	0.14
% of Population Age 25 and Older with a High School Degree: 2005–2009	0.21	0.05	0.14	0.29
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	0.07	0.02	0.02	0.11
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	0.28	0.05	0.19	0.40
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	0.17	0.04	0.10	0.23
Age Diversity Index	0.73	0.01	0.70	0.74

Table 8: Descriptive Statistics - Royal Oak, MI (cont.)

Royal Oak, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Children Age 5 to 17	0.11	0.05	0	0.22
Distance to Closest River in Feet	32,428.36	4,659.53	24,991.76	44,831.65
Distance to Closest Lake in Feet	4,135.90	2,108.57	70.62	10,469.98
Distance to Closest Park in Feet	881.80	548.45	0	3,622.51
Distance to Downtown in Feet	9,593.68	5,314.68	230.53	22,833.21
Distance to Closest Interstate in Feet	3,435.31	2,142.18	85.45	9,444.38
Distance to Closest Primary School in Feet	2,451.12	1,082.51	101.74	6,615.67
Distance to Closest High School in Feet	5,774.53	2,466.21	266.31	11,399.25
Motor Vehicle and Parts Dealers within a ¼ Mile	0.27	0.70	0	5
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	1.25	1.51	0	9
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	6.21	3.32	0	28
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	10.72	5	0	35
Furniture and Home Furnishings Stores within a ¼ Mile	0.60	1.05	0	8
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	2.12	1.98	0	10
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	7.61	3.45	0	21
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	13.58	5.14	1	32
Electronics and Appliance Stores within a ¼ Mile	0.50	0.87	0	5
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	1.50	1.65	0	10
Electronics and Appliance Stores within a ½ Mile – 1 Mile	5.33	2.77	0	19
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	9.65	3.71	1	21
Building Material/Garden Equipment/ Supplies Dealers within a ¼ Mile	0.42	0.63	0	3
Building Material/Garden Equipment/ Supplies Dealers within a ¼ Mile – a ½ Mile	1.34	1.10	0	6
Building Material/Garden Equipment/ Supplies Dealers within a ½ Mile – 1 Mile	5.81	2.35	1	15
Building Material/Garden Equipment/ Supplies Dealers within 1 Mile – 1 ½ Miles	10.12	2.93	3	20
Grocery Stores within a ¼ Mile	0.42	0.65	0	4
Grocery Stores within a ¼ Mile – a ½ Mile	1.57	1.41	0	7
Grocery Stores within a ½ Mile – 1 Mile	6.47	3.23	0	15
Grocery Stores within 1 Mile – 1 ½ Miles	11.62	3.66	2	25
Specialty Food Stores within a ¼ Mile	0.12	0.34	0	2
Specialty Food Stores within a ¼ Mile – a ½ Mile	0.40	0.62	0	3

Table 8: Descriptive Statistics - Royal Oak, MI (cont.)

Royal Oak, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Specialty Food Stores within a ½ Mile – 1 Mile	2.05	1.39	0	7
Specialty Food Stores within 1 Mile – 1 ½ Miles	3.87	2.02	0	11
Beer, Wine and Liquor Stores within a ¼ Mile	0.26	0.48	0	2
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	1	0.94	0	5
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	4.25	2.04	0	10
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	6.61	2.87	1	16
Health and Personal Care Stores within a ¼ Mile	0.29	0.65	0	5
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	1.11	1.25	0	7
Health and Personal Care Stores within a ½ Mile – 1 Mile	5.67	2.88	0	16
Health and Personal Care Stores within 1 Mile – 1 ½ Miles	11.41	6.07	0	38
Gasoline Stations within a ¼ Mile	0.32	0.66	0	3
Gasoline Stations within a ¼ Mile – a ½ Mile	1.03	1.03	0	5
Gasoline Stations within a ½ Mile – 1 Mile	4.19	1.89	0	10
Gasoline Stations within 1 Mile – 1 ½ Miles	5.88	2.21	0	13
Clothing and Clothing Accessories Stores within a ¼ Mile	0.66	1.69	0	29
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	2.96	5.46	0	36
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	13.87	13.33	1	70
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	25.97	18.99	2	86
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	0.52	0.80	0	5
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – a ½ Mile	1.76	1.60	0	10
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	7.40	2.82	0	17
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	12.55	4.27	3	29
Book, Periodical and Music Stores within a ¼ Mile	0.24	0.59	0	6
Book, Periodical and Music Stores within a ¼ Mile – a ½ Mile	0.80	1.22	0	8
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	3.55	2.71	0	11
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	6.70	2.86	0	16
General Merchandise Stores within a ¼ Mile	0.08	0.27	0	1
General Merchandise Stores within a ¼ Mile – a ½ Mile	0.35	0.58	0	3
General Merchandise Stores within a ½ Mile – 1 Mile	1.42	1.09	0	5
General Merchandise Stores within 1 Mile – 1 ½ Miles	2.83	1.82	0	10
Miscellaneous Store Retailers within a ¼ Mile	1.63	2.27	0	35

Table 8: Descriptive Statistics - Royal Oak, MI (cont.)

Royal Oak, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	6.35	6.68	0	42
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	27.16	14.55	9	69
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	43.38	14.69	19	84
Performing Arts Companies within a ¼ Mile	0.20	0.47	0	3
Performing Arts Companies within a ¼ Mile – a ½ Mile	0.57	0.78	0	4
Performing Arts Companies within a ½ Mile – 1 Mile	2.28	1.37	0	8
Performing Arts Companies within 1 Mile – 1 ½ Miles	3.30	1.87	0	11
Spectator Sports within a ¼ Mile	0.03	0.18	0	1
Spectator Sports within a ¼ Mile – a ½ Mile	0.16	0.38	0	2
Spectator Sports within a ½ Mile – 1 Mile	0.72	0.65	0	3
Spectator Sports within 1 Mile – 1 ½ Miles	0.94	0.81	0	3
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	0.05	0.28	0	2
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	0.14	0.42	0	2
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	0.81	0.77	0	3
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	1.47	1.16	0	4
Gambling Industries within a ¼ Mile	0	0	0	0
Gambling Industries within a ¼ Mile – a ½ Mile	0	0	0	0
Gambling Industries within a ½ Mile – 1 Mile	0	0	0	0
Gambling Industries within 1 Mile – 1 ½ Miles	0.02	0.15	0	1
Amusement Parks and Arcades within a ¼ Mile	0.04	0.25	0	2
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	0.11	0.39	0	2
Amusement Parks and Arcades within a ½ Mile – 1 Mile	0.70	1.08	0	5
Amusement Parks and Arcades within 1 Mile – 1 ½ Miles	1.54	1.91	0	12
Other Amusement and Recreation Industries within a ¼ Mile	0.44	0.75	0	5
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	1.40	1.52	0	8
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	6.19	3.33	0	16
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	10.96	3.97	1	23
Full-Service Restaurants within a ¼ Mile	1.01	1.68	0	27
Full-Service Restaurants within a ¼ Mile – a ½ Mile	4.11	5.09	0	33
Full-Service Restaurants within a ½ Mile – 1 Mile	17.36	10.20	0	45

Table 8: Descriptive Statistics - Royal Oak, MI (cont.)

Royal Oak, MI				
Description	**Mean**	**Std. Dev.**	**Min.**	**Max.**
Full-Service Restaurants within 1 Mile – 1 ½ Miles	30.77	13.25	6	82
Limited-Service Eating Places within a ¼ Mile	0.43	0.93	0	10
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	1.85	2.02	0	12
Limited-Service Eating Places within a ½ Mile – 1 Mile	7.88	4.36	0	19
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	14.42	5.11	1	29
Drinking Places (Alcoholic Beverages) within a ¼ Mile	0.12	0.38	0	6
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	0.64	1.25	0	7
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	3.23	2.45	0	10
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	5.92	4.74	0	29
Religious Organizations within a ¼ Mile	0.82	1.25	0	7
Religious Organizations within a ¼ Mile – a ½ Mile	2.76	2.29	0	11
Religious Organizations within a ½ Mile – 1 Mile	11.13	5.91	0	29
Religious Organizations within 1 Mile – 1 ½ Miles	17.6	6.75	4	37
# of Businesses within 1 Mile	1,152.21	374.58	641	2,063
# of Employees within 1 Mile	8,406.43	4,361.34	2,157	22,122

Appendix C: Hedonic Pricing Regression Results

Table 9: Hedonic Pricing Regression Results - Lansing, MI

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Sale Year 2001	$7,211.30***	0.05	$6,036.21***	0.06	–	–
Sale Year 2002	$16,835.07***	0.12	$15,309.55***	0.15	$7,197.70***	0.13
Sale Year 2003	$22,159.63***	0.16	$20,489.85***	0.19	$10,260.49***	0.17
Sale Year 2004	$29,254.17***	0.21	$26,755.94***	0.25	$14,235.77***	0.23
Sale Year 2005	$33,296.74***	0.25	$31,344.99***	0.32	$16,397.65***	0.29
Sale Year 2006	$33,734.91***	0.21	$31,333.83***	0.25	$16,779.50***	0.20
Sale Year 2007	$27,430.44***	0.12	$26,919.65***	0.16	$14,729.26***	0.14
Sale Year 2008	$20,554.91***	0.08	$17,533.88***	0.09	$9,008.25***	0.07
Sale Year 2009	$12,436.22***	0.06	$10,418.02***	0.06	$6,995.89***	0.08
Sale Year 2010	–	–	–	–	–	–
Property Sales in December, January and February	–$5,175.25***	–0.05	–$3,928.06***	–0.05	–	–
Property Sales in March, April and May	–$2,026.54*	–0.02	–	–	–	–
Property Sales in September, October and November	$2,137.72*	–0.02	–	–	–	–
Property Square Feet	–$0.76***	–0.12	–	–	–	–
Squared	$0.00***	0.38	–	–	–	–
Cubed	$0.00***	–0.29	–	–	–	–
Age of Property (2010–Year Built)	$24.39***	0.06	$28.70***	0.10	$115.14***	0.18
# of Bedrooms	$9,770.71***	0.18	–	–	–	–
Squared	–$1,330.63**	–0.30	–	–	$1,386.73**	0.97
Cubed	$41.03*	0.18	–	–	–$55.78**	–0.79
# of Full-Baths	$6,730.90**	0.07	$5,732.46**	0.07	–	–
Squared	–	–	–$1,224.38**	–0.07	–	–
# of Half–Baths	–	–	–	–	–$7,766.57*	–0.19
Squared	$2,345.69*	0.04	–	–	$5,951.53*	0.16
Square Footage of the House	$45.87***	0.46	$44.77***	0.52	$68.76***	1.36
Squared	–$0.01***	–0.77	–$0.01***	–0.51	–$0.04***	–3.24
Cubed	$0.00***	0.70	–	–	$0.00***	2.12
Heating Fuel – Coal	–	–	–	–	–$29,800.14***	–0.05
Heating Fuel – Gas	–	–	–	–	–$6,785.19***	–0.12
Heating Fuel – Oil	–	–	–	–	–$5,864.21**	–0.07
Heating Fuel – Steam (City Provided)	$25,495.83***	0.03	–	–	–	–
House Exterior – Asbestos	–$9,834.97**	–0.02	–$9,766.27***	–0.03	–$9,304.36***	–0.06

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
House Exterior – Asphalt	–$20,918.25***	–0.03	–$16,292.70***	–0.03	–	–
House Exterior – Block	–	–	–	–	–	–
House Exterior – Brick	$6,492.86**	0.03	$6,181.08***	0.03	$12,121.38***	0.09
House Exterior – Wood	–	–	–	–	–	–
House Exterior – Stucco	–	–	–	–	–	–
House Exterior – Vinyl	–	–	–	–	–	–
Central Air in Home	–	–	$2,174.53**	0.03	$2,492.84*	0.06
Basement Square Footage	$11.73***	0.11	$11.84***	0.14	$4.27***	0.09
Total Square Footage of Porches and Decks	$10.71***	0.03	$7.04***	0.02	$11.40**	0.06
Garage Area in Square Feet	$29.76***	0.15	$23.97***	0.16	$12.54***	0.14
Pool Size in Square Feet	–	–	$8.28*	0.02	–	–
# of Fireplaces	$11,267.57***	0.12	$7,302.15***	0.10	$6,237.83	0.09
Neighborhood Enterprise Zone	–$18,634.69***	–0.05	–$13,343.56***	–0.05	–	–
Renaissance Zone	$48,589.82***	0.03	$41,205.41***	0.04		
Condominiums	–	–	–	–	–	–
Stories in Home	–	–	$3,192.83**	0.04	–	–
# of Property Crimes from 2000–2010 within a ½ Mile of Parcel	–	–	–	–	–	–
# of Violent Crimes from 2000–2010 within a ½ Mile of Parcel	–	–	–$12.38**	–0.18	–$14.46**	–0.37
Median Household Income within Block Group: 2005–2009	$0.16**	0.05	$0.14**	0.06	$0.18***	0.13
Income Diversity Index	$513.76**	0.04	–	–	–	–
Racial Diversity Index: 2010	–$116.55***	–0.04	–$64.54**	–0.03	–	–
% of Poverty in Census Tract: 2005–2009	–	–	–$226.26*	–0.06	$349.67***	0.14
% of Population Age 25 and Older with a High School Degree: 2005–2009	$1,358.38**	0.26	$662.70***	0.17	–	–
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	$1,000.43***	0.05	$648.26***	0.04	–	–
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	–	–	–	–	–	–
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	–	–	–	–	–	–
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	$1,505.93***	0.17	$651.70**	0.09	–	–
Age Diversity Index	–	–	–	–	–	–
Children Age 5 to 17	–	–	–	–	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.
† Negative coefficient translates into positive marginal value. Can be interpreted as: "For each additional foot from an interstate, river, etc., *x* is associated with $*x* increase/decrease in sale price."

