The WalkUP *Wake-Up* Call: Michigan Metros

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EXECUTIVE SUMMARY

Walkable urban places are not just a phenomenon of coastal U.S. metropolitan areas. This report demonstrates that the market desires them in Michigan—and they are gaining traction.

If this emerging trend in favor of walkable urbanism plays out in Michigan as it has in the other metro areas studied by George Washington University—Atlanta, Boston, and Washington, D.C.—it will mean an historic shift away from the drivable development patterns that have dominated development for the latter half of the 20th century. The state could return to the walkable urban development pattern that predominated before World War II.

Consider that in the current real estate cycle in the seven metro areas evaluated in this report (Detroit-Ann Arbor, Flint, Grand Rapids-Muskegon-Holland, Jackson, Kalamazoo-Battle Creek, Lansing, and Saginaw-Bay City-Midland, the "Michigan Metros") 22 percent of all new income property development has located in the 2.7 percent of land that is walkable urban. This share of new development is up from only 6 percent in the 1990s real estate cycle and 12 percent from the 2001-2008 cycle. Boston and Washington, D.C. provide an indication of how far this trend can go. Their shares of new income property development located in walkable urban places in the most recent cycle have been 46 percent and 48 percent respectively.

Walkable places' increasing share of development is most likely a response to pent-up market demand. Because drivable development patterns dominated for so long, residents of Michigan have had few choices about where to live. Only eight percent of the total housing stock is located in a walkable urban place and only half of that was built after 1960, meaning a significant portion may be obsolete. This is despite national polls suggesting that at least 40 percent of residents would like to live in a walkable urban place and demographics that increasingly favor urban living. Sixty-four percent of Michigan households have just one or two persons, the target market for walkable urbanism, and the percentage is rising.

This pent-up demand is reflected in rents and prices. Across all the Michigan Metros analyzed, average office rents in regionally significant walkable urban places are two percent higher than in comparable drivable locations, retail rents are 13 percent higher, multifamily rental apartment rents are 28 percent higher, and for-sale residential prices are 50 percent higher. These are crude averages that hide significant variation among and within metro areas, but the broad implication is clear—there is pent- up demand for walkable urban places in Michigan.

Nonetheless, progress is uneven. Places like Downtown Birmingham, Main Street in Ann Arbor, and Downtown Grand Rapids provide a glimpse of the full potential of walkable urbanism to create value. Downtown and Midtown Detroit have demonstrated how rapidly revitalization can occur over just the last five to seven years, while plans being made in Lansing for a bus-rapid transit corridor show the way forward. However, there is a longer list of walkable urban places that have not taken off. For some of these places, government support, aggressive placemaking, and a few pioneering developments may be enough to introduce dramatic change. For others, it may be more a question of time and an improvement in the overall regional economy.

All of the metro areas, if not the entire State of Michigan, has an economic, fiscal, and social equity interest in seeing these walkable places thrive. Although it has not been possible thus far to definitively prove causation, the circumstantial evidence is mounting that young, educated members of the workforce, the foundation of future economic development, want to live and work in walkable urban places. Previous research, confirmed again here, finds a positive correlation between the walkability of a metro area and the educational attainment of its residents, an important factor for economic performance. In the context of a state that is rightly concerned about brain drain, improving the quality and quantity of these walkable urban places must be a part of the policy discussion.

INTRODUCTION

For decades, real estate practitioners, observers and scholars studying land use have looked through an urban-versus-suburban lens. It is not unlike the classic social science joke about the tipsy guest who drops his keys at the front door as he leaves a party. While searching under a streetlight at the curb, he is asked, "Why aren't you looking where you lost the keys?" He replies, "This is where the light is." This research casts a new light on where households and businesses want to live, work, and play.

This analysis is focused on seven metropolitan areas in Michigan (the "Michigan Metros"):

- **Detroit-Ann Arbor**
- **Grand Rapids-Muskegon-Holland**
- **Lansing**
- **Jackson**
- **Kalamazoo-Battle Creek**
- **Saginaw-Bay City-Midland**
- **Flint**

The research applies an analytical framework that replaces the city-versus-suburb dichotomy with a new lens by dividing each metropolitan area into two broad categories:

- **Drivable Sub-urban:** This development form has the lowest development density in metropolitan history. It features stand-alone real estate products (office, retail, for-sale residential, rental apartments, hotel, industrial, etc.), tends to be socially and racially segregated, and relies upon cars and trucks as the only viable form of transportation.

- **Walkable Urban:** This form of development has much higher density, has multiple real estate products close to one another, and employs multiple modes of transportation that get people and goods to the place. And once there, the place is walkable.

Both drivable sub-urban and walkable urban forms of development have market support and appeal. Each is found in both cities and suburbs. For example, within the city limits of Detroit, which spans 139 square miles, there are examples of walkable urbanism, like Downtown and Midtown. But much of the city is drivable sub-urban. Conversely, Ann Arbor and Birmingham contain examples of walkable urbanism in their downtowns, even though they are technically suburbs of Detroit.

Walkable urban development was the predominant development form around the world until low-density, drivable sub-urban appeared in the United States just before World War II. Drivable sub-urban development was propelled by the very industry that made Michigan one of the wealthiest regions in the world during the 20th century—car and truck manufacturing. Walkable urban development calls for dramatically different approaches to urban design, planning, regulation, financing and construction than the drivable sub-urban paradigm. It also requires the introduction of a new level of governance: place management. Place managers develop the strategy and provide the day-to-day management of walkable urban places, creating a distinctive "could only be here" identity in which investors and residents invest for the long term.

This research also defines—in a new way—the economic function of all land use in the Michigan Metros, as either regionally significant or local-serving.

- **Regionally Significant:** Export or base employment, civic functions, cultural assets, entertainment clusters, regional retail, higher education and major hospitals and one-of-a-kind facilities (stadium, arenas, etc.) cluster in these places and locations. They tend to include much of the wealth-creating functions that bring new cash into the economy and these functions are the primary reasons the metropolitan area exists.

- **Local Serving:** These are bedroom community where the majority of the housing in the metropolitan area is located. Roughly 80 percent of local serving places and locations are comprised of residential development with the rest being support commercial (primary education, super markets, local doctors and dentist offices, etc.).

These two factors form the Form/Function Matrix, and all land in the Michigan Metros has been assigned to the appropriate cell using geographic information system (GIS) software. The methodology then determines the economic and the social equity performance of the various regionally significant walkable urban places

Metropolitan Land Use Options in the United States

	REGIONALLY SIGNIFICANT	LOCAL SERVING
WALKABLE URBAN	WALKUP (Walkable Urban Place)	WALKABLE NEIGHBORHOOD
DRIVABLE SUB-URBAN	EDGE CITY	DRIVABLE SUB-DIVISION

("WalkUPs"), local serving walkable urban places (Walkable Neighborhoods), regionally significant drivable sub-urban locations (Edge Cities) and local serving drivable sub-urban locations (Drivable Sub-divisions).

By applying this new four-cell Form/Function lens, we aim to uncover trends not generally understood by using the old urban-versus-suburban dichotomy. We have observed in the metropolitan areas of Washington, D.C., Atlanta, and Boston that the pendulum is swinging away from drivable sub-urban development, which was the dominant form of development for the second half of the 20th century, and back to walkable urbanism, which dominated in the 19th and early 20th centuries. In these metros, walkable urban places are gaining market share of new development and seeing strong price and rent premiums over their drivable sub-urban counterparts. This latest research finds a nascent, but similar, trend emerging in the Michigan Metros.

If this trend continues in Michigan, which is not guaranteed since it requires public policy changes and significant adaptation by the real estate and finance industry, it will present a major challenge and opportunity for everyone connected with the built environment (real estate and infrastructure). This includes new opportunities for real estate developers, investors, land use regulators, infrastructure providers, social equity advocates, public sector managers, academics and citizens. However, it requires rethinking the way we manage the 35 percent of our nation's wealth that is invested in the built environment, the largest asset class in the economy.[1]

KEY FINDINGS

- **After decades of disinvestment in the late 20th century, walkable urban places are making a comeback in Michigan, led by Grand Rapids and Detroit-Ann Arbor.**

  The Michigan Metros can all point to examples of walkable urban places in their communities that have seen at least some form of investment and activity that 15 years ago would have been almost unimaginable. The ongoing rebirth of Downtown and Midtown Detroit and the emergence of places like Royal Oak and Ferndale, as well as the successful conversion of old buildings into modern offices and lofts in Grand Rapids and Flint, are only a few examples. Nevertheless, the strength of this comeback is not the same in each metro area. Grand Rapids-Muskegon-Holland and Detroit-Ann Arbor are the clear leaders.