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Distance to Closest Interstate in Feet†	–	–	$4.28**	0.50	–	–
Squared	–	–	–	–	$0.00*	2.64
Cubed	–	–	–	–	$0.00	-1.78
Distance to Closest River in Feet†	-$8.65***	-0.55	-$5.54**	-0.47	–	–
Squared	$0.00**	0.80	$0.00*	0.80	–	–
Cubed	–	–	–	–	–	–
Distance to Closest Lake in Feet †	-$7.77**	-0.30	–	–	–	–
Squared	–	–	–	–	–	–
Cubed	–	–	–	–	–	–
Distance to Closest Park in Feet†	–	–	–	–	$11.05*	0.32
Squared	–	–	–	–	-$0.01*	-0.66
Cubed	–	–	–	–	–	–
Distance to River Trail in Feet†	–	–	–	–	–	–
Squared	–	–	–	–	–	–
Cubed	–	–	–	–	–	–
Distance to Lansing Airport in Feet†	-$3.60**	-0.90	-$3.98***	-1.34	–	–
Distance to Downtown in Feet†	-$20.59***	-2.88	-$11.87***	-2.23	-$8.23*	-2.83
Distance to Old Town in Feet†	$9.39***	1.91	$8.42***	2.31	–	–
Distance to Michigan Ave. Corridor in Feet†	$12.63***	1.96	$7.78***	1.62	–	–
Distance to MSU in Feet†	-$5.19***	-0.87	-$5.59***	-1.24	–	–
Distance to Closest Primary School in Feet†	–	–	–	–	–	–
Distance to Closest Middle School in Feet†	-$1.46*	-0.10	-$1.34**	-0.12	–	–
Distance to Closest High School in Feet†	-$1.61**	-0.10	–	–	$2.72***	0.43
Motor Vehicle and Parts Dealers within a ¼ Mile	-$2,136.87***	-0.05	-$1,711.07***	-0.06	–	–
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	–	–	-$1,036.62**	-0.08	–	–
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	-$990.75**	-0.11	-$1,257.37***	-0.19	–	–
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	-$526.87**	-0.07	-$718.35***	-0.13	–	–
Furniture and Home Furnishings Stores within a ¼ Mile	–	–	–	–	–	–
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	–	–	–	–	-$2,770.01**	-0.13
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Electronics and Appliance Stores within a ¼ Mile	–	–	–	–	$3,603.04**	0.11
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Electronics and Appliance Stores within a ½ Mile – 1 Mile	–	–	–	–	$3,419.48***	0.40
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	–	–	–	–	$1,686.06***	0.30
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile	–	–	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile – a ½ Mile	–	–	–	–	$2,892.74***	0.20
Building Material/Garden Equipment/ Supply Dealers within a ½ Mile – 1 Mile	–	–	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within 1 Mile – 1 ½ Miles	-$1,056.74**	-0.06	–	–	–	–
Grocery Stores within a ¼ Mile	-$3,125.06**	-0.05	-$2,533.50**	-0.05	–	–
Grocery Stores within a ¼ Mile – a ½ Mile	-$2,120.58**	-0.06	-$1,934.50**	-0.07	–	–
Grocery Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Grocery Stores within 1 Mile – 1 ½ Miles	–	–	-$761.13**	-0.08	-$880.27**	-0.18
Specialty Food Stores within a ¼ Mile	$5,160.96**	0.04	–	–	–	–
Specialty Food Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Specialty Food Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Specialty Food Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ¼ Mile	–	–	-$6,376.58***	-0.06	-$7,448.22**	-0.14
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Health and Personal Care Stores within a ¼ Mile	–	–	–	–	–	–
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	–	–	$2,206.87**	0.10	–	–
Health and Personal Care Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Health and Personal Care Stores within 1 – 1 ½ Miles	–	–	–	–	–	–
Gasoline Stations within a ¼ Mile	–	–	–	–	$4,032.99*	0.09

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Gasoline Stations within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Gasoline Stations within a ½ Mile – 1 Mile	–	–	–	–	–	–
Gasoline Stations within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within a ¼ Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	$2,748.03	0.18	$1,388.58*	0.12	–	–
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	$1,954.43***	0.15	$1,120.56**	0.12	$1,031.69*	0.19
Book, Periodical and Music Stores within a ¼ Mile	–	–	–	–	–	–
Book, Periodical and Music Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	$2,009.02*	0.07	–	–	–	–
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	–$1,414.84**	–0.07	–$1,054.11**	–0.07	–$1,279.94**	–0.15
General Merchandise Stores within a ¼ Mile	–	–	–	–	–	–
General Merchandise Stores within a ¼ Mile – a ½ Mile	–	–	–	–	$4,022.27**	0.15
General Merchandise Stores within a ½ Mile – 1 Mile	–$2,120.32*	–0.06	–	–	–	–
General Merchandise Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Miscellaneous Store Retailers within a ¼ Mile	–$2,095.77**	–0.06	–	–	–	–
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	–$1,247.14**	–0.06	–$895.54*	–0.06	–	–
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	–$1,327.34***	–0.20	–$1,071.57***	–0.21	–	–
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	–	–	–	–	–$446.61*	–0.23
Performing Arts Companies within a ¼ Mile	–	–	–	–	$6,189.77**	0.12

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Performing Arts Companies within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Performing Arts Companies within a ½ Mile – 1 Mile	–	–	–	–	–	–
Performing Arts Companies within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Spectator Sports within a ¼ Mile	–	–	–	–	–	–
Spectator Sports within a ¼ Mile – a ½ Mile	–$8,687.73**	–0.05	–$6,530.89**	–0.05	–	–
Spectator Sports within a ½ Mile – 1 Mile	–	–	–$3,487.79*	–0.06	–	–
Spectator Sports within 1 Mile – 1 ½ Miles	–$3,306.99**	–0.06	–$2,536.42**	–0.06	–$3,916.23	–0.17
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	$12,545.97**	0.04	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	$14,379.95***	0.09	$7,375.79**	0.06	–	–
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	$11,744.21***	0.16	$6,236.56***	0.11	–	–
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	$3,781.67**	0.06	$3,466.89***	0.08	–	–
Museums, Historical Sites and Similar Institutions within a ¼ Mile	–	–	–	–	$9,724.52***	0.11
Museums, Historical Sites and Similar Institutions within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Museums, Historical Sites and Similar Institutions within a ½ Mile – 1 Mile	–	–	–	–	–	–
Museums, Historical Sites and Similar Institutions within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Amusement Parks and Arcades within a ¼ Mile	–	–	–	–	–$10,937.13*	–0.06
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	–$14,486.68***	–0.08	–$10,282.14***	–0.08	–$12,068.09***	–0.19
Amusement Parks and Arcades within a ½ Mile – 1 Mile	–$16,800.48***	–0.19	–$9,354.67***	–0.14	–$9,902.80***	–0.27
Amusement Parks and Arcades within 1 Mile – 1 ½ Miles	–$8,517.80***	–0.12	–$3,305.87**	–0.06	–$3,592.50*	–0.12
Other Amusement and Recreation Industries within a ¼ Mile	$4,780.42***	0.05	–	–	–	–
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	$2,255.21**	0.06	–	–	–	–
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	–	–	–	–	$1,482.59*	0.18
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	–	–	–	–	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
- This variable is not significant.

Table 9: Hedonic Pricing Regression Results - Lansing, MI (cont.)

Lansing, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Full-Service Restaurants within a ¼ Mile	$3,449.15***	0.07	–	–	-$2,437.18**	-0.13
Full-Service Restaurants within a ¼ Mile – a ½ Mile	$1,674.67**	0.10	–	–	-$1,308.13*	-0.17
Full-Service Restaurants within a ½ Mile – 1 Mile	–	–	–	–	-$844.37*	-0.32
Full-Service Restaurants within 1 Mile – 1 ½ Miles	–	–	–	–	-$494.14*	-0.26
Limited-Service Eating Places within a ¼ Mile	–	–	$2,093.06*	0.03	–	–
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	$3,466.29***	0.16	$3,307.19***	0.20	–	–
Limited-Service Eating Places within a ½ Mile – 1 Mile	$2,467.34***	0.22	$2,230.68***	0.27	$1,991.62***	0.44
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	–	–	$486.14*	0.09	$566.12*	0.20
Drinking Places (Alcoholic Beverages) within a ¼ Mile	-$4,440.04**	-0.04	–	–	-$3,243.85*	-0.08
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	–	–	–	–	–	–
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Religious Organizations within a ¼ Mile	–	–	$1,632.56***	0.06	–	–
Religious Organizations within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Religious Organizations within a ½ Mile – 1 Mile	–	–	$697.94**	0.12	–	–
Religious Organizations within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
% of Class-Exempt Property within a ½ Mile of Property in Square Feet	–	–	–	–	–	–
% of Commercial Property within a ½ Mile of Property in Square Feet	$708.89***	0.15	–	–	–	–
% of Residential Property within a ½ Mile of Property in Square Feet	$595.07***	0.17	$378.95**	0.15	–	–
% of Class Land Bank Property within a ½ Mile of Property in Square Feet	–	–	–	–	–	–
% of Area within a ½ Mile of Parcel with Unknown Use	$459.32**	0.17	–	–	–	–
# of Businesses within 1 Mile	–	–	–	–	–	–
# of Employees within 1 Mile	-$1.20***	-0.23	–	–	–	–
Adjusted R-Squared	0.733		0.698		0.364	
n	3,334		3,234		1,808	

Table 10: Hedonic Pricing Regression Results - Traverse City, MI

Traverse City, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Sale Year 2001	$25,165.56*	0.03	$11,031.63**	0.02	–	–
Sale Year 2002	$36,883.00**	0.04	$14,375.42***	0.03	–	–
Sale Year 2003	$40,498.69***	0.05	$16,569.54***	0.04	–	–
Sale Year 2004	$42,070.53***	0.06	$27,433.92***	0.06	–	–
Sale Year 2005	$69,002.65***	0.09	$29,995.61***	0.06	$13,225.44**	0.04
Sale Year 2006	$67,055.63***	0.10	$31,115.85***	0.07	–	–
Sale Year 2007	$68,231.34***	0.10	$29,554.82***	0.07	–	–
Sale Year 2008	$68,655.05***	0.09	$19,732.61***	0.04	–	–
Sale Year 2009	$40,882.71***	0.05	$16,816.31***	0.04	–	–
Sale Year 2010	$71,496.89***	0.11	$22,853.18***	0.05	–	–
Property Sales in December, January and February	–	–	–$4,938.38*	–0.01	–$7,121.88**	–0.04
Property Sales in March, April and May	–$12,784.96*	–0.03	–	–	–	–
Property Sales in September, October and November	–	–	–$4,190.11*	–0.02	–	–
Property Square Feet	$2.32***	0.45	$0.74**	0.20	–	–
Squared	$0.00***	–0.70	$0.00**	–0.54	–	–
Cubed	$0.00	0.56	$0.00**	0.40	–	–
Age of Property (2010–Year Built)	–$2,309.87***	–0.18	–$733.01***	–0.10	–$1,029.31***	–0.30
# of Bedrooms	$54,784.30***	0.76	–	–	–$12,317.96***	–0.43
Squared	–$8,898.79***	–0.80	–	–	–	–
Cubed	$294.50***	0.48	–	–	$22.81***	0.23
# of Full-Baths	–	–	–	–	–$34,945.26*	–0.54
Squared	$12,454.16**	0.22	–	–	–	–
# of Half-Baths	–	–	–	–	$46,109.70**	0.25
Squared	–	–	–	–	–$35,300.44**	–0.22
Square Footage of the House	$127.72**	0.87	$138.90***	1.28	$53.18***	0.77
Squared	–	–	–$0.06***	–0.87		
Cubed	$0.00*	0.32	$0.00**	0.18	$0.00***	–0.20
House Exterior – Asbestos	–	–	–	–	–	–
House Exterior – Asphalt	–	–	–	–	–$38,181.95*	–0.05
House Exterior – Block	–$98,141.84**	–0.03	–	–	–	–
House Exterior – Brick	–	–	–	–	–$92,699.74***	–0.36
House Exterior – Composite	–	–	–	–	–	–
House Exterior – Lap (Fiber Cement)	–	–	–	–	–	–
House Exterior – Masonite	–	–	–	–	–	–
House Exterior – Wood	–	–	–	–	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
- This variable is not significant.

Table 10: Hedonic Pricing Regression Results - Traverse City, MI (cont.)

Traverse City, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
House Exterior – Stone	–	–	–	–	–	–
House Exterior – Stucco	–	–	–	–	–	–
House Exterior – Vinyl	–$40,673.59*	–0.08	–	–	–$76,065.53***	–0.56
Garage Area in Square Feet	–	–	$22.83***	0.07	–	–
# of Fireplaces	$22,264.84***	0.07	$3,693.23*	0.02	–	–
Condominiums	–	–	–	–	–	–
Stories in Home	–	–	–	–	–$77,079.54***	–1.19
Median Household income within Block Group: 2005–2009	$1.77**	0.39	–	–	$2.18***	1.15
Racial Diversity Index: 2010	–	–	–	–	–$10.97***	–0.19
% of Poverty in Census Tract: 2005–2009	–$162.24***	–0.99	–$30.48*	–0.30	$57.91*	1.04
% of Population Age 25 and Older with a High School Degree: 2005–2009	–	–	–	–	–	–
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	$350.19***	1.21	–	–	–	–
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	$165.43***	1.71	–	–	–	–
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	–$141.66***	–0.73	–	–	–$57.79***	–0.76
Children Age 5 to 17	–	–	–	–	–$2,385.04***	–0.39
Distance to Closest River in Feet†	–	–	–	–	–	–
Cubed	–	–	–	–	–	–
Distance to Closest Lake in Feet†	–	–	–	–	–	–
Cubed	$0.00***	0.91	–	–	–	–
Distance to Closest Park in Feet†	–	–	$39.37***	0.68	–	–
Squared	–	–	–$0.01***	–1.03	–	–
Cubed	$0.00**	0.71	–	–	$0.00***	1.36
Distance to Traverse City Airport in Feet†	–	–	$13.39**	0.68	–	–
Distance to Northwestern Michigan College in Feet†	–	–	–	–	–	–
Distance to Lake Michigan in Feet†	–$24.41**	–0.41	$6.31*	0.18	–	–
Distance to Closest Primary School in Feet†	–	–	–	–	–	–
Distance to Closest High School in Feet†	–	–	–	–	–	–
Motor Vehicle and Parts Dealers within a ¼ Mile	–	–	–	–	–$35,503.83***	–0.37
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	–	–	$8,270.13**	0.08	–$18,377.83*	–0.34
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	–	–	–	–	–$20,120.04***	–1.21
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	$6,606.02*	0.20	–	–	–	–
Furniture and Home Furnishings Stores within a ¼ Mile	–	–	–	–	$27,104.52***	0.46

† Negative coefficient translates into positive marginal value. Can be interpreted as: "For each additional foot from an interstate, river, etc., *x* is associated with $*x* increase/decrease in sale price."

Table 10: Hedonic Pricing Regression Results - Traverse City, MI (cont.)

Traverse City, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	$12,438.55*	0.38	–	–	–	–
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	$9,335.06**	0.45	–	–	–	–
Electronics and Appliance Stores within a ¼ Mile	–	–	–	–	–	–
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	–$18,338.00**	–0.26	$5,818.07**	0.14	–	–
Electronics and Appliance Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	–$9,126.65**	–0.40	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile	–$31,415.53*	–0.10	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile – a ½ Mile	–$27,678.93**	–0.18	$8,129.48**	0.09	–$43,892.73***	–1.01
Building Material/Garden Equipment/ Supply Dealers within a ½ Mile – 1 Mile	–$18,287.25**	–0.31	$4,718.63*	0.13	–$29,201.73***	–1.25
Building Material/Garden Equipment/ Supply Dealers within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Grocery Stores within a ¼ Mile	–	–	–	–	–$49,436.22***	–0.40
Grocery Stores within a ¼ Mile – a ½ Mile	$21,455.66*	0.19	–	–	–	–
Grocery Stores within a ½ Mile – 1 Mile	$15,978.36*	0.30	–	–	–	–
Grocery Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Specialty Food Stores within a ¼ Mile	–$43,761.95**	–0.18	–	–	–	–
Specialty Food Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Specialty Food Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Specialty Food Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ¼ Mile	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	–	–	–$12,645.80***	–0.20	$35,602.97**	0.99
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	–	–	–$9,941.36***	–0.18	$18,951.77*	0.54
Health and Personal Care Stores within a ¼ Mile	$27,211.59**	0.12	–	–	$46,935.95**	0.62
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	–	–	–$6,639.96**	–0.12	–	–
Health and Personal Care Stores within a ½ Mile – 1 Mile	–	–	–$5,356.29**	–0.23	$9,810.03**	0.64
Health and Personal Care Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Gasoline Stations within a ¼ Mile	–	–	–	–	$81,251.53***	0.44
Gasoline Stations within a ¼ Mile – a ½ Mile	–	–	–	–	$44,902.54**	0.55
Gasoline Stations within a ½ Mile – 1 Mile	–	–	–	–	–	–
Gasoline Stations within 1 Mile – 1 ½ Miles	–	–	–	–	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.

Table 10: Hedonic Pricing Regression Results - Traverse City, MI (cont.)

Traverse City, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Clothing and Clothing Accessories Stores within a ¼ Mile	$12,102.40*	0.20	$8,785.51***	0.13	–	–
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	–	–	–	–	$5,682.49***	1.47
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	$7,531.03*	0.40	–	–	–	–
Book, Periodical and Music Stores within a ¼ Mile	–	–	–	–	–$80,757.86***	–0.69
Book, Periodical and Music Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
General Merchandise Stores within a ¼ Mile	–	–	–	–	$170,214.09***	0.43
General Merchandise Stores within a ¼ Mile – a ½ Mile	–	–	–$28,681.08***	–0.09	$175,553.56***	1.19
General Merchandise Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
General Merchandise Stores within 1 Mile – 1 ½ Miles	$17,012.33**	0.18	–	–	–	–
Miscellaneous Store Retailers within a ¼ Mile	$14,405.43*	0.25	–	–	$14,027.28*	0.58
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	–	–	–$2,415.19*	–0.44	–	–
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	–	–	–$1,838.30**	–0.39	–	–
Performing Arts Companies within a ¼ Mile	–	–	–$28,606.20***	–0.12	–	–
Performing Arts Companies within a ¼ Mile – a ½ Mile	–	–	–$10,984.86*	–0.07	$64,731.26**	0.67
Performing Arts Companies within a ½ Mile – 1 Mile	–	–	–	–	$50,645.40**	1.15
Performing Arts Companies within 1 Mile – 1 ½ Miles	–	–	–	–	$47,677.03***	1.33
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	–$79,312.67**	–0.13	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	–	–	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	–	–	$8,907.42*	0.08	–	–
Amusement Parks and Arcades within a ¼ Mile	–	–	–	–	$34,297.65*	0.19

Table 10: Hedonic Pricing Regression Results - Traverse City, MI (cont.)

Traverse City, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	$25,048.60*	0.20	–	–	–	–
Amusement Parks and Arcades within a ½ Mile – 1 Mile	–	–	–	–	–	–
Amusement Parks and Arcades within 1 Mile –1 ½ Miles	$18,843.70***	0.33	–	–	–	–
Gambling Industries within a ¼ Mile	–	–	–	–	–	–
Gambling Industries within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Gambling Industries within a ½ Mile – 1 Mile	–	–	–	–	–	–
Gambling Industries within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Other Amusement and Recreation Industries within a ¼ Mile	–	–	–	–	–$25,152.47**	–0.62
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	–	–	–	–	–$20,086.98***	–1.68
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	–	–	–	–	–$12,685.17***	–1.62
Full-Service Restaurants within a ¼ Mile	–	–	–	–	–$13,705.04*	–0.39
Full-Service Restaurants within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Full-Service Restaurants within a ½ Mile – 1 Mile	–	–	–	–	–	–
Full-Service Restaurants within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Limited-Service Eating Places within a ¼ Mile	–	–	–	–	–	–
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	–	–	–$6,803.95*	–0.13	–	–
Limited-Service Eating Places within a ½ Mile – 1 Mile	–	–	–$6,647.37**	–0.37	–	–
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	–	–	–$3,437.79**	–0.23	–	–
Drinking Places (Alcoholic Beverages) within a ¼ Mile	–	–	–$14,848.40**	–0.08	–	–
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	–$28,487.02**	–0.19	–$8,442.28*	–0.08	–$36,884.01***	–0.70
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	–$21,761.13**	–0.43	–$7,167.48**	–0.22	–$13,546.18*	–0.58
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	–	–	–	–	–$23,947.23***	–1.16
Religious Organizations within a ¼ Mile	–	–	–	–	–	–
Religious Organizations within a ¼ Mile – a ½ Mile	–$13,551.40*	–0.23	–	–	$9,770.83**	0.42
Religious Organizations within a ½ Mile – 1 Mile	–$10,919.09*	–0.47	–	–	–	–
Religious Organizations within 1 Mile – 1 ½ Miles	–$7,850.86**	–0.36	–	–	–	–
# of Businesses within 1 Mile	–$429.83**	–1.91	–	–	–	–
# of Employees within 1 Mile	$19.62**	0.71	–	–	–	–
Adjusted R-Squared	0.831		0.972		0.987	
n	1,212		915		204	

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.

Table 11: Hedonic Pricing Regression Results - Royal Oak, MI

Royal Oak, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Sale Year 2001	$43,697.56***	0.03	$35,728.51***	0.03	$19,563.85***	0.02
Sale Year 2002	$36,525.24***	0.04	$32,596.32***	0.04	$18,678.81***	0.03
Sale Year 2003	$41,659.14***	0.06	$33,706.97***	0.05	$19,639.66***	0.04
Sale Year 2004	$46,496.15***	0.07	$38,257.43***	0.06	$19,885.95***	0.04
Sale Year 2005	$45,475.63***	0.12	$37,616.48***	0.11	$20,446.54***	0.07
Sale Year 2006	$44,558.04***	0.10	$37,680.79***	0.10	$20,812.40***	0.07
Sale Year 2007	$33,649.37***	0.04	$27,579.43***	0.04	$14,851.89***	0.03
Sale Year 2008	$16,549.26***	0.02	$12,756.20***	0.02	$12,876.34***	0.03
Sale Year 2009	–	–	–	–	$8,812.71***	0.03
Sale Year 2010	–$7,641.14**	–0.01	–$7,953.36***	–0.01	$3,957.87*	0.01
Property Sales in December, January and February	–$6,543.21***	–0.01	–$6,756.24***	–0.02	–$3,563.42***	–0.01
Property Sales in March, April and May	–	–	–	–	–	–
Property Sales in September, October and November	–$2,928.52**	–0.01	–$2,364.94**	–0.01	–	–
Property Square Feet	$2.94***	0.15	$1.62***	0.09	$0.74**	0.06
Squared	$0.00***	–0.20	$0.00***	–0.13	$0.00**	–0.15
Cubed	$0.00***	0.12	$0.00***	0.08	$0.00**	0.09
Age of Property (2010–Year Built)	–$84.14***	–0.03	–	–	–	–
# of Bedrooms	$14,129.26**	0.21	–	–	–	–
Squared	–	–	–	–	–	–
Cubed	–	–	–	–	$784.70*	0.16
# of Full-Baths	$27,636.69***	0.20	$14,713.02***	0.12	–	–
Squared	–$6,592.37***	–0.10	–$2,753.09**	–0.04	–	–
# of Half-Baths	$12,992.75***	0.04	$3,642.69*	0.01	–$10,535.31**	–0.03
Squared	–$4,387.41**	–0.02	–	–	–	–
Square Footage of the House	$44.65***	0.29	$184.61***	1.25	$163.28***	1.37
Squared	$0.02***	0.21	–$0.06***	–0.61	–$0.10***	–1.05
Cubed	$0.00***	–0.06	$0.00***	0.12	$0.00***	0.33
Garage Yes/No	$18,857.06***	0.09	$15,783.86***	0.08	$3,818.98***	0.03
Median Household Income within Block Group: 2005–2009	–	–	–	–	–	–
Income Diversity	$469.76*	0.20	$653.40***	0.32	$492.14*	0.34
Racial Diversity Index: 2010	–$263.61***	–0.02	–$158.80***	–0.01	–	–
% of Poverty in Census Tract: 2005–2009	–$546.45*	–0.02	–$890.61***	–0.04	–	–
% of Population Age 25 and Older with a High School Degree: 2005–2009	–	–	–	–	–	–
% of Population Age 25 and Older with an Associate's Degree: 2005–2009	–	–	$573.85*	0.02	–	–

Table 11: Hedonic Pricing Regression Results - Royal Oak, MI (cont.)

Royal Oak, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
% of Population Age 25 and Older with a Bachelor's Degree: 2005–2009	$883.26***	0.13	$726.40***	0.11	–	–
% of Population Age 25 and Older with a Graduate or Professional Degree: 2005–2009	$1,341.11***	0.11	$861.09***	0.08	–	–
Age Diversity	–	–	–$1,982.23***	–0.79	–	–
Children Age 5 to 17	–$39,612.94***	–0.02	–	–	–	–
Distance to Closest River in Feet†	–	–	–	–	–	–
Cubed	–	–	$0.00***	0.13	–	–
Distance to Closest Lake in Feet†	–	–	–	–	–	–
Squared	–	–	–	–	–	–
Cubed	–	–	–	–	–	–
Distance to Closest Park in Feet†	–	–	–	–	–	–
Squared	–	–	–	–	–	–
Cubed	–	–	–	–	–	–
Distance to Downtown†	–	–	–	–	–	–
Distance to Nearest Interstate†	–	–	–	–	–	–
Distance to Closest Primary School in Feet†	$3.02**	0.04	$3.97***	0.06	–	–
Distance to Closest High School in Feet†	–	–	–	–	–$2.47*	–0.13
Motor Vehicle and Parts Dealers within a ¼ Mile	$3,655.14**	0.01	–	–	–	–
Motor Vehicle and Parts Dealers within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Motor Vehicle and Parts Dealers within a ½ Mile – 1 Mile	–	–	–	–	–	–
Motor Vehicle and Parts Dealers within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Furniture and Home Furnishings Stores within a ¼ Mile	–	–	$1,589.08*	0.01	–	–
Furniture and Home Furnishings Stores within a ¼ Mile – a ½ Mile	$2,738.07***	0.04	$1,937.36***	0.03	$1,409.44*	0.03
Furniture and Home Furnishings Stores within a ½ Mile – 1 Mile	$2,039.04***	0.08	$1,110.89***	0.05	–	–
Furniture and Home Furnishings Stores within 1 Mile – 1 ½ Miles	$812.80**	0.06	–	–	–	–
Electronics and Appliance Stores within a ¼ Mile	–	–	–$1,679.39*	–0.01	–	–
Electronics and Appliance Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Electronics and Appliance Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Electronics and Appliance Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile	–$3,675.11*	–0.01	–$2,330.84*	–0.01	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
– This variable is not significant.
† Negative coefficient translates into positive marginal value. Can be interpreted as: "For each additional foot from an interstate, river, etc., *x* is associated with $*x* increase/decrease in sale price."

Table 11: Hedonic Pricing Regression Results - Royal Oak, MI (cont.)

Royal Oak, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Building Material/Garden Equipment/ Supply Dealers within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within a ½ Mile – 1 Mile	–	–	–	–	–	–
Building Material/Garden Equipment/ Supply Dealers within 1 Mile – 1 ½ Miles	–$1,236.53**	–0.06	–$797.63**	–0.05	–	–
Grocery Stores within a ¼ Mile	–$3,200.36*	–0.01	–	–	–	–
Grocery Stores within a ¼ Mile – a ½ Mile	$1,844.81*	0.02	$2,197.30***	0.03	–	–
Grocery Stores within a ½ Mile – 1 Mile	–	–	–	–	–$1,305.19*	–0.08
Grocery Stores within 1 Mile – 1 ½ Miles	–	–	$637.39**	0.04	–$768.54*	–0.08
Specialty Food Stores within a ¼ Mile	–	–	–	–	–	–
Specialty Food Stores within a ¼ Mile – a ½ Mile	–	–	$3,531.41**	0.01	–	–
Specialty Food Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Specialty Food Stores within 1 Mile – 1 ½ Miles	–$1,836.23**	–0.04	–	–	–	–
Beer, Wine and Liquor Stores within a ¼ Mile	–	–	–	–	–	–
Beer, Wine and Liquor Stores within a ¼ Mile – a ½ Mile	$3,676.79**	0.03	$1,938.45*	0.02	$3,109.39**	0.03
Beer, Wine and Liquor Stores within a ½ Mile – 1 Mile	$2,455.69**	0.06	$1,705.97**	0.04	$2,476.92**	0.10
Beer, Wine and Liquor Stores within 1 Mile – 1 ½ Miles	$1,942.87***	0.07	$814.02*	0.03	$1,795.80***	0.11
Health and Personal Care Stores within a ¼ Mile	–$4,043.03**	–0.01	–$3,831.48***	–0.02	–	–
Health and Personal Care Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Health and Personal Care Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Health and Personal Care Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Gasoline Stations within a ¼ Mile	–$6,051.63***	–0.02	–$3,275.58**	–0.01	–	–
Gasoline Stations within a ¼ Mile – a ½ Mile	–$7,288.97***	–0.05	–$3,062.59***	–0.02	–	–
Gasoline Stations within a ½ Mile – 1 Mile	–$4,574.97***	–0.10	–$2,135.30***	–0.05	–	–
Gasoline Stations within 1 Mile – 1 ½ Miles	–$1,956.56***	–0.06	–$946.46**	–0.03	–	–
Clothing and Clothing Accessories Stores within a ¼ Mile	$1,462.37*	0.01	–	–	–	–
Clothing and Clothing Accessories Stores within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
Clothing and Clothing Accessories Stores within 1 Mile – 1 ½ Miles	–	–	–$142.90*	–0.03	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile	–	–	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within a ¼ Mile – ½ Mile	$1,875.03**	0.02	$1,184.41*	0.02	–	–

Table 11: Hedonic Pricing Regression Results - Royal Oak, MI (cont.)

Royal Oak, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Sporting Goods, Hobby and Musical Instrument Stores within a ½ Mile – 1 Mile	$1,309.94*	0.05	–	–	–	–
Sporting Goods, Hobby and Musical Instrument Stores within 1 Mile – 1 ½ Miles	$1,046.63**	0.07	$772.71***	0.06	–	–
Book, Periodical and Music Stores within a ¼ Mile	–	–	–	–	–	–
Book, Periodical and Music Stores within a ¼ Mile – a ½ Mile	$2,795.59*	0.02	–	–	–$3,151.11**	–0.03
Book, Periodical and Music Stores within a ½ Mile – 1 Mile	$2,276.17**	0.05	–	–	–	–
Book, Periodical and Music Stores within 1 Mile – 1 ½ Miles	$1,018.99*	0.04	–	–	–	–
General Merchandise Stores within a ¼ Mile	–	–	–	–	–$7,072.65**	–0.01
General Merchandise Stores within a ¼ Mile – a ½ Mile	–$3,842.98*	–0.01	–$4,104.25**	–0.02	–$4,056.55*	–0.02
General Merchandise Stores within a ½ Mile – 1 Mile	–	–	–	–	–	–
General Merchandise Stores within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Miscellaneous Store Retailers within a ¼ Mile	–	–	–	–	–	–
Miscellaneous Store Retailers within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Miscellaneous Store Retailers within a ½ Mile – 1 Mile	–	–	–	–	–	–
Miscellaneous Store Retailers within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Performing Arts Companies within a ¼ Mile	–$7,649.81***	–0.02	–$6,620.01***	–0.02	–$4,470.55(	–0.02
Performing Arts Companies within a ¼ Mile – a ½ Mile	–$5,405.91***	–0.03	–$4,440.16***	–0.02	–	–
Performing Arts Companies within a ½ Mile – 1 Mile	–	–	–$2,371.55**	–0.03	–	–
Performing Arts Companies within 1 Mile - 1 ½ Miles	–	–	–$2,145.54***	–0.04	–	–
Spectator Sports within a ¼ Mile	–	–	$6,498.98*	0.01	–	–
Spectator Sports within a ¼ Mile – a ½ Mile	$6,629.83*	0.01	$7,794.98***	0.02	–	–
Spectator Sports within a ½ Mile – 1 Mile	–	–	$4,324.05**	0.02	–	–
Spectator Sports within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile	–$9,893.95**	–0.01	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ¼ Mile – a ½ Mile	–$6,026.34**	–0.01	–	–	–	–
Promoters of Performing Arts, Sports and Similar Events within a ½ Mile – 1 Mile	–$3,687.22*	–0.02	–	–	$4,093.70**	0.04
Promoters of Performing Arts, Sports and Similar Events within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Gambling Industries within a ¼ Mile	–	–	–	–	–	–
Gambling Industries within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Gambling Industries within a ½ Mile – 1 Mile	–	–	–	–	–	–

* Significant at the 0.10 confidence level.
** Significant at the 0.05 confidence level.
*** Significant at the 0.01 confidence level.
- This variable is not significant.

Table 11: Hedonic Pricing Regression Results - Royal Oak, MI (cont.)