- **There is significant pent-up demand for walkable urbanism in Michigan.** National polls consistently show that at least 40 percent of the population would like to live in a walkable urban place, either a WalkUP or a Walkable Neighborhood. A series of recent target market analyses conducted for the Michigan State Housing Development Authority (MSHDA) finds substantial demand for them. Yet only eight percent of the total housing stock in the Michigan Metros is walkable and only four percent of the housing stock built since 1960 is walkable. The imbalance between supply and demand is likely to grow, as the proportion of households most predisposed to locating in walkable urban places, particularly one- and two-person households, has been rising steadily since 1960 and is projected to rise further**.** In fact, the vast majority of household growth over the next 20 years is projected to be one- and two-person households.

- **The comeback of WalkUPs is evident in market trends. Rent and price premiums for WalkUP real estate have emerged over the last several years**. On average, across all of the Michigan Metros, apartments rent for 28 percent and homes sell for 56 percent more per square foot when they are located in a WalkUP as compared to an Edge City. The data on commercial rents is more mixed. For office, the average rent premium is two percent and for retail, it is 14 percent. Nonetheless, the same statistics in 2008 actually showed a slight discount for WalkUP office and retail space. Moreover, WalkUPs are maintaining lower office vacancy rates. The average office vacancy rate in WalkUPs is now 13.7 percent, as compared to 22.2 percent for Edge Cities and 15.5 percent for Drivable Subdivisions. However, these averages hide substantial variation, not only among the Michigan Metros, but among places within them.

- **The rent and price premiums for walkable urbanism in the Michigan Metros are not as high as the current premiums in Washington, D.C., or Boston but the current premiums in these two metros may be the future for Michigan's Metros.** Today, the high value of real estate in walkable urban places, particularly center-city and inner-suburban jurisdictions served by rail transit, is obvious in both Washington, D.C., and Boston. However, this was not the case until 10-to-20 years ago. Before then, drivable sub-urban locations had a price premium and some of today's very high-rent neighborhoods, like Columbia Heights and Capitol Riverfront in Washington, were consid-

ered slums. Strategic public investments and visionary developers changed the perception of these areas and unleashed some of the pent-up demand for walkable urbanism. It is now clear that Downtown Detroit, just one Michigan example, is on a similar path**.**

- **Most of Michigan's walkable urban places are still in a state of transition. Continued support and management by local leaders, patient investment capital, and federal, state, and local government remain critical to their growth**. Progress towards successful walkable urbanism does not necessarily proceed along a linear path. There is a tipping point when enough businesses and amenities are in place to attract residents, or vice versa, before rents and prices rise enough to support new development, known as reaching "critical mass". Until that critical mass is reached—and the data suggests that only a few places in Michigan's Metros have—active support and guidance is needed. As much as the market wants walkable urbanism after it is fully established, places in transition require urban pioneers and they must be encouraged.
- **Walkable urban places tend to offer both lower combined housing and transportation costs, as well as better access to jobs than drivable locations.** Households living in walkable urban places are less likely to own a car, and are estimated to spend 14 percent less of their income on transportation, freeing it for other investments, like housing, education, and savings. In many of the walkable places in Michigan, however, housing is no more expensive than in drivable locations, resulting in a lower total housing and transportation cost. In addition, because walkable urban places are usually more centrally located in the region, more jobs are accessible to them within a reasonable commute time. All else being equal, both lower housing and transportation costs, as well as better access to jobs, should make households in walkable places more financially resilient. Nevertheless, close attention must be paid to the affordability of WalkUPs and Walkable Neighborhoods as pent-up market demand increases. In Detroit-Ann Arbor, Grand Rapids-Muskegon-Holland, and Saginaw-Bay City-Midland, home prices in walkable places are beginning to take off. If this trend continues, the housing affordability advantages of walkable places may dwindle**.**
- **The development and expansion of walkable urban places will generate an economic return for the Michigan Metros and the State of Michigan**. A growing body of evidence indicates that people under the age of 35, particularly those with college degrees, prefer walkable places. These young people are critical to the modern knowledge economy and yet Michigan has been losing market share of this demographic group. While not the only solution, having the option of living and/or working in a walkable place will help reverse the trend.


WALKUP
TRENDS

The Rise of Walkable Urbanism

An increasing share of new development in the Michigan Metros is walkable urban, and based on the experiences of the Atlanta, Boston, and Washington, D.C., metropolitan areas, even more development will be walkable urban in the next real estate cycle.

During the second half of the 20th century, the dominant development model across the United States was the familiar drivable sub-urban approach. Most real estate developers and investors, government regulators, and financiers had come to understand this model extremely well, turning it into a successful development formula for boosting the economy and local government revenues.

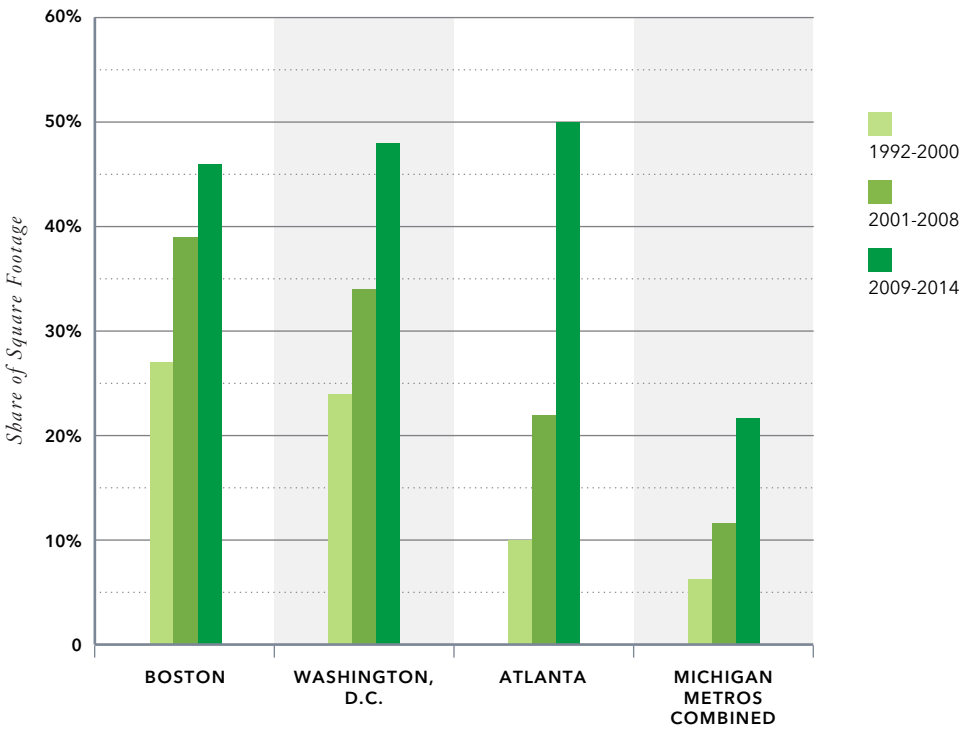
However, starting in the 2001-2008 real estate cycle in select Michigan Metros, the pendulum began slowly moving back toward walkable urban development. Across the country, certain downtowns began to revitalize, inner-ring suburban town centers redeveloped, and urban neighborhoods saw substantial reinvestment. Their revitalization has been reflected in real estate values. Real Capital Analytics' Commercial Property Price Index, which tracks commercial property values across the country found that property values in walkable urban places have appreciated at a considerably faster rate than those in drivable sub-urban locations since 2002.[2] George Washington University's previous research on the metropolitan areas of Washington, D.C., Atlanta, and Boston found strong rent and value premiums for properties located in walkable locations versus drivable—as high as 134 percent on a value-per-square-foot basis.

George Washington University also quantified the shift towards walkable urbanism by determining the percentage of the metro region's new income property development—defined as office, retail, hotel, and rental apartments—constructed in regionally significant walkable urban places in each of the last three real estate cycles.[3] As the charts illustrate, the trend in the Michigan Metros is clearly in favor of walkable urban places.

The Last Three Real Estate Cycles:

Share of Metro Regions' New Income Property Delivered in WalkUPs & Walkable Neighborhoods

Income Property = Office, Retail, Hotel, Rental Apartment, For-Sale Residential



It is equally clear that the Michigan Metros are not as far along in terms of the shift toward walkable urbanism. The walkable urban share of the Michigan Metro's income property development in the current cycle of 22 percent is close to Atlanta's share in the last cycle and Washington and Boston's share in the 1992-2000 cycle. In that sense, the seven Michigan metro areas evaluated are one and maybe even two real estate cycles behind Boston, Washington, or Atlanta. Considering the state's historical ties to the automobile and truck manufacturing industry and the complete lack of rail transit, that is not surprising. The significant finding is that, despite the history of being the center of automobile and truck manufacturing, the Michigan Metros are moving in a similar direction as the coastal metro areas of Boston, Atlanta, and Washington, D.C.–towards walkable urbanism.

The different real estate products in the Michigan Metros perform differently. We find that multifamily apartments are at the leading edge of the shift towards walkable urbanism. Forty-three percent of all rental apartment square footage delivered in the Michigan Metros has occurred in WalkUPs or Walkable Neighborhoods, which make up less than three percent of the total urbanized land in the seven Michigan Metros. Hotel and office are also increasingly locating in walkable urban places, while no trend is yet apparent for retail–which generally trails residential development.

On the ground, Michigan may seem to be far removed from attaining the walkability that some of the coastal leaders have, but the transformation of drivable sub-urban locations to walkable urban is possible. In the Washington, D.C., metropolitan area alone, there are several examples of previously drivable locations that have transformed into walkable places, particularly in the suburbs. The entire Rosslyn-Ballston corridor in Arlington is one example. In the space of 30 years it has transformed from a largely drivable sub-urban corridor characterized by declining shopping malls, auto dealers, and strip centers, to a highly dense, walkable urban place that has attracted a high concentration of young, educated people clustered in five WalkUPs. Its success is spawning redevelopment efforts in other formerly drivable sub-urban locations, such as White Flint in suburban Maryland and even Tysons Corner, the Virginia Edge City that is the largest suburban concentration (48 million square feet) of development in the country.

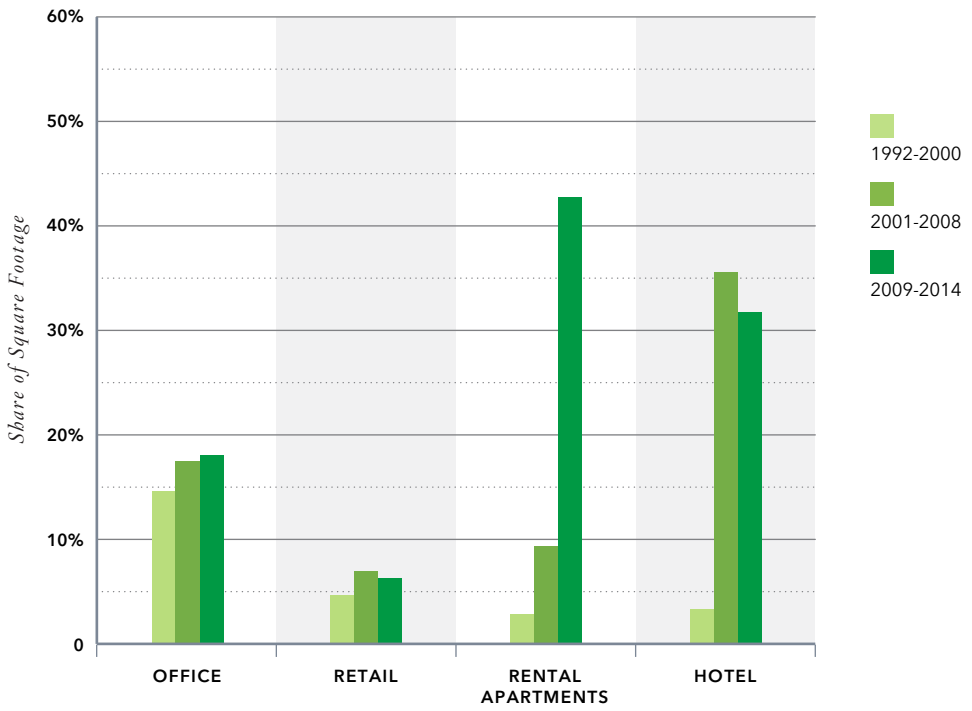
In Lakewood, Colorado, a suburb of Denver, Continuum Partners demolished an old, drivable sub-urban mall in 1999, and has since transformed the acreage into a successful walkable urban, mixed-use district called Belmar, all in the space of 15 years. Another developer, Midway Companies, has accomplished something similar with its CityCentre development in Houston. Unlike the Washington, D.C. examples, neither of these projects is served by rail transit.

These are only a few of many examples of walkable urban places development not served by rail transit throughout the country. Ellen Dunham Jones and June Williamson identified many of them in their book, *Retrofitting Suburbia*.

The Last Three Real Estate Cycles:

Share of Michigan Metros' New Income Property Delivered in WalkUPs & Walkable Neighborhoods

Income Property = Office, Retail, Rental Apartment, Hotel



Demographic Support for Walkable Urbanism Is Growing

One- and two-person households are the natural market for walkable urban development. They already make up 64 percent of all Michigan households—and their share is rising.

Following World War II, the single-family detached home became the dominant form of for-sale residential development in the United States. Developers were responding to market demand, especially from families with children, which made up nearly half of all households in the United States in 1960. These homes, built in suburban greenfields, drew many families away from center cities. Retail and office space followed, as new regional malls, strip centers, and business parks were erected, all in drivable sub-urban formats. The new development drew investment, tax dollars, and vitality from nearly all center cities, accelerating their decline. The legacy of this disinvestment is still apparent in many downtowns throughout the country and Michigan.

The demographic basis underlying the move to the suburbs, however, has weakened substantially. As of 2010, only 29 percent of households in Michigan had children living in them, compared to 49 percent in 1960, and 36 percent in 2000. The number of one- and two-person households has risen correspondingly, from 39 percent in 1960 to 64 percent in 2010. In terms of absolute net change, from 2000 to 2013, the number of Michigan households with children under 18 fell by 190,000, while the number of households without children increased by 222,000.

There are a number of reasons for this trend. Baby boomers are now becoming empty nesters and younger generations, like Millennials, tend to marry less and later than baby boomers and have fewer children. One projection of national household growth between 2010 and 2030 shows that only 14 percent of net new households will have children living in them; and the rest (86 percent) will be single and couples.[4]

The traditional benefits of suburban living—lots of space, both indoor and outdoor, and good schools—are less important to one- and two-person households. While singles and couples are the target market for walkable urbanism. Anecdotal evidence shows that many walkable urban neighborhoods, like Lincoln Park in Chicago, Lower Manhattan in New York City and Georgetown in Washington, D.C., are experiencing a mini-baby boom as families are raising their children in walkable urban places.

SURVEYS CONFIRM DEMAND FOR WALKABILITY

If given the choice between a walkable neighborhood and a smaller home, or a drivable location and a large home, many would choose the walkable neighborhood. In fact, a 2013 National Association of Realtors (NAR) survey found that 59 percent of the entire population would take a smaller home if it meant shorter commute times and greater walkability. According to this poll, 39 percent would even accept a condominium or apartment instead of a detached house if it meant living in a walkable neighborhood. More recently, the American Planning Association found that 56 percent of millennials and 44 percent of baby boomers would prefer to live in a walkable urban place, whether in a center city or in the suburbs.