Royal Oak, MI	Category 1		Category 2		Category 3	
	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.	Coeff.	Std. Coeff.
Gambling Industries within 1 Mile – 1 ½ Miles	–	–	–	–	$22,511.35*	0.03
Amusement Parks and Arcades within a ¼ Mile	–	–	–	–	–	–
Amusement Parks and Arcades within a ¼ Mile – a ½ Mile	-$10,855.48***	-0.02	-$6,871.36***	-0.02	–	–
Amusement Parks and Arcades within a ½ Mile – 1 Mile	-$5,968.09***	-0.04	-$3,898.85***	-0.03	–	–
Amusement Parks and Arcades within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Other Amusement and Recreation Industries within a ¼ Mile	–	–	–	–	–	–
Other Amusement and Recreation Industries within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Other Amusement and Recreation Industries within a ½ Mile – 1 Mile	–	–	–	–	–	–
Other Amusement and Recreation Industries within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
Full-Service Restaurants within a ¼ Mile	–	–	$2,340.34***	0.03	–	–
Full-Service Restaurants within a ¼ Mile – a ½ Mile	$1,018.26*	0.03	$897.26**	0.03	–	–
Full-Service Restaurants within a ½ Mile – 1 Mile	–	–	$613.11**	0.07	–	–
Full-Service Restaurants within 1 Mile – 1 ½ Miles	-$440.84**	-0.07	–	–	–	–
Limited-Service Eating Places within a ¼ Mile	–	–	–	–	–	–
Limited-Service Eating Places within a ¼ Mile – a ½ Mile	–	–	–	–	–	–
Limited-Service Eating Places within a ½ Mile – 1 Mile	$1,116.71*	0.05	$1,322.94***	0.07	$1,644.28***	0.12
Limited-Service Eating Places within 1 Mile – 1 ½ Miles	–	–	$593.49**	0.05	–	–
Drinking Places (Alcoholic Beverages) within a ¼ Mile	-$7,570.40**	-0.02	-$5,392.76**	-0.01	–	–
Drinking Places (Alcoholic Beverages) within a ¼ Mile – a ½ Mile	-$8,207.78***	-0.06	-$3,884.75***	-0.03	–	–
Drinking Places (Alcoholic Beverages) within a ½ Mile – 1 Mile	-$2,528.46**	-0.05	-$1,838.36**	-0.04	–	–
Drinking Places (Alcoholic Beverages) within 1 Mile – 1 ½ Miles	-$1,288.74**	-0.05	–	–	–	–
Religious Organizations within a ¼ Mile	–	–	–	–	–	–
Religious Organizations within a ¼ Mile – a ½ Mile	–	–	-$786.34*	-0.02	–	–
Religious Organizations within a ½ Mile – 1 Mile	–	–	–	–	–	–
Religious Organizations within 1 Mile – 1 ½ Miles	–	–	–	–	–	–
# of Businesses within 1 Mile	-$33.93**	-0.20	-$29.03**	-0.19	–	–
# of Employees within 1 Mile	–	–	–	–	–	–
Adjusted R-Squared	0.957		0.974		0.981	
n	7,112		6,649		1,572	

Appendix D: Conceptual Framework

Though not tested, we felt it important to formulate a theory of how placemaking and conventional real estate differ. We begin our conceptual framework by defining what a "placemaking real estate" project means and contrasting this to a standard real estate project without placemaking elements. A standard residential building (SRB) has basic housing features designed to meet the basic housing needs of a consumer or household. These features may include such things as the lot or *L* (including size, shape, frontage, slope, and basic landscaping), built improvements or *I* (including the number or sizes of bedrooms, bathrooms, living rooms, family rooms, kitchens, garages, floors, building age, structure, square footage, and basements), and basic community amenities or *CA* (including the number, sizes and quality of parks, standard municipal amenities, and roads). The value of the *i*th SRB (VH_i) is, therefore, the sum of the hedonic values of the SRB's attributes, which include the elements of *L*, *I* and *CA*.

$$(1) \qquad VH_i = \sum_{i=1}^{m} P_i X_i = \sum_{i=1}^{m1} P_i L_i + \sum_{i=m1+1}^{m2} P_i I_i + \sum_{i=m2+1}^{m3} P_i CA_i$$

where the *Pi*'s are the hedonic prices of each *Xi* attribute, which include *L*, *I* and *CA* attributes. The value per square foot can therefore be expressed as:

$$(2) \qquad VH_i / A = \sum_{i=1}^{m} (P_i X_i) / A = \sum_{i=1}^{m1} (P_i L_i) / A + \sum_{i=m1+1}^{m2} (P_i I_i) / A + \sum_{i=m2+1}^{m3} (P_i CA_i) / A.$$

Similarly, a standard commercial building (SCB) has basic commercial features designed to meet the basic needs of businesses or other organizations. These features might include such things as the land or *N* (including such things as the parking lot, outside lighting, frontage, slope and basic landscaping), built improvements or *K* (including the number or sizes of suites, storage space, parking condition, floors, building age, square footage) and basic community business amenities or *BA* (including roads and other standard municipal amenities). The hedonic value of the ith SCB (VB_i) is therefore, the sum of the hedonic values of the SCB's attributes, which include the elements of *N*, *K* and *BA*.

$$(3) \qquad VB_j = \sum_{j=1}^{w} P_j X_j = \sum_{j=1}^{w1} P_j N_j + \sum_{j=w1+1}^{w2} P_j K_j + \sum_{j=w2+1}^{w3} P_j BA_j$$

where the P_j's are the hedonic prices of each X_j attribute, which include *N*, *K* and *BA* attributes. The value per square foot can, therefore, be expressed as:

$$(4) \qquad VB_j / A = \sum_{j=1}^{w} (P_j X_j) / A = \sum_{j=1}^{w1} (P_j N_j) / A + \sum_{j=w1+1}^{w2} (P_j K_j) / A + \sum_{j=w2+1}^{w3} (P_j BA_j) / A.$$

A placemaking housing or commercial property is defined, therefore, as one designed to involve non-standard attributes. This can include mixed-use development, which co-mingles housing and commercial attributes. For example, the value of a mixed-use property (*VR*) can be expressed as follows:

$$(5) \qquad VR_{ij} = VH_i^* + VB_j^* = \sum_{i=1}^{m1} P_i^* L_i + \sum_{i=m1+1}^{m2} P_i^* I_i + \sum_{i=m2+1}^{m3} P_i^* CA_i + \sum_{j=1}^{w1} P_j^* N_j + \sum_{j=w1+1}^{w2} P_j^* K_j + \sum_{j=w2+1}^{w3} P_j^* BA_j.$$

Note that in Equation 5, a pure residential property has the VH_i elements and the VB_j elements suppressed, while a pure commercial property has the VB_j elements and the VH_i elements suppressed. Since a mixed-use property, on a square foot basis, implies a space limitation that imposes constraints on the total elements of VH_i and VB_j that are possible. The value per square foot can be expressed as follows:

$$VR_{ij}/A = VH_i^*/A + VB_j^*/A$$
$$= \sum_{i=1}^{m1}(P_i^* L_i)/A + \sum_{i=m1+1}^{m2}(P_i^* I_i)/A + \sum_{i=m2+1}^{m3}(P_i^* CA_i)/A + \sum_{j=1}^{w1}(P_j^* N_j)/A + \sum_{j=w1+1}^{w2}(P_j^* K_j)/A + \sum_{j=w2+1}^{w3}(P_j^* BA_j)/A. \quad (6)$$

Looking at Equation 6, the square footage bounds imply that the maximum combination of L_i and N_j, I_i and K_j, and CA_i and BA_j on a lot are restricted. Placemaking, therefore, implies that the values of each attribute could be higher, though the quantity of that attribute could be lower. So, placemaking can enhance value by allowing , for each *i* and *j* combination. This would imply that placemaking of a mixed use development nature enhances value of the property. Now consider placemaking projects designed to add additional value by adding features that go beyond features of standard residential buildings and standard commercial buildings. These attributes can include elements that add recreational, leisure and other quality-of-life features, such as walkability (e.g., sidewalks and trails), bikability (e.g., bike paths), green infrastructure (nature trails and parks), value-added energy benefits (e.g., LEED certified buildings) or recreational opportunities (e.g., bars, nightlife, fitness centers and other entertainment venues). These non-standard features of residential and commercial projects may add value by creating increased locational preference for the particular piece of real estate. Indeed, studies have shown that successful placemaking developments tend to attract premium residential and commercial activity, as well as create destination points for people and their economic activities. The corollary to Equation 6 is therefore:

$$VT_{ij}/A = VH_i^*/A + VB_j^*/A + VP_r^*/A$$
$$= \sum_{i=1}^{m1}(P_i^* L_i)/A + \sum_{i=m1+1}^{m2}(P_i^* I_i)/A + \sum_{i=m2+1}^{m3}(P_i^* CA_i)/A + \sum_{j=1}^{w1}(P_j^* N_j)/A + \sum_{j=w1+1}^{w2}(P_j^* K_j)/A + \sum_{j=w2+1}^{w3}(P_j^* BA_j)/A + \sum_{r=1}^{z}(P_r^* p_r)/A \quad (7)$$

where VP_r* is the value of non-standard placemaking attributes. Again, looking at Equation 7, the square footage bounds imply that the maximum combination of L_i, N_j, and p_r; I_i, K_j and p_r; and CA_i, BA_j and p_r on a lot are restricted. Similarly, placemaking of this type can enhance value by allowing , for each *i*, *j* and *r* combination. Now consider the two-dimensional property value response function as a piece of property connotes increasing values of non-standard placemaking amenities. As shown in Figure 18, as the volume of pr increases for a purely residential property, property value can be expected to rise. Similarly, as the volume of pr increases for a purely commercial property, property value can be expected to rise.

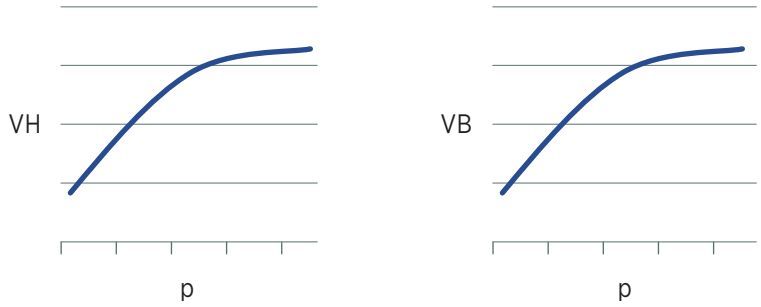
Combining Figure 16 elements and focusing on the nature of mixed-use projects, which range from purely residential to purely commercial in content, we expect the value response function shown in Figure 17. As shown in Figure 17, the value of a mixed-use project increases and then decreases as one moves from a purely residential development to a purely commercial development. This implies that corner solutions are less optimal. This is explained by $P_i^* + P_j^* > P_i + P_j$. Figure 18 provides a

three-dimensional value response surface that incorporates non-standard place elements and mixed-use, which shows an optimal combination of mixed-use and other placemaking elements.

This is explained by $P_i^* + P_j^* + P_r^* > P_i + P_j + P_r$.

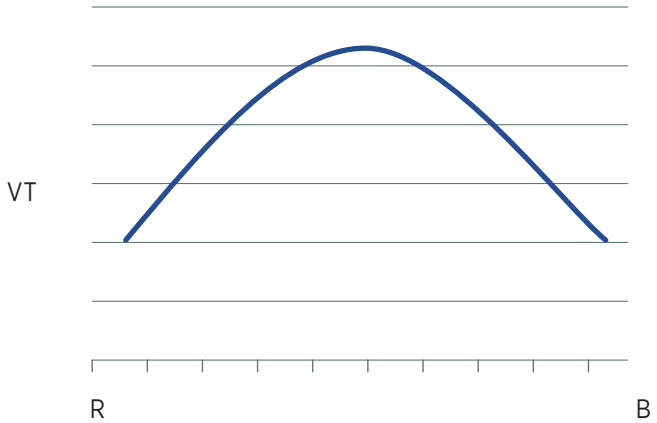
The hedonic pricing model is used to tease out the values of placemaking features and requires the specification of a function that leverages data from a continuum of project scenarios, ranging from purely residential to purely commercial properties, with varying elements of non-standard placemaking attributes.

Figure 17: Value-Place Response Function



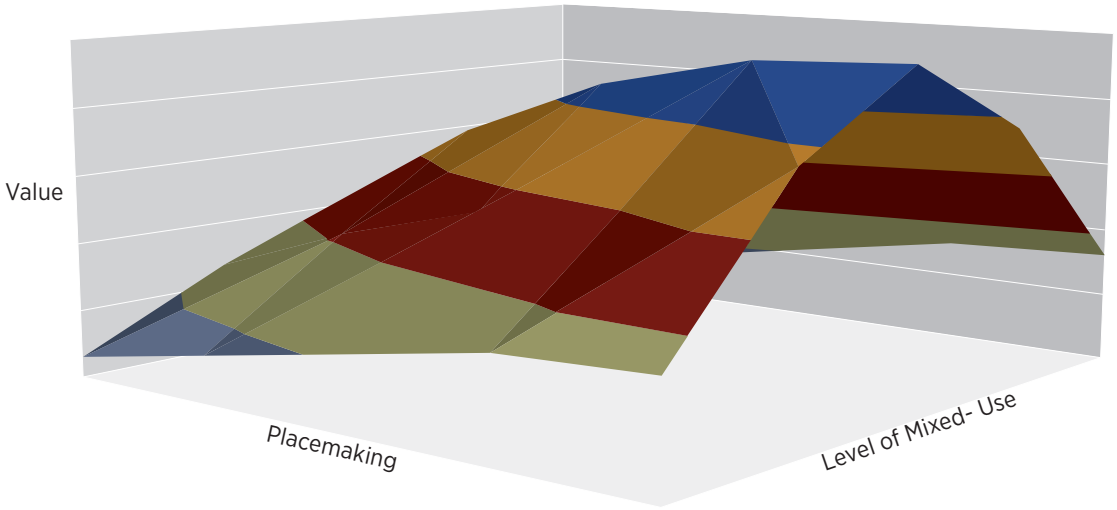
Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Figure 18: Value Response Function for Mixed-Use Projects



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Figure 19: Value Response Function for Mixed-Use and Other Placemaking Projects



Source: Figure created by the Land Policy Institute, Michigan State University, 2012.

Appendix E: Barriers to Placemaking

Table 12: Barriers to Placemaking

Basic Information	
Barriers	**Description**
Residential Zoning Regulations (Including Minimum Lots Sizes and Setbacks); Maximum Residential Density	For example, land zoned for residential development must be developed at a density equivalent to two or fewer dwelling units per acre, or if on a public sewer system, three or fewer dwelling units per acre.
Single-Use Regulation; Separate Residential and Commercial Structures	Michigan Zoning Enabling Act of 2006, Section 201: "Except as otherwise provided under this act, the regulations shall be uniform for each class of land or buildings, dwellings and structures within a district."
Building Regulations; Maximum Building Height and Area; Height and/or Area Restrictions on Signage; Architectural Façade Specifications	Michigan Zoning Enabling Act of 2006, Section 201: "a local unit of government may adopt . . . regulations designating or limiting the location, height, bulk, number of stories, uses, size of dwellings, buildings and structures . . ."
Minimum Parking Space	Michigan Zoning Enabling Act of 2006, Section 201: "Except as otherwise provided under this act, the regulations shall be uniform for each class of land or buildings, dwellings and structures within a district."
Developments Do Not Incorporate "Affordable Housing"	All units are properties that are priced higher than households can afford at less than 30% of their gross income.
No Mass Transit	Neighborhood is not connected to other areas by mass transit.
Local Zoning Not Transit Friendly	Local development codes favor low-density, auto-oriented uses. Creating and implementing transit friendly zoning becomes an additional challenge.
Car Dependency	Community and neighborhood are designed under the assumption that most people will get there by car.
Transportation	The space required for automobiles makes it difficult to create walkable communities with a sense of place.
Lack of Connectivity between Local Destinations	Automobile-dominated environment makes walking and biking difficult, even when located close by.
Financing Difficult to Obtain	Lenders typically have concerns about financing mixed-use projects or those with lower parking ratios (such as in transit-oriented development (TOD)). Public financing available for implementing TOD is limited.
Not in My Backyard (NIMBYism)	Community members fight against having certain types of development (e.g., affordable housing) in their neighborhood.
Many Banks Do Not Lend on Mixed-Use Homes	Fannie Mae and Freddy Mac do not purchase mortgages secured on mixed-use properties. Lenders must find other investors or keep these loans in their investment portfolios for the duration of the loan term. Banks also look at how much income the property is generating vs. the amount of mortgage payments and business expenses.
Mixed-Use Loans Have Higher Interest Rates than Conforming Mortgages	Loans secured by mixed-use buildings are deemed to have less liquidity.
Short-Term Biases in Internal Rate of Return and Discount Cash Flow Methodologies	Mixed-use projects oftentimes see greater returns as the development matures. However, large financial institutions make short-term investments (five to seven years), because conventional internal rate of return and discounted cash flow methodologies mask the long-term returns of these projects.