ENORMOUS MISMATCH BETWEEN SUPPLY AND DEMAND IN MICHIGAN

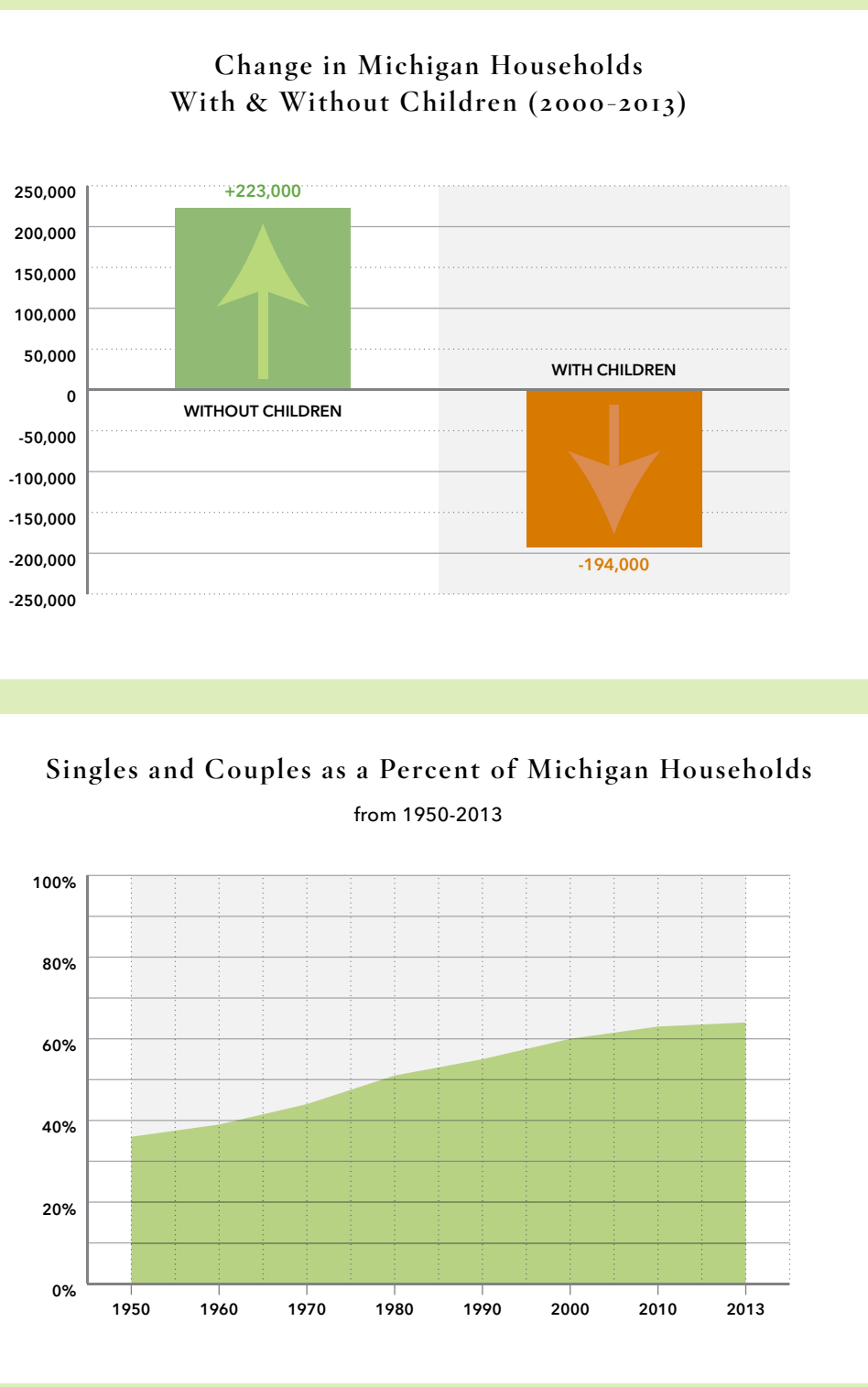
Multiple surveys indicate that somewhere between 40 percent and 60 percent of the market would prefer to live in a walkable urban place of some kind. The demographic trends suggest that this share is only likely to grow. Nonetheless, this analysis of seven metro areas in Michigan, which make up 64 percent of the state's population, finds that only 8 percent of the total housing stock, and only four percent of the modern housing stock built since 1960, is located in a walkable urban place. *The development of more walkable places and neighborhoods is a major opportunity for developers in Michigan.*

A skeptic might argue that if those surveys are true, the market would have self-corrected and met that demand. But it is not that simple. Most of the market wants walkable urbanism when much of the retail and amenities are already established, and the place looks and feels safe and clean. Places in transition are less attractive and riskier, both for potential residents as well as developers. Until the transition phase is overcome and perhaps some negative perceptions change, the demand and price premiums do not materialize. In addition, the real estate industry adds only two percent to the built environment in a good year. We have had many not-so-good years in Michigan's economy over the last two real estate cycles, so it will take many years for this trend to become dominant in any case.

Michigan (as well as most of the Midwest) has a much smaller range of dwelling types than either coast. It is very hard for someone looking for walkable urban housing to find it when the only options are old apartments with little in the way of retail amenities, much less rail transit or bikability. Recent MSHDA-sponsored target market analyses in Michigan's Metros show a large demand for "missing-middle

housing." These are choices between single-family detached homes on large lots (over a quarter acre) and rental apartment buildings. They include small lot single family, duplexes, triplexes, fourplexes, row houses, townhomes, lofts, live-work, mansion apartments, Texas donuts and others. A design competition among architects is presently underway in Michigan to draw attention to missing-middle housing, which can often be built on small lots in midblock sites along major corridors where there is an abundant supply of land. For many, these are attractive living options.

Our research in Boston, Washington, D.C., and Atlanta, has shown that when walkable urban places mature, the consumer market responds. Walkable urban rents and prices become significantly higher and more development happens in walkable urban places, responding to the "pent-up" demand. This bodes well for Michigan's nascent walkable urban housing and commercial development opportunities.



Walkable Urbanism & Economic Development

Correlations across the largest 30 U.S. metropolitan areas and the Michigan Metros indicate that walkable development, educational attainment, and economic vitality are linked.

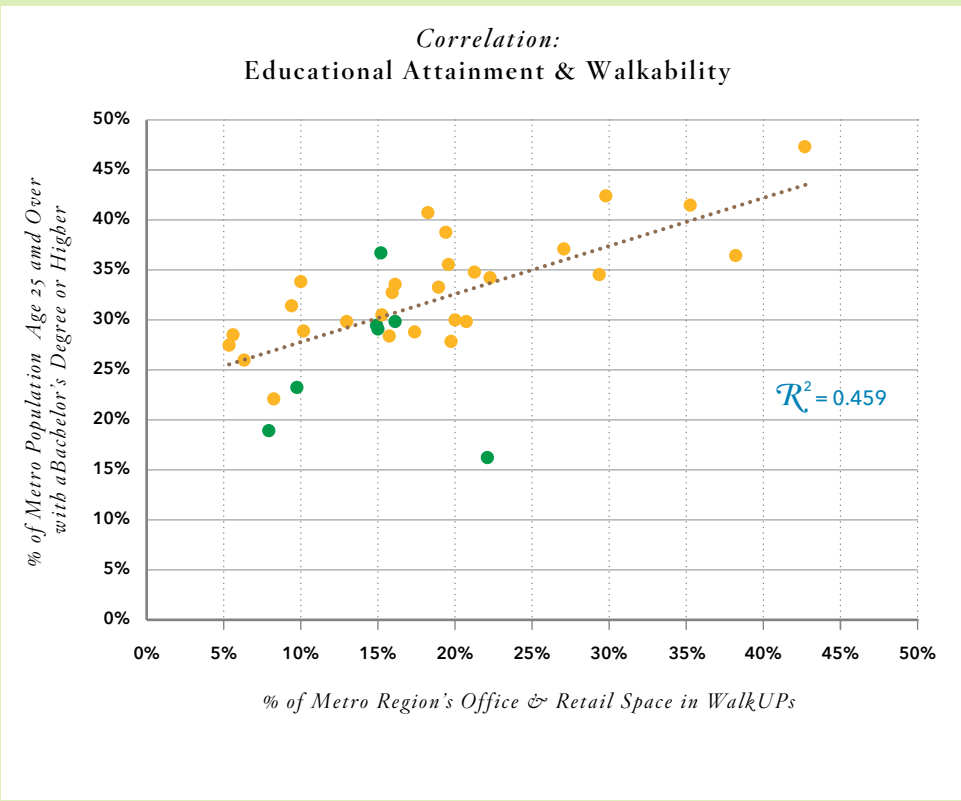
The hypothesis many economic development professionals and many business people subscribe to is that the U.S. has been layering a "knowledge economy" over the 20th-century industrial base. Backed by considerable research, the education of the work force—best defined as the percentage of the work force over age 25 with a college degree—is key to the economic success of a business, a metropolitan area, and ultimately the country.

The Milken Institute recently published a paper entitled *A Matter of Degrees*, in which it found that adding one year to the average year of schooling of the metro area's workforce is associated with an increase in real Gross Metropolitan Product per capita of 10.5 percent and an increase in real wages per worker of 8.4 percent, even after controlling for many other variables.[5] As Edward Glaeser, a professor of economics at Harvard University stated, "The most successful economic development policy is to attract and retain smart people and then get out of their way."

The connection between the educated work force and walkable urbanism has been best made by Richard Florida, director of the Martin Prosperity Center at the University of Toronto School of Management and originator of the concept of the "creative class." As Florida says in *The Rise of the Creative Class Revisited*, "the Creative Class is ... the key force that is shaping our geography, spearheading the movement back from outlying areas to urban centers and close-in walkable suburbs."[6]

The City Observatory, a think tank focused on cities, confirmed this general trend in a recent report, which found that 25-to-34-year-olds with college degrees are migrating disproportionately to close-in urban neighborhoods. On average, the report found that young people were 50 percent more likely than the average resident to live in "close-in" neighborhoods in 2012, up from only 12 percent more likely in 1990.

Walkable Urbanism, Higher Education & Metropolitan GDP in Michigan Metros & the Top 30 Largest U.S. Metros



"The Creative Class is ... the key force that is shaping our geography, spearheading the movement back from outlying areas to urban centers and close-in walkable suburbs."

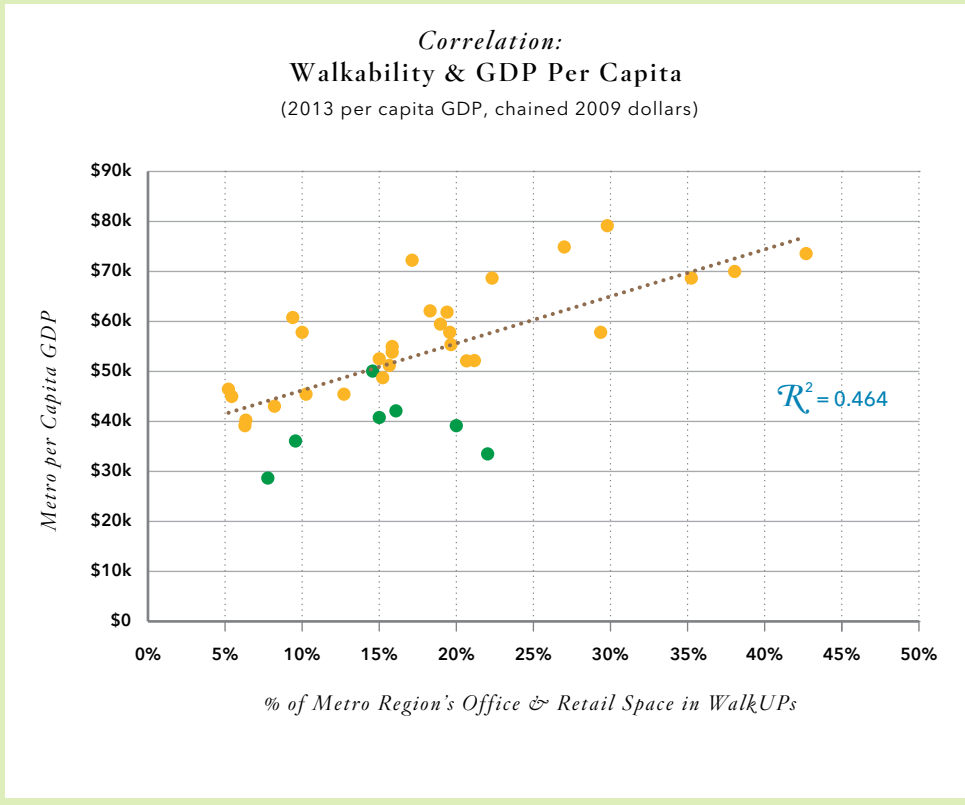
–Richard Florida
The Rise of the Creative Class Revisited

College-educated young people were 126 percent more likely to live in "close-in" neighborhoods average resident.[7]

Our own survey of the largest 30 metropolitan areas, *Foot Traffic Ahead*,[8] found per capita GDP was strongly correlated to walkable urbanism, as measured by the percentage of the region's office and retail space in WalkUPs, and educational attainment, as measured by the percentage of people over age 25 with college degrees. On average, those metro areas with more than 25 percent of their region's office and retail space in walkable locations have an average per capita GDP of $69,400, compared to $50,000 for those metros with less than 10 percent in walkable locations, a difference of 40 percent.

For this report, we have updated the analysis with the results from each of the seven Michigan metro areas. All of these metros, with the exception of Detroit, which was included in *Foot Traffic Ahead*, are much smaller than the largest 30 metro areas in the country. Therefore, they are not perfectly comparable. The strength of the correlations weaken somewhat with the inclusion of the smaller Michigan Metros, perhaps because they introduce much more variation in overall population and effectively oversample from one region (Michigan). Nonetheless, the correlations among walkable urbanism, educational attainment, and per capita GDP are still strong and unlikely to be the result of random chance. This is shown in the charts on pages 14 and 15, where each dot represents a metro area, either in the largest 30 or among the Michigan Metros.[9] Jackson, the smallest metro area on the list by a significant margin, is the major outlier.[10]

Walkable Urbanism, Higher Education & Metropolitan GDP in Michigan Metros & the Top 30 Largest U.S. Metros



BUSINESSES APPRECIATE WALKABLE URBAN PLACES

That young, educated people like walkable urban places has not gone unnoticed by major companies. *Core Values*, a recently released report by Smart Growth America, found that talent attraction and retention has been a key motivation for companies moving from drivable locations to walkable urban places, especially downtowns. The relocation of Quicken Loans and CompuWare to downtown Detroit certainly demonstrates this phenomenon. In addition, companies have found that locating in walkable urban places allows for more interactions with people in different businesses, fostering creativity and new relationships. Finally, for many companies their corporate location is a matter of brand identity. Vibrant, walkable places are more appealing today in that respect than anonymous drivable office parks.[11]

REDUCING AUTOMOBILE EXPENDITURES RELIEVES HOUSEHOLD BUDGETS

Walkable urbanism can also contribute to economic development by reducing household expenditures on automobiles (loan payments, servicing, parking, gasoline, insurance, etc.). According to the Automobile Association of America (AAA), the average annual cost of car ownership per household is $8,839. Dropping that average car out of a household budget increases the mortgage capacity of that household by $150,000, assuming a four percent, 30-year mortgage rate. If that annual automobile spending were diverted to the purchase of a home, or savings for the eventual purchase of a home, the long-term impact on the financial well-being of Michigan households could be significant, if only because homes tend to appreciate in value over time, while cars always depreciate.

Based on our analysis of census data, about eight percent of households in Michigan Metros live without a car, but that percentage jumps to 14 percent in Walkable Neighborhoods, and 26 percent in WalkUPs. Moreover, there is increasing evidence that Millennials are simply not as interested in car ownership as previous generations.[12] For at least some of them, neighborhoods where car ownership is not required may be a selling point—provided there is adequate transit available.

MAINTAINING DRIVABLE SUB-URBAN INFRASTRUCTURE IS EXPENSIVE

On May 5, voters in Michigan rejected a proposal to raise taxes to fund $1.3 billion in funding for transportation infrastructure, mostly to address deferred maintenance on roads and bridges. This highlights the tremendous cost of maintaining roadways and the fact that the gas tax does not fully cover costs. Based on estimates by the Michigan Department of Transportation, the current gas tax would need to almost double, from 18.7 cents per gallon to 35 cents per gallon, to cover the projected maintenance costs.[13]

Infrastructure is less efficient, and therefore more expensive on a per capita basis, in drivable sub-urban locations than walkable urban places. This is a factor of the low density of drivable sub-urban locations that require long runs of infrastructure. Based on our analysis of the Michigan Metros, the average length of road per capita in WalkUPs and Walkable Neighborhoods is about 10 feet, versus 23 feet for drivable locations (excluding interstate highways). Moreover, residents of walkable urban places tend to use roads less frequently. Based on our analysis of Vehicle-Miles Traveled (VMT) estimates done by the Center for Neighborhood Technology, households in walkable places generate 15 percent less mileage than households living in drivable locations, meaning residents of walkable places impose less maintenance costs.

There is little choice but to maintain the roads already in place. But if these facts were thoughtfully considered 50 years ago, and more development occurred in a compact and walkable fashion, Michigan's collective road maintenance bill would likely be much smaller. The task now is to ensure these facts are considered for the future.

LAND USE DEFINED

Form Meets Function

Two potential economic functions and two land use forms yield a four-cell matrix that categorizes 100 percent of metropolitan land.

The methodology used in this research[14] for analyzing a metropolitan region assigns all land to one of four land-use categories, defined by the four-cell matrixes introduced above. This matrix employs two dimensions, *land use form* (walkable urban versus drivable sub-urban) and *land use economics* (regionally significant and local serving).

The methodology assesses walkability using Walk Score (Walk Score.com), a website that developed an algorithm to assess the walkability of any location on a 1-100 scale. The score is based primarily on the number of retail, restaurant, services, and other frequented destinations within walking distance. This measure is supplemented with intersection density, a basic measure of the street network. Places with high intersection densities, and therefore smaller block sizes, tend to be better environments for pedestrians. All of the places categorized as walkable in this analysis must score high on both metrics. Shopping centers or regional malls are not categorized as walkable, even if they have a high Walk Score, if they are laid out in a drivable sub-urban format and their intersection density is low. Similarly, places that may have a very walkable layout—with sidewalks, trails, and small blocks—but few businesses to walk to, will have a low Walk Score and will not qualify. For regionally significant walkable places, the Walk Score threshold is 70.5 and for local-serving Walkable Neighborhoods, the threshold is 60.