	Barrier For				Barrier Can Be Addressed By			
Placemaking Element	Local Government	Financial Institutions	Developer	Community Members	Local Government	Financial Institutions	Developer	Community Members
Mixed-Use; Affordable Housing			X		X			X
Mixed-Use; Workforce Housing; Walkability			X		X			X
Placemaking; Mixed-Use; Workforce Housing			X		X			
Mixed-Use; Affordable Housing			X		X			
Affordable Housing				X	X	X	X	
Transit Stops/ Hubs			X	X	X			
Transit-Oriented Development			X	X	X			
Bike Paths; Transit Stops/ Hubs; Walkability	X		X		X	X	X	X
Walkability; Placemaking	X		X		X	X	X	X
Bikability				X	X			
Transit-Oriented Development	X		X			X		
Affordable Housing; Mixed-Use; Bike Paths; Workforce Housing	X		X					X
Mixed-Use	X		X			X		
Mixed-Use			X			X		
Mixed-Use			X			X		

Table 12: Barriers to Placemaking (cont.)

Basic Information	
Barriers	**Description**
Aversion to Density	Many individuals and communities do not accept higher density development.
Cost of Infill or Brownfield Development	It is less expensive for developers to build in greenfield locations.
Home Rule	Local land use decisions interfere with solving regional problems, such as transportation.
Social Class	Desire to sort communities into like economic classes.
Lack of Training, Education and Information	Developers, local governments and financial institutions are unwilling or unfamiliar with "smart growth" principles; many community master plans that promote "smart growth" have little buy-in from citizens.
Risk	Financial institutions are reluctant or refuse to provide funding for "smart growth" projects, due to their perceived risk.
High Land Costs	High land costs in urban areas was cited as the biggest site-related barrier to the construction of workforce housing (Urban Land Institute, 2002).
Deteriorated Infrastructure	Infrastructure in many urban areas is in need of repair, enlargement or replacement. The costs to repair such infrastructure add to the overall project costs and can make the production of workforce housing financially infeasible.
Environmental Challenges	Urban sites are more likely to be contaminated than greenfield suburban sites. They also pose staging and access challenges during the construction process.
Lack of Information about Available Sites	In markets with significant unsatisfied demand, the profit motive will lead developers to find the sites; in low-demand markets, government assistance may be helpful.
Lack of Understanding the Market Segment's Location Preferences	Where do workers want to live, and by which amenities?
Inadequate Existing Building Stock	Existing stock may not meet demands of the market and, therefore, may require the demolition or conversion of existing structures. These costs may be too high to make development financially feasible.
Limited Government Funding	Limited Federal money is available to fund workforce housing programs. Few programs extend their income restrictions to include moderate-income households.
Down Payment Requirements	Few moderate-income workers are able to save enough money for the down payment required to secure a loan. Many are forced to remain in the rental market.
Park Access	Proximity of parks to homes can affect access. Studies show that on average people will walk a ¼ mile to a park.
Perceptions of Safety	Areas where traffic fatalities occurred recently and crime frequency is high can alter the way residents interact with their environments.
Higher Developer Risk and Cost	Mixed-use higher density projects, higher density projects with reduced amounts of parking (such as in TOD) can significantly increase risk for developers and financiers. Transit-oriented development can be more costly, and subject to added regulations and more complex local approval processes, as compared to conventional "auto-oriented" development.

	Barrier For				Barrier Can Be Addressed By			
Placemaking Element	Local Government	Financial Institutions	Developer	Community Members	Local Government	Financial Institutions	Developer	Community Members
Smart Growth	X		X	X	X	X		X
Smart Growth			X		X	X		X
Smart Growth			X	X	X			X
Smart Growth	X		X	X	X		X	X
Smart Growth			X		X	X	X	X
Smart Growth			X			X		
Workforce Housing			X		X			
Workforce Housing		X	X		X	X		
Infill Development		X	X		X			X
Workforce Housing			X	X	X	X		
Workforce Housing	X	X	X	X	X			
Workforce Housing		X	X	X				
Workforce Housing			X	X	X			
Workforce Housing				X		X		
Parks				X	X		X	
Walkability				X	X		X	
Transit-Oriented Development			X		X	X	X	

Appendix F: Placemaking Case Studies

Table 13: Placemaking Case Studies

Title	Categories	City/County	State	Year
Posadas Sentinel, Tucson	Affordable Housing	Tucson	AZ	2001
Sara Conner Court	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	Hayward	CA	2009
Leighton Townhomes	Affordable Housing; Environmental Health and Sustainability	Los Angeles	CA	2009
Madrone Plaza	Affordable Housing; Environmental Health and Sustainability; Walkability	Morgan Hill	CA	2009
Fox Courts	Affordable Housing; Environmental Health and Sustainability; Social Services; Public Transit	Oakland	CA	2009
275 10th Street	Affordable Housing; Environmental Health and Sustainability; Green Space; Public Transit	San Francisco	CA	2009
Arnett Watson Apartments	Affordable Housing; Environmental Health and Sustainability; Green Space	San Francisco	CA	2009
The Essex	Affordable Housing; Environmental Health and Sustainability; Social Services	San Francisco	CA	2009
Mixed Uses and Incomes	Mixed-Use	San Francisco	CA	2009

Description	Source
Use of HUD's HOPE VI Grants.	Smart Growth Network and National Neighborhood Coalition
Sara Conner Court is an affordable family housing development designed to create a supportive family environment immediately adjacent to a busy four-lane boulevard.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
For more than 20 years, a vacant lot stood at the intersection of Los Angeles' Leighton Avenue and Martin Luther King Jr. Boulevard. Today, eight stylish, energy-saving townhomes house 14 families at Leighton Townhomes, a development by Enterprise Home Ownership Partners.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Madrone Plaza, built by South County Community Builders, is a mixed-income housing development located on 6.5 acres of previously vacant land. Madrone Plaza homeowner's association provides all residents, regardless of income, with access to a park, barbecue/picnic area, tot lot, clubhouse, swimming pool, bocce ball court, putting green and basketball court. The project features Craftsman architecture and incorporates many green building elements. It offers spectacular views of the mountains, with plenty of outdoor opportunities for walking, biking, golfing and other activities. The majority of the townhomes will front a pedestrian paseo lined with shade trees to encourage community interaction.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Fox Courts is a transit-oriented, arts-enriched, family-focused, affordable housing development in the Uptown District of central Oakland. It is one part of a redevelopment that also includes 700 market-rate homes, the historic Fox Theater, the Oakland School for the Arts, restaurants and retail opportunities. Fox Courts' 0.88-acre site used to be a parking lot. Community activists banded together to negotiate a community benefits agreement for the redevelopment, and Fox Courts is the resulting affordable housing component.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
A development of Episcopal Community Services (ECS) of San Francisco, 275 10th Street Supportive Housing features 134 single-room occupancy units for chronically homeless single adults in San Francisco. Included in the project was the demolition of three light industrial buildings on the site, clearing the way for a single, five-story building. Residents of 275 10th Street Supportive Housing are chronically homeless adults, many with multiple special needs or disabilities including mental health problems, substance abuse and HIV/AIDS. They have access to a full array of supportive services through ECS and other community organizations. Moreover, because of its location, residents have easy access to several transit lines, including buses, street car and regional light rail.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Tenderloin Neighborhood Development Corporation (TNDC) and Community Housing Partnership (CHP) joined together to develop 83 supportive homes for formerly homeless individuals and families at 650 Eddy Street, renamed Arnett Watson Apartments. The nine-story building houses several different apartment types and an assortment of amenities aimed at assisting residents—many of whom suffer from mental illnesses, HIV/AIDS, physical disability or chronic substance abuse, in addition to homelessness—achieve permanent stability and independence. The unit types for the $32 million development break down to 36 studios, 33 one-bedrooms and 14 two-bedrooms.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
A seven-story hotel in San Francisco's Tenderloin neighborhood has been converted into 84 single-room occupancy apartments for homeless individuals with disabilities. Known as the Essex, the building was first constructed in 1912 and has undergone substantial renovations, a process that included several upgrades to meet current safety standards as well as features that satisfy Enterprise's Green Communities criteria. Offering a supportive but independent living environment, the studio apartments each have bathrooms and kitchenettes. In addition to the apartments, the building features 3,000 square feet of street-level commercial space and 5,500 square feet of community facilities where the Community Housing Partners (CHP) provide supportive services to residents. The CHP also serves as the building's property manager and owner.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Yerba Buena Gardens is an 87-acre project, formerly an area of decaying warehouses and vacant lots, where redevelopment was begun in the 1960s. While the project extends to 12 city blocks, there are three "Central Blocks" comprising 22 acres of retail, entertainment, and cultural uses, where most of the public space is located. The overall district includes low- and middle-income housing, as well as market-rate condominiums; a large Marriott Hotel; six acres of gardens; retail, recreational, entertainment, parking and cultural facilities; a five-acre children's center; and the George Moscone Convention Center. The outdoor space, most of which is concentrated on Central Block Two and comprises approximately 5.5 acres, is very versatile and can accommodate a variety of activities without seeming overly crowded.	Project for Public Spaces (Multi-Use Web Page)

Table 13: Placemaking Case Studies (cont.)

Title	Categories	City/County	State	Year
Central Park at Stapleton	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	Denver	CO	2009
Community Development Block Grant in Denver	Affordable Housing	Denver	CO	2001
Renaissance Riverfront Lofts	Affordable Housing; Environmental Health and Sustainability; Brownfield Development	Denver	CO	2009
Villa Italia Mall	Mixed-Use; Walkability	Denver	CO	2008
E-Star in Colorado	Affordable Housing; Energy Efficiency	N/A	CO	2001
Galen Terrace	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	Washington	DC	2009
Workforce Housing Development in Palm Beach County, FL	Affordable Housing	Palm Beach County	FL	2009
Florida's Fair Housing Act	Affordable Housing	N/A	FL	2001
Location-Efficient Mortgages in Chicago	Affordable Housing; Energy Efficiency	Chicago	IL	2001
Neighborhood Early Warning System	Affordable Housing	Chicago	IL	2001
Roseland Ridge Apartments, Chicago	Affordable Housing	Chicago	IL	2001
Massachusetts Affordable Housing Alliance	Affordable Housing	Boston	MA	2001
Trolley Square	Affordable Housing; Environmental Health and Sustainability	Cambridge	MA	2009
Healthy Urban Design: Maryland's Smart Codes and the Pedestrian Environment	Walkability; Multiple	N/A	MA	1997

Description	Source
Central Park at Stapleton is a new rental development in Denver, designed to provide affordable units for households making less than 50% Area Median Income (AMI), while also incorporating principles of sustainable design and green building standards. Although this is a new housing construction, the site is part of the old Denver Stapleton Airport redevelopment, a "sustainable designed" planned community that has received local and national awards development consists of two buildings housing 18 homes.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Use of HUD's Community Development Block Grants (CDBG).	Smart Growth Network and National Neighborhood Coalition
Renaissance Riverfront Lofts is a transit-oriented development integrating supportive housing for homeless persons and affordable housing for individuals who otherwise could not afford to live downtown. It is a five-story, new construction building on a 1.4 acre site. At 97,000 square feet, it contains 86 one-bedroom and 14 two-bedroom apartments. It is on a former brownfield site that was home to an asphalt plant. The original site was divided into two parcels. The north parcel was developed as a neighborhood retail center, and the south parcel is home to Riverfront Lofts.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
In Denver, the aging Villa Italia Mall in suburban Lakewood was demolished and replaced with a commercial and residential district with 1,300 apartments, 200 condominiums and single family homes, offices and a neo-traditional main street.	CEO's for Cities (Walk the Walk)
Below-market-rate energy efficiency mortgages and energy improvement mortgages.	Smart Growth Network and National Neighborhood Coalition
Galen Terrace is a rehab of an existing Section 8 housing community made up of three three-story apartment buildings on two separate parcels in the Anacostia neighborhood of South East Washington, D.C. Located in the heart of a historic district, including the Frederick Douglass home, with access to public transportation and many amenities, the site has much to offer. The neighborhood is among the lowest-income and highest crime rate areas in the District of Columbia.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Transfer of development rights (TDR) a market-based land use tool that local governments can use to preserve agricultural land, historic landmarks, affordable housing, or environmentally sensitive sites by directing growth to locations that are more suitable for higher-density development.	Breakthroughs (8.5)
Developing policies that protect workforce households.	Smart Growth Network and National Neighborhood Coalition
Banks offering mortgages that incorporate energy-efficiency as a part of customers' savings.	Smart Growth Network and National Neighborhood Coalition
Chicago's Neighborhood Early Warning System (NEWS) is an online information system that helps communities, developers and non-profit organizations become aware of land opportunities.	Smart Growth Network and National Neighborhood Coalition
Low-income tax credit to builders.	Smart Growth Network and National Neighborhood Coalition
Engaged local banks in providing a Soft Second Mortgage Program.	Smart Growth Network and National Neighborhood Coalition
Trolley Square was built on a vacant lot, formerly the site of a bus storage facility. It includes 40 affordable rental and for-sale units, 2,800 square feet of office and community space, an underground garage and 14,000 square feet of open space. Building facades were designed to enhance the streetscape and enliven a previously blank stretch of Massachusetts Avenue.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
The Maryland General Assembly passed five pieces of legislation and budget initiatives (Priority Funding Areas, Brownfields, Live Near Your Work, Job Creation Tax Credit, and Rural Legacy Program) to encourage mix-land use; compact building design; creating housing opportunities and choices; foster distinctive, attractive communities with a strong sense of [place]; preserve open space, farmland, natural beauty, and critical environmental areas; strengthen and direct development to existing communities; make development decisions predictable, fair, and cost effective; encourage community and stakeholder collaboration in development decisions; and provide a variety of transportation options.	Smart Growth Network

Table 13: Placemaking Case Studies (cont.)