The economic use of land is categorized as either *regionally significant* or *local serving*. Regionally significant places have concentrations of employment, civic centers, institutions of higher education, major medical centers and regional retail, as well as cultural, entertainment and sports assets. Local-serving places are bedroom communities dominated by residential development that is complemented by local-serving commercial and civic uses, such as primary and secondary schools, police and fire stations, and so on. To be considered regionally significant for purposes of this report, a walkable urban place or drivable location must have at least 1.4 million square feet of office, industrial, medical office, or non-residential university space, or at least 340,000 square feet of retail. With these space quantities, we can be reasonably certain that the area is drawing employees and/or shoppers from beyond the area within walking distance.[15] Places that did not quite meet the criteria for walkability and/or regional significance, but were very close, were identified as emerging WalkUPs. In most cases, the addition of just one or two more developments would push them into the ranks of the established WalkUPs.

When form meets function, the four-cell matrix emerges, showing how 100 percent of a metropolitan area's land is used (see below). Naturally, there is a gradient in terms of regional significance and walkability. Where one draws the line between walkable and drivable, and regionally significant versus local serving, is as much art as science. Although the methodology and approach continues to evolve over time, and each metropolitan area is different, we have aimed to maintain reasonably consistent standards for each category. Consistent standards facilitate comparisons among metropolitan areas that would otherwise not be possible.

Metropolitan Land Use Options in the United States

	REGIONALLY SIGNIFICANT	LOCAL SERVING
WALKABLE URBAN	**WALKUP** (Walkable Urban Place) • Office Space ≥ 1.4M sq ft *-OR-* Retail Space ≥ 340,000 sq ft • WalkScore ≥ 70.5 • Avg intersection density ≥ 100 per sq mile	**WALKABLE NEIGHBORHOOD** • WalkScore ≥ 60 • Avg intersection density ≥ 100 per sq mile
DRIVABLE SUB-URBAN	**DRIVABLE EDGE CITY** • Office or Industrial Space ≥ 1.4M sq ft *-OR-* Retail Space ≥ 340,000 sq ft	**DRIVABLE SUB-DIVISION** • All land not allocated to other categories

The Types of WalkUPs

Michigan Metros are home to five of the seven possible regionally significant WalkUP types.

There are seven types of possible WalkUPs in any metropolitan area:

- Downtown
- Downtown Adjacent
- Urban Commercial
- Urban University
- Suburban Town Center
- Redeveloped Drivable Commercial
- Greenfield/Brownfield

Each of these WalkUP types has a different history, product mix, and transportation infrastructure, though all are heading in the same direction as mixed-use, high-density walkable urban places. These classifications were developed from previous research in Washington, D.C., Atlanta and Boston and have been applied to the Michigan Metros. In the Michigan Metros, five types of WalkUPs are represented. There are currently no established WalkUPs that are Redeveloped Drivable Commercial or Greenfields/Brownfields although these may emerge in the future.

There is also a sub-class of WalkUPs that are important for future development, known as Innovation Districts. These knowledge economy, high-tech, maker and software-focused WalkUPs often co-locate around universities. As defined by Bruce Katz and Jennifer Wagner of the Brookings Institution, these are "geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail."[16] Downtown and Midtown Detroit are Innovation Districts.

1 Downtown

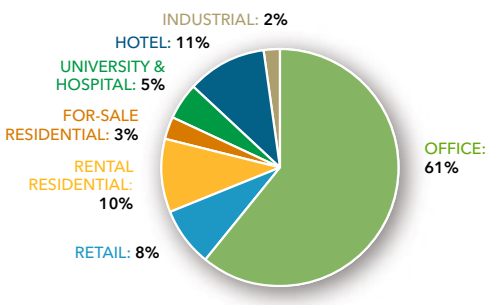
As is typical of downtowns, office space is the dominant use, though for-sale and rental residential are the fastest growing uses in recent years and are expected to continue to expand. Downtowns are also major centers of economic activity. We estimate that the six established Downtowns alone are home to 197,000 jobs and contribute $17.7 billion to the State's GDP. That equals about 4.1 percent of the State's total GDP.[17]

ESTABLISHED WALKUPS	METRO AREA
Downtown Detroit	Detroit-Ann Arbor
Downtown Flint	Flint
Downtown Grand Rapids	Grand Rapids-Muskegon-Holland
Downtown Jackson	Jackson
Downtown Kalamazoo	Kalamazoo-Battle Creek
Downtown Lansing	Lansing-East Lansing

EMERGING WALKUPS	METRO AREA
Downtown Saginaw	Saginaw-Bay City-Midland

Product Mix: **Downtown**

Average % of Total Square Footage



2 Downtown Adjacent

Immediately adjacent to Downtowns, these WalkUPs usually have a lower density than Downtowns and possess a unique character. They have a more balanced mix of space than Downtowns, with almost equal portions of residential and office/retail space. The result is usually a lively, 24-hour environment.

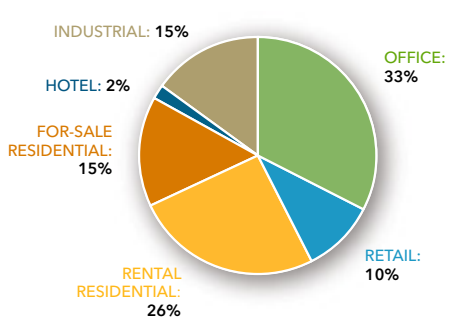
There are additional emerging WalkUPs adjacent to Downtown Detroit, including Rivertown and Eastern Market. While Brush Park in Midtown does not currently meet the thresholds for an emerging or established WalkUP, it certainly has the potential to become one as significant new development has been recently proposed there.[18]

ESTABLISHED WALKUPS	METRO AREA
Midtown - Cass Park District	Detroit-Ann Arbor
Midtown - Arts Center District	Detroit-Ann Arbor
Midtown - Medical Center	Detroit-Ann Arbor
New Center	Detroit-Ann Arbor
Downtown Grand Rapids - Westside	Grand Rapids-Muskegon-Holland

EMERGING WALKUPS	METRO AREA
Eastern Market	Detroit-Ann Arbor
Midtown – North Cass District	Detroit-Ann Arbor
Rivertown	Detroit-Ann Arbor
Monroe Ave/Leonard St.	Grand Rapids-Muskegon-Holland

Product Mix: **Downtown Adjacent**

Average % of Total Square Footage



3 Urban Commercial

Historically concentrations of local-serving commercial space, many though not all, of these places experienced economic decline after World War II.

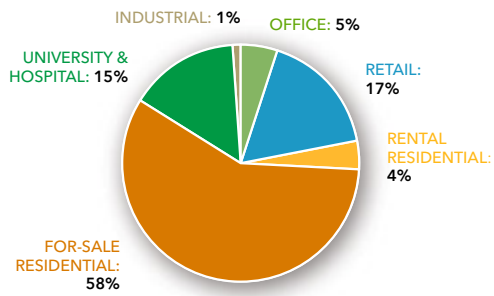
Some have regained their importance as concentrations of shopping, while others have redefined themselves as places of urban entertainment, ethnic restaurants, and even boutique stores.

ESTABLISHED WALKUPS	METRO AREA
Eastpointe	Detroit-Ann Arbor
Grosse Pointe Park	Detroit-Ann Arbor
Hamtramck	Detroit-Ann Arbor
Hubbard Farms/Mexicantown	Detroit-Ann Arbor
Michigan Ave./Sparrow	Lansing-East Lansing

EMERGING WALKUPS	METRO AREA
Harbortown	Detroit-Ann Arbor

Product Mix: **Urban Commercial**

Average % of Total Square Footage



4 Urban University

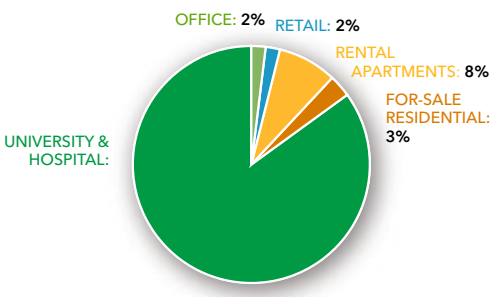
In these places, universities and other institutions, such as medical facilities or government research centers, are the dominant landowners. These landowners gauge the "success" of their development not in terms of rent they may be able to collect, but in their ability to attract talent (professors, students, administrators, etc.).

The presence of these anchor institutions can also present opportunities for Innovation Districts to develop. University space (classrooms, laboratories, hospitals, general office, and dorms) is the largest use, followed by off-campus housing, both rental and for-sale.

ESTABLISHED WALKUPS	METRO AREA
Midtown - University Center	Detroit-Ann Arbor
University of Michigan – Central Campus	Detroit-Ann Arbor
Western Michigan University	Kalamazoo-Battle Creek
Michigan State University – North Campus	Lansing-East Lansing

Product Mix: **Urban University**

Average % of Total Square Footage



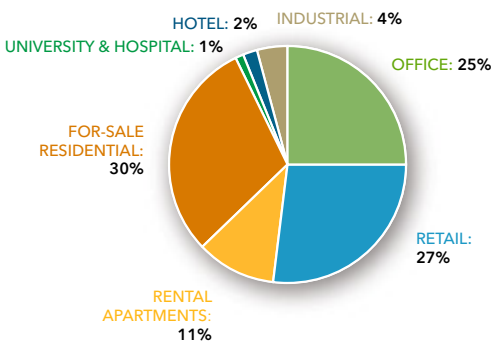
5 Suburban Town Centers

By far the largest category of WalkUPs in the Michigan Metros, Suburban Town Centers are primarily the downtowns or town centers of 19th- century cities and towns that were swept up in the sprawl of their metropolitan area after World War II. Laid out before the automobile, they have a walkable urban grid, historic buildings, and occasionally still some government anchors. Following decades of decline, many are finding a new economic role.

Note that their classification as Suburban Town Centers is not intended to characterize their form as drivable sub-urban. Instead it denotes that they are located outside of the principal city of the metro region. These towns developed independently and have a decidedly walkable urban character. In fact, a key finding of our analyses, is that walkable urbanism is quite possible, and even common, in the suburbs. Nonetheless, these places are not the principal Downtowns of their respective metropolitan areas, and typically fulfill a different economic role within the region. The average product mix of these places includes more retail and less office space than the central city Downtowns, an indication of this different economic role in the metropolitan economy.

Product Mix: **Suburban Town Center**

Average % of Total Square Footage



ESTABLISHED WALKUPS	METRO AREA
Downtown Berkley	Detroit-Ann Arbor
Downtown Birmingham	Detroit-Ann Arbor
Downtown Dearborn-East	Detroit-Ann Arbor
Downtown Dearborn-West	Detroit-Ann Arbor
Downtown Farmington	Detroit-Ann Arbor
Downtown Ferndale	Detroit-Ann Arbor
Downtown Lincoln Park	Detroit-Ann Arbor
Downtown Monroe	Detroit-Ann Arbor
Downtown Mt. Clemens	Detroit-Ann Arbor
Downtown Northville	Detroit-Ann Arbor
Downtown Plymouth	Detroit-Ann Arbor
Downtown Pontiac	Detroit-Ann Arbor
Downtown Port Huron	Detroit-Ann Arbor
Downtown Rochester	Detroit-Ann Arbor
Downtown Royal Oak	Detroit-Ann Arbor
Downtown Wayne	Detroit-Ann Arbor
Downtown Wyandotte	Detroit-Ann Arbor
Downtown Ypsilanti	Detroit-Ann Arbor
Main Street – Ann Arbor	Detroit-Ann Arbor
Downtown Grand Haven	Grand Rapids-Muskegon-Holland
Downtown Holland	Grand Rapids-Muskegon-Holland
Downtown Muskegon	Grand Rapids-Muskegon-Holland
Downtown Battle Creek	Kalamazoo-Battle Creek
Downtown Charlotte	Lansing-East Lansing
Downtown East Lansing	Lansing-East Lansing
Downtown Bay City	Saginaw-Bay City-Midland

EMERGING WALKUPS	METRO AREA
Brighton Main St.	Detroit-Ann Arbor
Downtown Howell	Detroit-Ann Arbor
Downtown Grandville	Grand Rapids-Muskegon-Holland
Downtown Midland	Saginaw-Bay City-Midland

LAND USE IN MICHIGAN METROS


DETROIT
ANN ARBOR

Detroit-Ann Arbor
Introduction

The Detroit-Ann Arbor metropolitan area is geographically large and diverse. Defined for this report as the urbanized land within the seven-county Southeast Michigan Council of Governments (SEMCOG, it spans 1,747 square miles of land. The diversity of places, neighborhoods, and incomes within those boundaries could hardly be greater. It has some of the state's most vital and thriving examples of walkable urbanism, such as Main Street in Ann Arbor and Downtown Birmingham, drivable suburbs that range from very low to very high income, and many thousands of vacant homes concentrated in blighted City of Detroit neighborhoods. This diversity and scale make it difficult to generalize and we acknowledge up front that specific local conditions may vary widely from the broad trends discussed below.

Nonetheless, our analysis suggests that the same forces that have driven revitalization in center city downtowns and walkable suburban town centers across the country are also at work in the Detroit-Ann Arbor region. For example, although regional average office and retail rents have declined since 2008, they have actually increased slightly in WalkUPs. As of the end of 2014, both office and retail rents are, on average, slightly higher in WalkUPs than in Edge Cities (four percent for office, 15 percent for retail). This is a reversal of the situation in 2008 when Edge City rents were higher.

For residential property, both for-sale and rental apartments, the price premiums associated with WalkUPs are even greater. Multifamily rental apartments in WalkUPs achieve rents per square foot approximately 28 percent higher than in Edge Cities. For-sale residential prices are 57 percent higher in WalkUPs than in Drivable Sub-divisions, where the majority of residential property is located. This for-sale residential premium has grown in the last five years; as of 2010, it was only 40 percent.

Finally, more and more income property development is concentrating in WalkUPs. Although WalkUPs and Walkable Neighborhoods make up only three percent of the entire metro region's land, they have accounted for 25 percent of the region's income property development in the latest cycle, up from only six percent from 1992-2000.

No other place in Michigan illustrates this trend better than Downtown and Midtown Detroit, which, owing to their size, we have split into several WalkUPs. Downtown and Midtown are undergoing one of the most dramatic revitalizations in the country. Since Quicken Loans announced in 2010 it was moving its headquarters to Downtown Detroit from an Edge City location, a number of other companies have followed, including 3,400 employees from Blue Cross Blue Shield and 600 from Campbell Ewald, among others.[19]

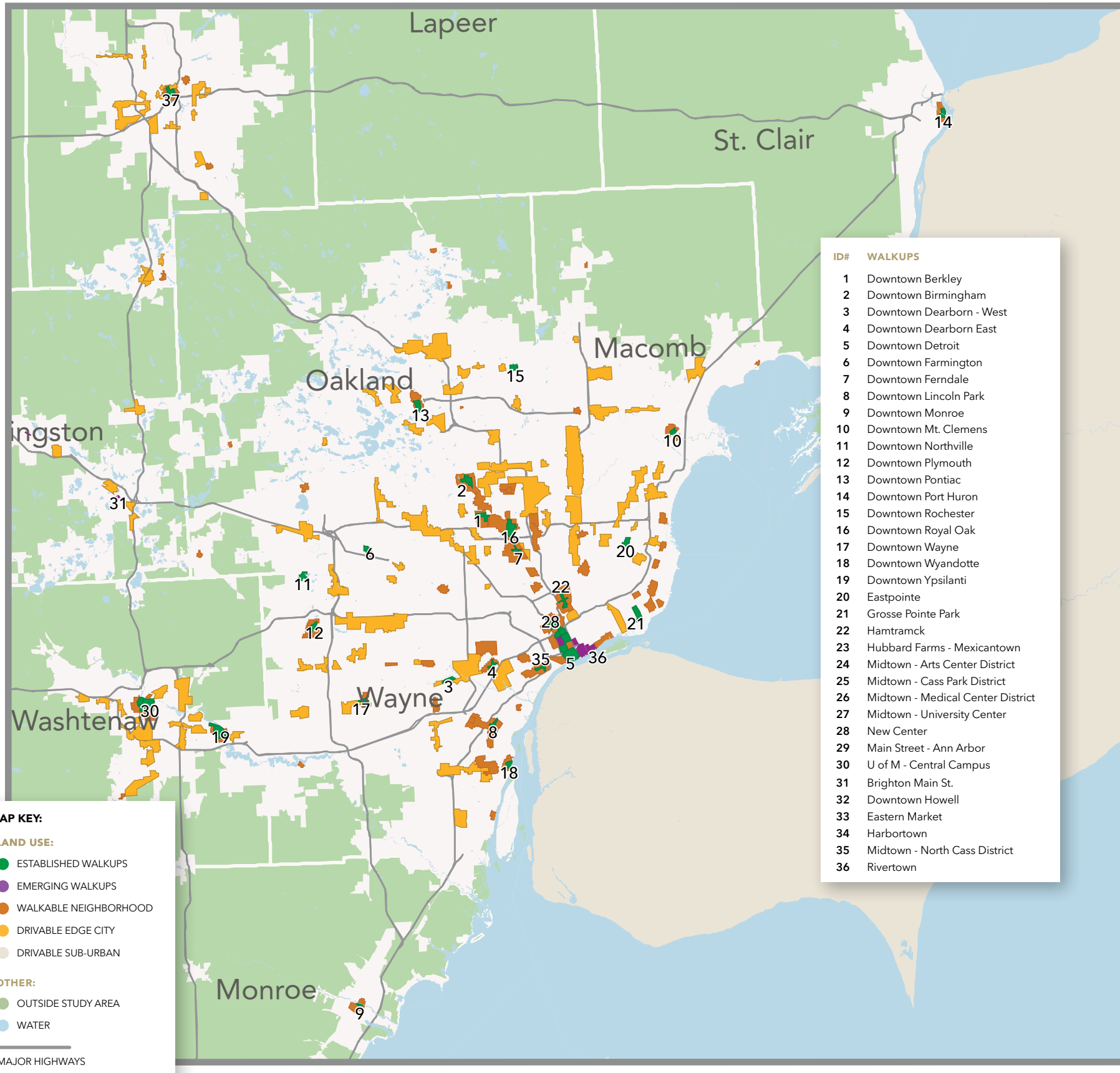
These moves have been accompanied by major announcements of further investment and development, both by private firms and the public sector. According to the report entitled "7.2 SQ MI," Downtown and Midtown have seen over $2 billion in investments in new construction and renovation over the last three-to-four years.[20]

The construction of the M-1 light rail, which will run through the spine of Downtown and Midtown Detroit along Woodward Avenue, is a visible example of this commitment. It is the first rail transit project in the state since the construction of the Downtown Detroit People Mover in the early 1980s.