Title	Categories	City/County	State	Year
Adrian, Michigan, Saves $1M By Turning Old Plant Into New Complex	Building Renovation	Adrian	MI	2010
Michigan Towns Score Smart Growth Victories at Polls	Green Space; Land Preservation	Ann Arbor	MI	2003
Development Brings "Neighborhood Feel" to Suburban Detroit	Affordable Housing; Walkability; Public Space; Green Space	Canton Township	MI	2002
New Urbanism in Chesterfield Township	Mixed-Use	Chesterfield Township	MI	2001
Agnes Street Apartments	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	Detroit	MI	2009
Almost Six Decades after Historic Streetcar, Federal Funds Will Help Detroit Build Light Rail	Public Transit	Detroit	MI	2010
Detroit Region Moves to Improve and Rebuild City from within	Multiple Housing; Mixed-Use; Public Space	Detroit	MI	2004
Detroit Revitalization Program Would Lead to 1,200 Housing Units	Housing	Detroit	MI	2002
Detroit River Front	Mixed-Use; Walkability	Detroit	MI	1999
Detroit's Eastside Redevelopment to Focus on Rehabilitation and Revitalization, Not Displacement	Mixed-Use; Mixed-Income; Housing	Detroit	MI	2004
Revised Brownfield Law Expands Single Business Tax Credit to Help Michigan Communities Reuse Small Vacant Sites	Land Re-Use	Detroit	MI	2006
Technical Assistance Program Eases Redevelopment Barriers for Detroit's Inner Suburbs and Older Neighborhoods	Technology Information Sharing	Detroit	MI	2005

Description	Source
Purchasing and renovating an existing facility for its parks and forestry building, rather than building a new facility, has proved a lucrative decision for Adrian, MI.	Smart Growth Network (Smart Growth Online)
Ann Arbor and Ann Arbor Township scored similar Smart Growth wins, one by an over 66% approval for a 30-year extension of the current property tax to create an 8,000-acre greenbelt, the other by a 75% vote for a higher property tax, also to preserve rural land.	Smart Growth Network (Smart Growth Online)
Cherry Hill Village is a the 338-acre subdivision that will get more than 1,200 homes and condos over 10 years (since 2002), in a $175,000–$550,000 price range, with an 85-acre sister village across the road adding 600 apartments. Along with small yards, front porches and sidewalk benches, conducive to close-knit community, the villages will have more than 75 acres of parks and 26 miles of bike trails.	Smart Growth Network (Smart Growth Online)
Another Metro Detroit community leaning toward the neighborly feel and small-town designs of New Urbanism is Chesterfield Township, where officials are considering a $27 million, 29-acre mixed-use project, boasting a landscaped park with a large pond, benches and a gazebo for outdoor concerts, eight single-family townhouses and 20 brownstones.	Smart Growth Network (Smart Growth Online)
Two blocks north of the Detroit River, which forms part of the international border between the U.S. and Canada, is the Agnes Street Apartments. The Low-Income Housing Tax Credit urban development consists of two three-story apartment buildings on a former grayfield—a property with infrastructure in place, but is currently outdated and underutilized, like an aging shopping center. The Agnes Street Apartments site is slightly larger than an acre, and was assembled from multiple residential tax lots, some vacant and two with condemned residential structures that were demolished. Agnes Street Housing's effort to create a wholesome, affordable living environment for low-income families near downtown Detroit has been successful.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
With $125 million raised by business and civic leaders in and $25 million in the U.S. Department of Transportation's Transportation Investment Generating Economic Recovery (TIGER) grant, Detroit's 9.3-mile Woodward Avenue light-rail project will now enter the Environmental Impact Statement stage.	Smart Growth Network (Smart Growth Online)
Detroit is implementing a $1.4 billion public school construction program; its 3,395 housing permits last year leave other big cities behind; the River Rouge cleanup is the largest watershed improvement project nationwide; the $60 million Max M. Fisher Music Center opened last year; General Motors spent $500 million to renovate and set up headquarters in the Renaissance Center; a new Compuware headquarters brought 4,000 workers downtown; public and private groups are funding a $200 million park along the Detroit River; young local architects are envisioning the nation's largest neighborhood reconstruction, which would involve 1,200 acres of housing and business on Detroit's far east side; and the old Tiger Stadium's closure freed several parking lots for redevelopment and prompted wider building renovation and adaptation for mixed use.	Smart Growth Network (Smart Growth Online)
Local Initiatives Support Corporation (LISC), has launched a three-year, $26-million Detroit neighborhood revitalization program, called From the Ground Up, to build 1,200 housing units, spur economic development and help the City find the most profitable way of disposing of its land.	Smart Growth Network (Smart Growth Online)
City officials and developers are advancing $5 billion plans to transform the City's 25-acre eastern riverfront, long ruled by industries, into a pedestrian-friendly urban village, with housing, shops, offices, restaurants, parks and casinos. The City is using its new eminent domain law to relocate three cement companies from the riverfront, and to buy the sites for casinos, parks and other projects.	Smart Growth Network (Smart Growth Online)
With Detroit's "biggest building boom in 50 years" spurred by 782 permits for new construction and more than 6,000 permits for home or business renovation last year, and with 4,400 housing starts underway right now, Democratic Mayor Kwame M. Kilpatrick announced in his State of the City speech another major historic transformation project—"top to bottom" redevelopment of the City's 1,200-acre eastside section as a mixed-use, mixed-income, infill-type neighborhood, which will offer between 3,000 and 4,000 new or renovated homes.	Smart Growth Network (Smart Growth Online)
Focused not so long ago on reclamation of large postindustrial tracts in Detroit and other metro areas, Michigan revised its brownfield law in early April to facilitate reuse of small vacant sites anywhere, expanding the Single Business Tax credit—which may equal 10% of a developer's investment, up to $1 million—to projects worth $2 million or less and easing transfer of such credits to banks or other entities.	Smart Growth Network (Smart Growth Online)
Metro Detroit's inner suburbs and older neighborhoods can now qualify for technical assistance from the Ferndale-based Michigan Suburbs Alliance, a group of 24 cities in the state's Southeast region, under its just-launched Redevelopment Ready Communities (RRC) Certification Program, designed to remove redevelopment barriers and facilitate innovative government-developer cooperation.	Smart Growth Network (Smart Growth Online)

Table 13: Placemaking Case Studies (cont.)

Title	Categories	City/County	State	Year
Urban Farmers Grow Food in Detroit	Green Space; Community Engagement	Detroit	MI	2009
Greenway Initiative in Metro Detroit	Public Space; Green Space	Metro Detroit	MI	2001
Flint Farmer's Market	Public Space	Flint	MI	2007
Riverbank Park in Flint, MI	Public Space	Flint	MI	2007
Remediating Blighted Properties: Genesee County Land Bank Shows How It's Done	Affordable Housing	Genesee County	MI	2009
Grand Rapids Called "Rising Smart Growth Star"	Multiple	Grand Rapids	MI	2002
Hudsonville Selected as Partner in Ottawa County's Urban S.G. Demonstration Project	Anti-Sprawl	Hudsonville	MI	2004
Farmland Preservation Helps Agriculture, Frees Funds for Urban Reinvestments	Land Preservation	Kent County	MI	2010
Residents of Lansing Neighborhood Ecstatic over Plans to Replace 4.3-Acre Eyesore with Affordable Homes	Affordable Housing	Lansing	MI	2006
Bengel Wildlife Center	Green Space	Lansing	MI	2001
Lansing-Area Counties Draft Regional Growth Plan to Coordinate Development	Multiple	Lansing-Area	MI	2002
Creating Urban Neighborhoods in Michigan's Suburbs	Mixed-Use; Housing; Walkability	Macomb Township	MI	2002
Monroe County Adopts Farmland Preservation Ordinance	Land Preservation	Monroe County	MI	2001

Description	Source
The G.R.O.W. Collaborative looks for Detroit residents already involved in urban gardening, and helps them buy vacant land. Up to 600 farmers have taken over empty lots. About a third of those are in the collaborative.	Smart Growth Network (Smart Growth Online)
The Community Foundation for Southeast Michigan awarded the first $1.7 million in GreenWays Initiative grants to the University of Michigan-Dearborn, Washtenaw County, eight municipalities and three nonprofit groups, to help them buy land for hiking and biking trials.	Smart Growth Network (Smart Growth Online)
Flint Farmers' Market is one of the most beloved destinations in the City, a shining example of a place that has been turned around in recent years. A little over four years ago, the Uptown Reinvestment Corporation assumed management of the failing market, and was able to transform it through improved management, programming, promotion and infrastructure. Today, the market functions as a place that transcends cultural and social boundaries, where people from Flint and beyond come for food, entertainment, activities and social interaction. In many ways, the market is already a great place, but it still has room for improvement.	Project for Public Spaces (New Direction for Public Spaces in Flint)
When Riverbank Park opened in the late 1970s in Flint, it represented the culmination of a community dream to transform the center of the City and create what was termed Flint's "living room." The project was especially noteworthy, because it transformed a flood control measure into a community place, which highlights the river as a unique asset for downtown Flint.	Project for Public Spaces (New Direction for Public Spaces in Flint)
Genesee County Land Bank takes over properties seized by the county for unpaid property taxes, sells those in better shape, and invests the money in blighted areas of the County.	Smart Growth Network (Smart Growth Online)
The Grand Rapids' 2002 Master Plan, the journalist writes, "celebrates civic heritage," reduces car dependency and restores the socio-cultural urban identity rooted in "a unique sense of place." The plan's 10 principles promise growth for present communities; mixed land use; compact development; a range of housing choices and opportunities; a variety of transportation choices; walkable and accessible neighborhoods; preservation of farmland, open space, natural beauty and crucial environmental areas; broad stakeholder and community cooperation; and predictable, fair and cost-effective development decisions.	Smart Growth Network (Smart Growth Online)
Eager for downtown revitalization and hopeful that the majority of residents at a special town hearing will approve the partnership with the county is the first step in the joint $125,000 smart-growth demonstration project. Next will come a review of zoning rules, followed by ordinance amendments to encourage "smart" development within the town boundary.	Smart Growth Network (Smart Growth Online)
The Kent County Commission approved the preservation of 25,000 of the county's 170,000 rural acres in years ahead.	Smart Growth Network (Smart Growth Online)
Residents of one South Lansing neighborhood were ecstatic about a new plan to replace a local 4.3-acre eyesore with a $3 million project of 18 single-family housing units in the $120,000–$200,000 price range, while East Lansing leaders voiced similar appreciation of a newly received $1.5 million Community Development Block Grant loan guarantee to provide a number of affordable homes for low-to-moderate-income families.	Smart Growth Network (Smart Growth Online)
A long-time county dump six miles northeast of Lansing, bought by the Michigan Wildlife Habitat Foundation, was cleared, landscaped and transformed into the 296-acre Bengel Wildlife Center to promote smart growth.	Smart Growth Network (Smart Growth Online)
The Tri-County region already agreed to establish urban service boundaries; coordinate decisions to make the region "internally cooperative and externally competitive;" strengthen their urban cores to ensure its long-term viability; develop targeted growth areas before those without services; address housing needs of all residents equally; and enhance the present road, transit and "non-motorized" transportation network before extending roads into rural areas.	Smart Growth Network (Smart Growth Online)
Macomb Township approved an ordinance, which requires the expected 2,500 homes in the one-square-mile area to be built close together, all within a five-minute walk of the almost completed $7-million town hall and all according to strict design guidelines, with large front porches and detached garages in the back.	Smart Growth Network (Smart Growth Online)
Farmers' participation in the land preservation program relieves financial pressure, with the county paying them the difference between land for agriculture and land for development and holding their development rights in trust.	Smart Growth Network (Smart Growth Online)

Table 13: Placemaking Case Studies (cont.)

Title	Categories	City/County	State	Year
Green Space in Affluent Oakland Township	Public Space; Green Space	Oakland Township	MI	2001
EPA Grant for the Oakland County Brownfield Initiative	Downtown Revitalization	Pontiac	MI	2001
Local Group Opposes Rochester Hills Mixed-Use Complex	Mixed-Use; Walkability	Rochester Hills	MI	2004
Kingsbury Place	Affordable Housing; Environmental Health and Sustainability; Social Services	Walker	MI	2009
Five-Point Bill to Curb Sprawl	Multiple	N/A	MI	2001
New San Marco	Affordable Housing; Environmental Health and Sustainability; Social Services	Duluth	MN	2009
Park Avenue Apartments	Affordable Housing; Environmental Health and Sustainability; Social Services	Minneapolis	MN	2009
Ripley Gardens	Affordable Housing; Environmental Health and Sustainability; Green Space	Minneapolis	MN	2009
Viking Terrace Apartments	Affordable Housing; Environmental Health and Sustainability; Green Space	Worthington	MN	2009
Accessory Dwelling Units in Cary, NC	Affordable Housing; Mixed-Use	Cary	NC	2001
Ewing Independent Living	Affordable Housing; Environmental Health and Sustainability; Mixed-Use; Disability Friendly	Ewing	NJ	2009

Description	Source
Affluent Oakland Township, with a population of 13,000, a median home price of $430,000 and six golf courses, has already preserved about 2,600 acres of green space, making residents feel they live in a "paradise," but in a move to inhibit sprawl even further, officials are asking voters to approve a 0.75-mil bond levy to buy another 500 acres for parks.	Smart Growth Network (Smart Growth Online)
With a $250,000 U.S. EPA grant for the Oakland County Brownfield Initiative, County Executive allocated $80,000 to help Pontiac launch environmental assessments on three of its 15 brownfields and create a downtown revitalization plan.	Smart Growth Network (Smart Growth Online)
Rochester Hills City Council gave initial approval to a planned $70 million mixed-use complex of 300 housing units and some commercial space on 28 acres near a key intersection; "(t)hese kinds of developments help create a walkable atmosphere and provide the residents with small-scale retail."	Smart Growth Network (Smart Growth Online)
Kingsbury Place is Genesis' fourth housing development for low-income individuals and families with special needs. The development has 44 units in 10 buildings: 29 one-bedrooms, 13 two-bedrooms and two three-bedrooms. The housing will be targeted to extremely low-income (i.e., earning less than 40% AMI) and chronically homeless individuals in the Kent County area. Enterprise's $93,000 grant helped the sponsor to provide the first Michigan Green Communities project by a nonprofit housing developer. Genesis plans to receive LEED certification for Kingsbury Place as a pilot project for the LEED-H certification process.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Push for a legislation that would require municipalities to pass ordinances on land preservation in new subdivisions; encourage inter-municipal coordination of planning and zoning; cut the procedural red tape snarling redevelopment of vacant urban parcels, estimated at 45,000 in Detroit alone; provide communities with low-interest loans and other assistance for water and sewer system improvements; and promote cooperation with the federal government and with Canada to protect the Great Lakes from foreign aquatic species immigrants and from water diversion.	Smart Growth Network (Smart Growth Online)
The New San Marco Apartments is a new construction project with 70 units of affordable permanent housing serving the homeless in downtown Duluth. The project is located on an urban infill redevelopment site donated by the City of Duluth. The building has two wings. One wing has 40 units of supportive efficiency apartments for people with a history of homelessness. Thirty-six of the units will be set aside for individuals experiencing chronic homelessness for a year or more, or for those who have had at least four episodes of homelessness in the past three years. The New San Marco opened in May 2007, and the building quickly filled with residents. Since then, occupancy has been near 100%.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Park Avenue Apartments will be built adjacent to Lutheran Social Service's new service center, Center for Changing Lives, which opened in the winter of 2008. The new center will house mental health counseling services, after school services for kids, wellness services, housing and financial services. All 48 units are affordable, with 38 units targeted for households earning up to 45% AMI and the remaining 10 units targeted for households earning up to 15% AMI. Thirteen apartments are specifically designated for households experiencing long-term homelessness or near homelessness. These households will pay no more than 30% of their income towards rent.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Ripley Gardens is the redevelopment of the former Ripley Maternity Hospital in the Harrison Neighborhood of Minneapolis. The development includes the restoration of three historic buildings and the addition of three new buildings to provide 52 rental and eight home ownership units.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
As an affordable housing preservation project, Viking Terrace will provide an excellent opportunity to evaluate those strategies that prove to be most cost-effective and will identify tools for long-term sustainability and green preservation throughout Minnesota.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Accessory dwelling units.	Smart Growth Network and National Neighborhood Coalition
Ewing Independent Living is a newly constructed, 72-unit affordable community in Ewing, NJ, dedicated to seniors 55 and older and adults with disabilities. With 56 one-bedroom and 16 two-bedroom apartments in an elevator building, Ewing Independent Living has 58,000 square feet of residential space. All apartments consist of, at a minimum, a kitchen, living room, bathroom and bedroom. The building surrounds two large courtyards, which contain a patio, bocce ball court, raised gardens, shuffleboard and a sandbox for children.	Enterprise Green Communities (Incremental Costs, Measurable Savings)

Table 13: Placemaking Case Studies (cont.)

Title	Categories	City/County	State	Year
New Jersey's Mt. Laurel Decision	Affordable Housing; Inclusionary Zoning	N/A	NJ	2001
New Jersey's Smart Codes	Affordable Housing	N/A	NJ	2001
Chuska Apartments	Affordable Housing; Environmental Health and Sustainability; Green Space	Gallup	NM	2009
David & Joyce Dinkins Gardens	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	New York	NY	2009
Decatur Green	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	New York	NY	2009
Linked Deposits for Housing Rehabilitation in Cuyahoga County, OH	Affordable Housing	Cuyahoga County	OH	2001
Living on Track	Affordable Housing; Environmental Health and Sustainability; Social Services	Medford	OR	2009
Portland Community Land Trust	Affordable Housing	Portland	OR	2001
Crane Arts Program	Arts and Culture	Philadelphia	PA	2007
Philadelphia's Mural Arts Program	Arts and Culture	Philadelphia	PA	2007
Powelton Heights	Affordable Housing; Environmental Health and Sustainability; Social Services	Philadelphia	PA	2009
Northside Coalition for Fair Housing, Pittsburgh	Affordable Housing; Community Engagement	Pittsburgh	PA	2001
Addressing Lead Hazards in Rhode Island	Affordable Housing; Inclusionary Zoning	N/A	RI	2001
SMART Housing in Austin, TX	Affordable Housing	Austin	TX	2001

Description	Source
Municipalities voluntarily enter a Council on Affordable Housing by committing to providing affordable housing in order to prevent lawsuits against exclusionary zoning.	Smart Growth Network and National Neighborhood Coalition
Governmental support of codes that make workforce housing provision cheaper and more efficient.	Smart Growth Network and National Neighborhood Coalition
Chuska Apartments is the first affordable housing development supported by the Enterprise Rural and Native American Initiative that works with tribes to create healthy, safe, affordable housing and to increase opportunities for economic advancement. Chuska Apartments is a 30-unit, new construction property with six residential buildings and a community center.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
The David & Joyce Dinkins Gardens, named in honor of former Mayor David N. Dinkins and his wife, is a green building that includes homes for families earning less than 60% AMI and youth aging out of foster care. It consists of 28 studio, 24 one-bedroom and 33 two-bedroom apartments. It also includes a 2,500-square-foot community facility to house HCCI's Construction Trades Academy, a program that provides local residents with skills in the construction trades and building maintenance industries. Built on formerly City-owned property in Harlem's Bradhurst neighborhood, the building is designed to meet the community's critical social and environmental needs. The affordable housing and community space are key elements in the nearly 20-year-old Bradhurst plan, a blueprint for revitalizing 32 square blocks of north central Harlem.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Decatur Green is a six-story development built on an urban infill—a built-up, but obsolete or underutilized, area that can be reused or repositioned—instead of a greenfield in a rural area. The 18-unit building sits on a third of an acre in the Bronx. Building includes an 815-square-foot community room and 1,500 square feet of landscaped backyard and sitting areas.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Banks providing low-interest loans for home renovation and rehabilitation.	Smart Growth Network and National Neighborhood Coalition
Living on Track is a two-site development providing new construction of 63 units of supportive housing in Medford, OR. Sky Vista will have 48 units and Lithia Place will have 15 units. The project provides 18 one-bedroom, 41 two-bedroom and four three-bedroom units on two parcels of land, six acres of development total. Living on Track units will house residents in need of supportive housing earning less than 50% of AMI. The project is geared to address the needs of developmentally disabled adults in recovery from alcohol and drug issues, chronically medically ill citizens, homeless individuals and victims of domestic violence.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Land trusts by purchasing land in which nonprofits and affordable housing developers build homes that will be occupied by mixed-income residents and offering subsidies.	Smart Growth Network and National Neighborhood Coalition
Renovation of industrial site into an art center.	The Reinvestment Fund
City-wide mural program.	The Reinvestment Fund
Powelton Heights' blend of service-enriched housing and green building design serve as an innovative contribution to the active redevelopment of Philadelphia's neighborhoods.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Coalition purchasing land to encourage community-building projects.	Smart Growth Network and National Neighborhood Coalition
Refurbishing homes by using Medicaid funds.	Smart Growth Network and National Neighborhood Coalition
Smart growth matrix, creates a score for development projects based on how they meet the City's goals.	Smart Growth Network and National Neighborhood Coalition

Table 13: Placemaking Case Studies (Cont.)

Title	Categories	City/County	State	Year
Spring Terrace	Affordable Housing; Environmental Health and Sustainability; Social Services	Austin	TX	2009
Neighborhoods in Bloom in Richmond	Affordable Housing	Richmond	VA	2001
Virginia's Bayview Citizens for Social Justice	Affordable Housing; Mixed-Use; Community Engagement	Bayview	VA	2001
Roanoke-Lee Street Project	Affordable Housing; Environmental Health and Sustainability; Social Services	Blacksburg	VA	2009
Affordable Housing Preservation in Seattle	Affordable Housing	Seattle	WA	2009
Noji Gardens, Seattle	Affordable Housing; Mixed-Income	Seattle	WA	2001
Riverwalk Point II	Affordable Housing; Environmental Health and Sustainability; Community Engagement	Spokane	WA	2009
Pear Tree Place	Affordable Housing; Environmental Health and Sustainability; Social Services	Yakima	WA	2009
Parmenter Circle	Affordable Housing; Environmental Health and Sustainability; Mixed-Use	Middleton	WI	2009

Description	Source
Formerly an extended-stay hotel, Spring Terrace was renovated into furnished efficiency apartments, each with a private bath and kitchenette, as well as community areas and green spaces. Spring Terrace provides permanent supportive housing to 140 formerly homeless individuals with extremely low incomes.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Rehabilitation projects.	Smart Growth Network and National Neighborhood Coalition
Federal aid used to construct housing, retail space and a community center.	Smart Growth Network and National Neighborhood Coalition
Community Housing Partners, a nonprofit community development corporation, completed construction in 2006 of the Roanoke-Lee Street Project. The project includes 14 duplex homes in the town's historic Roanoke-Lee Street neighborhood. This development has four building designs, with nine two-bedrooms and five three-bedrooms. Homes are situated in an established neighborhood with mature trees and sidewalks, within walking distance of public transportation and community amenities. All homes were constructed in an area targeted by the town for revitalization and were restricted for sale to homebuyers with incomes at or below 80% of the area median.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Transfer of development rights (TDR) a market-based land use tool that local governments can use to preserve agricultural land, historic landmarks, affordable housing or environmentally sensitive sites by directing growth to locations that are more suitable for higher-density development.	Breakthroughs (8.5)
Manufactured housing.	Smart Growth Network and National Neighborhood Coalition
Riverwalk Point II provides affordable one-, two- and three-bedroom apartments for 50 families with low incomes. There are four residential buildings and a large community building on-site, and all have been arranged to blend harmoniously with the existing Riverwalk Point complex, an affordable development that started in 1999.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Pear Tree Place (PTP) is a low-income housing tax credit development and consists of five buildings on two and a half acres of an obsolete pear orchard. Dedicated to helping people struggling with alcohol addiction, PTP is the very first alcohol- and drug-free community (ADFC) in the state of Washington to serve large families with children.	Enterprise Green Communities (Incremental Costs, Measurable Savings)
Parmenter Circle is the new construction of a four-story elevator building that brings green, affordable housing to Middleton, WI, Madison's largest suburb. As part of Middleton's Highway 12 Plan, to transform the former highway corridor into an urban retail district, Parmenter Circle not only adds new, affordable housing on the west side, it also contributes to the revitalization effort underway in Middleton's downtown area. Green Communities'' first development in Wisconsin, Parmenter Circle provides four efficiencies, three studio lofts, 16 one-bedroom, 23 two-bedroom and four three-bedroom apartments.	Enterprise Green Communities (Incremental Costs, Measurable Savings)

Part 10: References

Adelaja, A., Y.G. Hailu and M. Abdulla. 2009. *Chasing the Past or Investing in Our Future: Placemaking for Prosperity in the New Economy.* Land Policy Institute, Michigan State University, East Lansing, MI. Available at: http://www.landpolicy.msu.edu/ChasingthePastReport; accessed September 3, 2010.

Adelaja, A. 2008. "Regional Place-Making in the New Global Economy." Presentation Prepared for the Northwest Michigan Council of Governments. Available at http://www.landpolicy.msu.edu/modules.php?name=Pages&sp_id=317; accessed September 3, 2010.

Alexander, L.T. 2009. "Stakeholder Participation in New Governance: Lessons from Chicago's Public Housing Reform Experiment." *Georgetown Journal on Poverty Law Policy* 16:117–185.

Alexander, C. 1979. "The Timeless Way of Building." New York, NY: Oxford University Press.

Anderson, W.L. 1964. "Trickling Down: The Relationship between Economic Growth and the Extent of Poverty Among American Families." *The Quarterly Journal of Economics* 78(4):511–524.

Aravot, I. 2002. "Back to Phenomenological Placemaking." *Journal of Urban Design* 7 (2):201–212.

Arigoni, D. 2001. *Affordable Housing and Smart Growth: Making the Connection.* Smart Growth Network and National Neighborhood Coalition, Washington, DC. Available at: http://www.smartgrowth.org/pdf/epa_ah-sg.pdf; accessed February 19, 2011.

Audretsch, D.B., and M.P. Feldman. 1996. "R&D Spillovers and the Geography of Innovation and Production." *The American Economic Review* 86 (3):630–640.

Ben-Joseph, E. 2003. "Subdivision Regulations: Practices and Attitudes." Working Paper, Lincoln Institute of Land Policy, Cambridge, MA.

Bennett, S. 2000. "Possibility of a Beloved Place: Residents and Placemaking in Public Housing Communities." *St. Louis Public Law Review* 19:259.

Benson, E.D., J.L. Hansen, J.A. Schwartz and G.T. Smersh. 1998. "Pricing Residential Amenities: The Value of a View." *The Journal of Real Estate Finance & Economics* 16 (1):55–73.

Brandenburg, A.M., and M.S. Carroll. 1995. "Your Place or Mine?: The Effect of Place Creation on Environmental Values and Landscape Meanings." *Society and Natural Resources* 8:381–398.

Bohl, C.C. 2007. "Affordable Housing Design for Place Making and Community Building." In *Chasing the American Dream: New Perspectives on Affordable Homeownership*, ed. W. Rohe, H. Watson, 113–145. Ithaca, NY: Cornell University Press.

Brophy, P.C., and R.N. Smith. 1997. "Mixed-Income Housing: Factors for Success." *Cityscape* 3 (2):3–31.

Carlino, G., S. Chatterjee and R. Hunt. 2007. "Urban Density and the Rate of Invention." *Journal of Urban Economics* 61 (3):389–419.

Center for Housing Policy/National Housing Conference. 2002. "America's Working Families and the Housing Landscape, 1997–2001." National Housing Conference. Washington DC.

Cervero, R. 1996. "Mixed Land Uses and Commuting: Evidence from the American Housing Survey." *Transportation Research Part A: Policy and Practice* 30 (5):361–377.

Cervero, R. 2009. "Transport Infrastructure and Global Competitiveness: Balancing Mobility and Livability." *The ANNALS of the American Academy of Political and Social Science* 626 (1):210–225.

Cheshire, P., and S. Sheppard. 1995. "On the Price of Land and the Value of Amenities." *Economica* 62 (246): 247–267.

Cho, S., J.M. Bowker and W.M. Park. 2006. "Measuring the Contribution of Water and Green Space Amenities to Housing Values: An Application and Comparison of Spatially Weighted Hedonic Models." *Journal of Agricultural and Resource Economics* 31 (3):485.

Ciccone, A., and R.E. Hall. 1996. "Productivity and the Density of Economic Activity." NBER Working Paper No. 4313, National Bureau of Economic Research, Cambridge, MA.

Clark, D.E., and J.R. Kahn. 1988. "The Social Benefits of Urban Cultural Amenities." *Journal of Regional Science* 28 (3):363–377.

The CLEAR Network. 2004. "Smart Growth and Placemaking in London: Proposed Demonstration Project." London, UK: The CLEAR Network. Available at: http://www.clear.london.ca/pdf/SmartGrowthReport_2004.pdf; accessed March 4, 2011.

Combes, P.P., G. Duranton, L. Gobillon, D. Puga and S. Roux. 2009. "The Productivity Advantages of Large Cities: Distinguishing Agglomeration from Firm Selection." CEPR Discussion Paper No. DP7191, Centre for Economic Policy Research, London, UK.

Cortright, J. 2009. *Walking the Walk: How Walkability Raises Home Values in U.S. Cities*. Prepared for CEOs for Cities. Impresa, Inc., Portland, OR. Available at: http://blog.walkscore.com/wp-content/uploads/2009/08/WalkingTheWalk_CEOsforCities.pdf; accessed December 11, 2011.

Cox, W., and R.D. Utt. 2000. "Smart Growth, Housing Costs, and Homeownership." Heritage Foundation, Washington, DC. Available at http://www.heritage.org/research/reports/2001/04/smart-growth-housing-costs-and-homeownership; accessed November 23, 2011.

Crane, R., and M. Manville. 2008. "People or Place? Revisiting the Who Versus the Where of Urban Development." *Land Lines* 20 (3):2–7.

Cuff, D. 2009. "Design after Disaster." *Places* 21 (1):4–7.

Cullen, G. 1961. "The Concise Townscape." New York, NY: Reinhold.

Darden, J.T., R.C. Hill, J. Thomas and R. Thomas. 1987. "Detroit: Race and Uneven Development." Philadelphia, PA: Temple University Press.

Davidson, N.M. 2009. "Reconciling People and Place in Housing and Community Development Policy." *Georgetown Journal on Poverty Law Policy* 16 (1):1–10.

Deller, S.C., T.H. Tsai, D.W. Marcouiller and D.B.K. English. 2001. "The Role of Amenities and Quality of Life in Rural Economic Growth." *American Journal of Agricultural Economics* 83 (2):352–365.

Dissart, J. C. 2007. "Landscapes and Regional Development: What are the Links?" *Cahiers d'Economie et Sociologie Rurales* 84:61–91.

Dissart, J.C., and S.C. Deller. 2000. "Quality of Life in the Planning Literature." *Journal of Planning Literature* 15 (1):135–161.

Forsyth, A., and K. Crewe. 2009. "New Visions for Suburbia: Reassessing Aesthetics and Placemaking in Modernism, Imageability and New Urbanism." *Journal of Urban Design* 14 (4):415–438.

Franz, M., O. Gules and G. Prey. 2008. "Place-Making and 'Green' Reuses of Brownfields in the Ruhr." *Tijdschrift Voor Economische en Sociale geografie* 99 (3):316–328.

Geoghegan, J., L.A. Wainger and N.E. Bockstael. 1997. "Spatial Landscape Indices in a Hedonic Framework: An Ecological Economics Analysis Using GIS." *Ecological Economics* 23 (3):251–264.

Geraghty, A.B., W. Seifart, T. Preston, C.V. Holm, T.H. Duarte and S.M. Farrar. 2009. "Partnership Moves Community toward Complete Streets." *American Journal of Preventative Medicine* 37 (6):S420–S427.

Gibson, C.R. 2010. "Place Making: Mapping Culture, Creating Places: Collisions of Science and Art." *Local-Global: Identity, Security, Community* 7:66–83.

Glaeser, E.L., and J. Gottlieb. 2008. "The Economics of Place-Making Policies." Discussion Paper Number 2166, Harvard Institute of Economic Research, Harvard University, Cambridge, MA. Available at: http://works.bepress.com/cgi/viewcontent.cgi?article=1001&context=joshua_gottlieb; accessed August 22, 2011.

Glaeser, E.L., J. Kolko and A. Saiz. 2001. "Consumer City." *Journal of Economic Geography* 1 (1):27–50.

Glaeser, E.L., and A. Saiz. 2003. "The Rise of the Skilled City." Discussion Paper Number 2025, Harvard Institute of Economic Research, Harvard University, Cambridge, MA. Available at: http://time.dufe.edu.cn/spti/article/harvard/2025.pdf; accessed March 11, 2011.

Glanz, K., and J.F. Sallis. 2006. "The Role of Built Environments in Physical Activity, Eating, and Obesity in Childhood." *The Future of Children* 16 (1):89–108.

Green, G.P. 2001. "Amenities and Community Economic Development: Strategies for Sustainability." *Journal of Regional Analysis and Policy* 31 (2):61–75.

Halprin, L. 1989. "Design as a Value System." *Places* 6 (1):60–67.

Hamlin, R.E. 2002. "Public-Private Partnerships for Inner-City Redevelopment." In *Informing the Debate*, ed. C.S. Weissert, D.W. Thornton and A. Schneider. East Lansing, MI: Institute for Public Policy and Social Research, Michigan State University, East Lansing, MI.

Hamlin, R.E., and T.S. Lyons. 2003. *Financing Small Business in America: Debt Capital in a Global Economy*. Westport, CT: Praeger Publishers.

Hankins, K., and A. Walter. 2011. "'Gentrification with Justice': An Urban Ministry Collective and the Practice of Placemaking in Atlanta's Inner-City Neighbourhoods." *Urban Studies* 48 (12):1–19.

Hansen, T.J., and L. Kalambokidis 2010. "How Are Businesses Responding to Minnesota's Tax-Free Zone Program?" *Economic Development Quarterly*, 24 (2):180–192.

Haughey, R., and R. Sherriff. 2010. *Preserving Affordable Housing Near Transit and in Other Location-Efficient Areas*. What Works Collaborative, Washington, DC. Available at: http://reconnectingamerica.org/assets/PDFs/2010chpaffordablehousingTODchallengesandoptions1.pdf; accessed December 18, 2011.

Hou, J., and M. Rios. 2003. "Community-Driven Place Making." *Journal of Architectural Education*, 57 (1):19–27.

Part 10: References (cont.)

Imbroscio, D. 2011. "Beyond Mobility: The Limits of Liberal Urban Policy." *Journal of Urban Affairs* 00 (00):1–20.

Jacobs, J. 1961. "The Death and Life of Great American Cities." New York, NY: Vintage.

Kong, F., H. Yin and N. Nakagoshi. 2007. "Using GIS and Landscape Metrics in the Hedonic Price Modeling of the Amenity Value of Urban Green Space: A Case Study in Jinan City, China." *Landscape and Urban Planning* 79 (3–4):240–252.

Kunstler, J. H. 1993. "The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape." New York, NY: Free Press.

Kunstler, J. H. 1996. "Home From Nowhere: Remaking Our Everyday World for the 21st Century." New York, NY: Touchstone Press.

Kweon, B.S., C.D. Ellis, P.I. Leiva and G.O. Rogers. 2010. "Landscape Components, Land Use, and Neighborhood Satisfaction." *Environment and Planning B: Planning and Design* 37 (3):500–517.

Lancaster, K.J. 1966. "A New Approach to Consumer Theory." *The Journal of Political Economy* 74 (2):132–157.

Le Goffe, P. 2000. "Hedonic Pricing of Agriculture and Forestry Externalities." *Environmental and Resource Economics* 15 (4):397–401.

Lee, D., and K.I. Wolpin. 2006. "Intersectoral Labor Mobility and the Growth of the Service Sector." *Econometrica* 74 (1):1–46.

Leggett, C.G., and N.E. Bockstael. 2000. "Evidence of the Effects of Water Quality on Residential Land Prices." *Journal of Environmental Economics and Management* 39 (2): 121–144.

Leinberger, C.B. 2007. *Back to the Future: The Need for Patient Equity in Real Estate Development Finance*. The Brookings Institution, Washington, DC.

Leinberger, C.B. 2001. "Financing Progressive Development." A Capital Exchange Journal Article Prepared for: The Brookings Institution Center on Urban and Metropolitan Policy. The Brookings Institution, Washington, DC. Available at: http://www.brookings.edu/articles/2001/05metropolitanpolicy_leinberger.aspx; accessed March 11, 2011.

Leinberger, C.B., and H. Kozloff. 2003. "Financing Mixed-Use." *Multifamily Trends* 6 (4):36–39.

Leslie, E., E. Cerin, L. duToit, N. Owen and A. Bauman. 2007. "Objectively Assessing 'Walkability' of Local Communities: Using GIS to Identify the Relevant Environmental Attributes." In *GIS for Health and the Environment*, ed. P.C. Lai and A.S.H. Mak, 90–104. Berlin, Germany: Springer.

Litman, T. 2009. "Evaluating Criticism of Smart Growth." Victoria Transport Policy Institute, Victoria, BC. Available at: http://www.vtpi.org/sgcritics.pdf; accessed September 2, 2011.

Luttik, J. 2000. "The Value of Trees, Water and Open Space as Reflected by House Prices in the Netherlands." *Landscape and Urban Planning* 48 (3–4):161–167.

Macpherson, D.A., and G.S. Sirmans. 2001. "Neighborhood Diversity and House-Price Appreciation." *The Journal of Real Estate Finance and Economics* 22(1): 81–97.

Madden, M.E., and B. Spikowski. 2006. "Place Making with Form-Based Codes." *Urban Land* 65(9): 174.

Malpezzi, S. 2008. "Hedonic Pricing Models: A Selective and Applied Review." *Housing Economics and Public Policy*, 67–89.

Malpezzi, S., and K. Vandell. 2002. "Does the Low-Income Housing Tax Credit Increase the Supply of Housing?" *Journal of Housing Economics* 11 (4):360–380.

Markusen, A., and A. Gadwa. 2010. "Creative Placemaking: National Endowment for the Arts." Prepared for The Mayors' Institute on City Design, National Endowment for the Arts, Washington, DC. Available at: http://www.nea.gov/pub/CreativePlacemaking-Paper.Pdf; accessed March 31, 2011.

Martin, D.G. 2003. "'Place-Framing' as Place-Making: Constituting a Neighborhood for Organizing and Activism." *Annals of the Association of American Geographers* 93 (3):730–750.

Michigan Land Use Leadership Council. 2003. *Michigan's Land, Michigan's Future: Final Report of the Michigan Land Use Leadership Council*. Michigan Land Use Leadership Council, Lansing, MI. Available at http://www.michiganlanduse.org/finalreport.htm; accessed November 18, 2010.

Milon, J.W., J. Gressel and D. Mulkey. 1984. "Hedonic Amenity Valuation and Functional Form Specification." *Land Economics* 60 (4):378–387.

Nelson, J.P. 1979. "Airport Noise, Location Rent, and the Market for Residential Amenities." *Journal of Environmental Economics and Management* 6 (4):320–331.

Pardew, J.B., R.L. Shane and J.F. Yanagida. 1986. "Structural Hedonic Prices of Land Parcels in Transition from Agriculture in a Western Community." *Western Journal of Agricultural Economics* 11 (1):50–57.

Pierce, J., D.G. Martin and J.T. Murphy. 2010. "Relational Place-Making: The Networked Politics of Place." *Transactions of the Institute of British Geographers* 36 (1):54–70.

Pivo, G., and J.D. Fisher. 2010. "The Walkability Premium in Commercial Real Estate Investments." *Real Estate Economics* 39 (2):185–219.

Porta, S., V. Latora, F. Wang, S. Rueda, B. Cormenzana, F. Càrdenas, L. Latora, E. Strano, E. Belli, A. Cardillo, and S. Scellato. 2007. "Correlating Densities of Centrality and Activities in Cities: The Cases of Bologna (IT) and Barcelona (ES)." In *Planning, Complexity and New ICT*, ed. G. Rabino and M. Caglioni, 37–46. Firenze, Italy: Alinea.

Porter, M.E. 2000. "Location, Competition, and Economic Development: Local Clusters in a Global Economy." *Economic Development Quarterly* 14 (1):15.

Potter, M.F. 1989. "Racial Diversity in Residential Communities: Societal Housing Patterns and a Proposal for a Racial Inclusionary Ordinance." *Southern California Law Review* 63:1151, 1171.

Pritchett, W.E. 2003. "The Public Menace of Blight: Urban Renewal and the Private Uses of Eminent Domain." *Yale Law & Policy Review* 21 (1):1–52.

Project for Public Spaces. N.D. "What is Placemaking?" Web page on the website of Project for Public Spaces, New York, NY. Available at: http://www.pps.org/articles/what_is_placemaking/; accessed January 6, 2011.

Putnam, R.D., R. Leonardi and R. Nanetti. 1994. "Making Democracy Work: Civic Traditions in Modern Italy." Princeton, NJ: Princeton University Press.

Relph, E. 1997. "Sense of Place." In *Ten Geographic Ideas that Changed the World*, ed. S. Hanson, 205–226. New Brunswick, NJ: Rutgers University Press.

Rodríguez, A., and C.A. Vogt. 2009. "Demographic, Environmental, Access, and Attitude Factors That Influence Walking to School by Elementary School-Aged Children." *Journal of School Health* 79 (6): 255–261.

Rosen, S. 1974. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." *The Journal of Political Economy* 82 (1):34–55.

Schneekloth, L.H., and R.G. Shibley. 1995. "Placemaking: The Art and Practice of Building Communities." New York, NY: John Wiley & Sons, Inc.

Sengupta, S., and D.E. Osgood. 2003. "The Value of Remoteness: A Hedonic Estimation of Ranchette Prices." *Ecological Economics* 44 (1):91–103.

Sevilla, C.M. 1971. "Asphalt through the Model Cities: A Study of Highways and the Urban Poor." *Journal of Urban Law* 49:297.

Sheppard, S. 1999. "Hedonic Analysis of Housing Markets." *Handbook of Regional and Urban Economics* 3:1595–1635.

Smart Growth Network. 2006. *This is Smart Growth*. Smart Growth Network, Butte, MT. Available at: http://www.smartgrowthonlineaudio.org/pdf/TISG_2006_8-5x11.pdf; accessed March 11, 2011.

Staley, S.R., J.G. Edgens and G.C.S Mildner. 1999. "A Line in the Land." Policy Study No. 263, Reason Public Policy Institute, Washington, DC.

Stedman, R., T. Beckley, S. Wallace and M. Ambard. 2004. "A Picture and 1000 Words: Using Resident-Employed Photography to Understand Attachment to High Amenity Places." *Journal of Leisure Research* 36 (4):580–606.

Stevens, Q., and M. Ambler. 2010. "Europe's City Beaches as Post-Fordist Placemaking." *Journal of Urban Design* 15 (4):515–537.

Teaford, J.C. 2000. "Urban Renewal and its Aftermath." *Housing Policy Debate* 11 (2):443–465.

TenBrink, D.S., R. McMunn and S. Panken. 2009. "Project U-Turn: Increasing Active Transportation in Jackson, Michigan." *American Journal of Preventive Medicine* 37 (6):S329–S335.

Thorsnes, P. 2002. "The Value of a Suburban Forest Preserve: Estimates from Sales of Vacant Residential Building Lots." *Land Economics* 78 (3):426–441.

Tuan, Y.F. 1977. *Space and Place*. Minneapolis, MN: University of Minnesota Press.

Turner, M.A., and L. Rawlings. 2009. "Promoting Neighborhood Diversity: Benefits, Barriers, and Strategies." The Urban Institute, Washington, DC. Available at http://www.urban.org/uploadedpdf/411955promotingneighborhooddiversity.pdf; accessed March 14, 2012.

Tyrväinen, L. 1997. "The Amenity Value of the Urban Forest: An Application of the Hedonic Pricing Method. *Landscape and Urban Planning* 37 (3–4):211–222.

Urban Land Institute (ULI). 2008. *Placemaking: The Business of Creating Thriving Mixed-Use Development*. Paper presented at the 10th Annual Placemaking Conference, September 15–16, 2008, Denver, CO. Urban Land Institute, Washington, DC.

Urban Land Institute. 2006. "Workforce Housing: Innovative Strategies and Best Practices. Urban Land Institute, Washington, DC.

Warbach, J.D., S. Nicholls, T.F.Y. Bristor, D.F. Holecek, L.A. Martin and T.I. Herbowicz. 2004. "Overcoming Impediments to Smart Growth: Finding Ways for Land Development Professionals to Help Achieve Sustainability." Michigan Travel, Tourism and Recreation Resource Center at Michigan State University, East Lansing, MI; and Planning & Zoning Center, Inc., Lansing, MI. Available at: http://www.tourismcenter.msu.edu/publications/12-01-04.pdf; accessed March 11, 2011.

MICHIGAN STATE
UNIVERSITY

Michigan State University has been advancing knowledge and transforming lives through innovative teaching, research and outreach for more than 150 years. MSU is known internationally as a major public university, with global reach and extraordinary impact. Its 17 degree-granting colleges attract scholars worldwide who are interested in combining education with practical problem solving. www.msu.edu

School of Planning, Design and Construction

The School of Planning Design and Construction will be known for leading education, research and outreach towards the integration of planning, design and construction to create a sustainable built and natural environment. The goal of SPDC is to create knowledge that enriches communities, advances economic and family life through leadership, fosters the development of entrepreneurial creativity, imbues a sense of social responsibility, promotes the appreciation of cultural relevance, and above all, advances the understanding of environmentally beneficial planning, design and construction. www.spdc.msu.edu

Land Policy Institute

The Land Policy Institute was founded in 2006 and focuses on research and outreach related to land use, regional strategic growth in the New Economy and sustainable communities. The Institute is affiliated with the MSU School of Planning, Design and Construction, and collaborates with many faculty, centers and institutes across campus, as well as stakeholders outside the university. The Land Policy Institute delivers innovative solutions, transitioning knowledge from a variety of experts to the community. www.landpolicy.msu.edu.

John A. Hannah Professor in Land Policy

Housed in the Department of Agricultural, Food and Resource Economics (AFRE) at Michigan State University (MSU), the program of the Hannah Professor in Land Policy focuses on research-based innovation in land use, land policy, land security, place science, growth strategies, economic development and prosperity domestically and internationally. In Michigan, the Hannah Professor's work has been a cornerstone of economic development policy initiatives of the state, especially in areas related to renewable energy, the New Economy and the green economy. As Director and Founder of the Land Policy Institute, the Hannah Professor developed its research agenda and spearheaded several studies that relate to Michigan's growing economy. At the international level, the Hannah Professor's program focuses on resource availability, economic appetites of nations, global resource competition, land security and economic security. At the time of printing, Professor Adelaja is on leave from Michigan State University on a foreign assignment with the Office of the National Security Adviser at the Presidency of Nigeria, serving as Special Advisor on Economic Intelligence.

The Full Report

This full report is available for download online at
www.landpolicy.msu.edu/BuildingProsperousPlacesinMIReport.
The summary report is also available for download online at
www.landpolicy.msu.edu/BuildingProsperousPlacesinMIReport/Summary.

Photos by Aaron Murphy, pg. 24; Ariniko Artistry, pg. 11; Brandon Bartoszek, back cover; Bryan Robb, pg. 31; Culinary Escapes, pg. 33; Gary L. Howe, pg. 66; iStock, front-cover top and middle, pgs. 1, 8, 14, 17, 42, 58, 64 and 67; Kenn W. Kiser, pg. iii; Kevin Goolsby, pg. 55; Michael Connors, pg. 26; Michael Forsyth, front-cover bottom and pg. 21; Michigan State University, pg. 65; Thad Zajdowicz, pg. 22; and Todd L. Church, pg. 46.

MICHIGAN STATE UNIVERSITY | Land Policy Institute

Land Policy Institute
Michigan State University
1405 S. Harrison Road
3rd Floor Manly Miles Building
East Lansing, MI 48823

517.432.8800
517.432.8769 fax

www.landpolicy.msu.edu

Washington Square in Lansing.