The trend is not confined to Downtown Detroit. Suburban Town Centers, such as Royal Oak and Ferndale have become popular retail and entertainment destinations and Main Street in Ann Arbor is perhaps the quintessential example of a WalkUP in Michigan that has achieved "critical mass." More than 376 new apartment units, a Marriott hotel, and high-end condominiums are planned or already under construction in Main Street-Ann Arbor.[21]

While the trend is clear, the overall rent premiums associated with walkability are not as high as those in metropolitan Boston or Washington, D.C. In fact, there are many WalKUPs in Detroit-Ann Arbor that are still struggling economically. A weak regional economy, an abundant land supply, the historic automobile-oriented culture, and the lack of rail transit are all likely explanatory factors. But there are place-specific concerns as well. Many of the low-rent WalkUPs in Detroit-Ann Arbor barely met the thresholds for being considered a WalkUP, and as a result, they may lack the density and quantity of destinations necessary to be truly vibrant places.

Nonetheless, we should keep in mind that, before 2000, the situations in the walkable urban places of metro Boston and Washington, D.C. were likely not all that different from Detroit-Ann Arbor's today, aside from their historic rail transit infrastructure. Within only two real estate cycles, walkable development moved from a niche product to nearly half of all new income property development in these metro areas. In the process, neighborhoods were transformed.



ID#	WALKUPS
1	Downtown Berkley
2	Downtown Birmingham
3	Downtown Dearborn - West
4	Downtown Dearborn East
5	Downtown Detroit
6	Downtown Farmington
7	Downtown Ferndale
8	Downtown Lincoln Park
9	Downtown Monroe
10	Downtown Mt. Clemens
11	Downtown Northville
12	Downtown Plymouth
13	Downtown Pontiac
14	Downtown Port Huron
15	Downtown Rochester
16	Downtown Royal Oak
17	Downtown Wayne
18	Downtown Wyandotte
19	Downtown Ypsilanti
20	Eastpointe
21	Grosse Pointe Park
22	Hamtramck
23	Hubbard Farms - Mexicantown
24	Midtown - Arts Center District
25	Midtown - Cass Park District
26	Midtown - Medical Center District
27	Midtown - University Center
28	New Center
29	Main Street - Ann Arbor
30	U of M - Central Campus
31	Brighton Main St.
32	Downtown Howell
33	Eastern Market
34	Harbortown
35	Midtown - North Cass District
36	Rivertown

MAP KEY:

LAND USE:

- ESTABLISHED WALKUPS
- EMERGING WALKUPS
- WALKABLE NEIGHBORHOOD
- DRIVABLE EDGE CITY
- DRIVABLE SUB-URBAN

OTHER:

- OUTSIDE STUDY AREA
- WATER

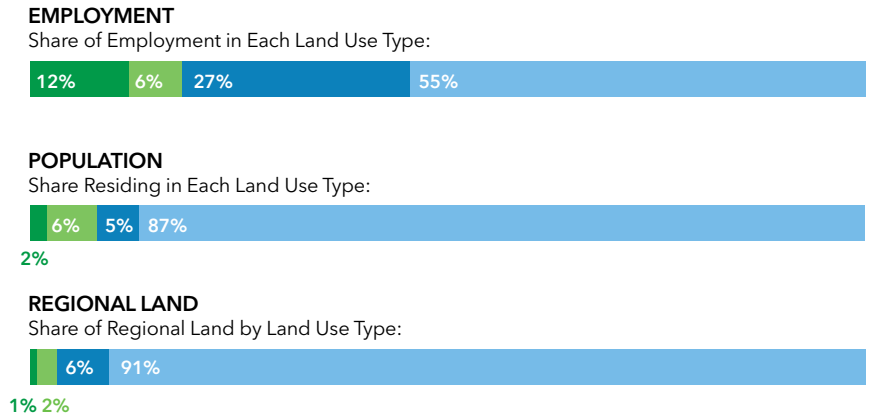
MAJOR HIGHWAYS

Detroit-Ann Arbor Geographic Findings

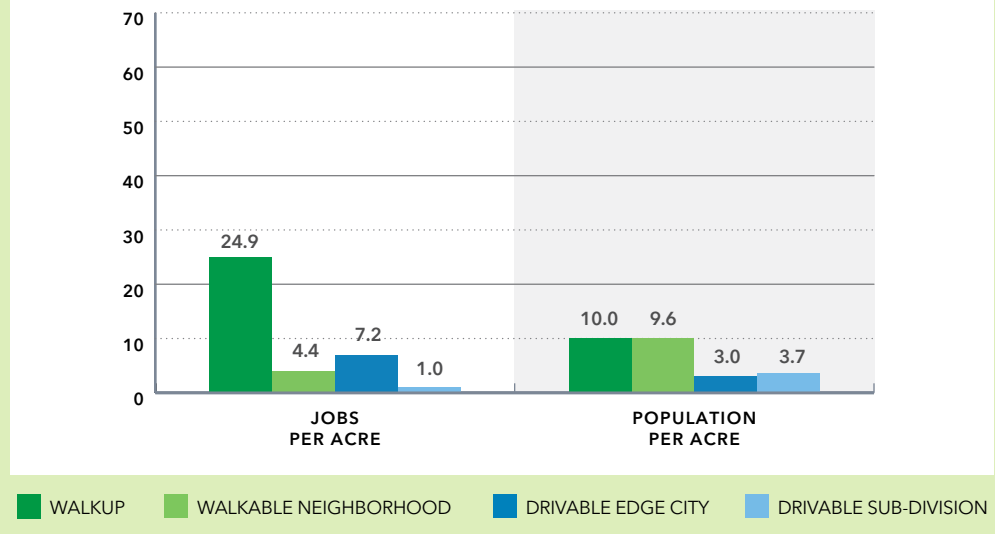
We divided the entire Detroit-Ann Arbor metro land use into the four-cell Form/Function Matrix described on page 18 of this report. This section presents key statistics related to the breakdown of land, population, and employment among these areas.

- **There are 30 established WalkUPs in the Detroit-Ann Arbor metro region and six emerging WalkUPs.** Emerging WalkUPs are places that just missed the walkability and size criteria for established WalkUPs. On average, the 30 established WalkUPs are 252 acres in size and together, they account for just 0.8 percent of the urbanized land in the metro area. Walkable Neighborhoods make up an additional 2.4 percent of the land. In total, only 3.2 percent of the Detroit-Ann Arbor land area is walkable urban. As a point of comparison, 5.6 percent of metro Boston's land area is walkable.
- **Twelve percent of Detroit-Ann Arbor's employment is found in WalkUPs.** This is likely an underestimate as it is based on 2011 numbers from the Census and does not capture the shift in employment to Downtown, in particular, that has occurred in the last three-to-four years. However, this is lower than metro Boston where 26 percent of regional employment is located in WalkUPs.
- **WalkUPs are the densest places in Detroit-Ann Arbor, as measured by population and employment per acre.** They have more than three times as many jobs per acre as Edge Cities and more than three times as many residents per acre. Walkable Neighborhoods have nearly three times as many residents per acre as Drivable Sub-divisions and four times as many jobs per acre.
- **In the Detroit-Ann Arbor metro region, a greater percentage of people walk or use a non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities and Drivable Sub-divisions.** Twenty-nine percent of WalkUP residents either walk, cycle, or use transit to get to work. In Walkable Neighborhoods, this share is nine percent, in Edge Cities, seven percent, and in Drivable Sub-divisions, four percent.

Key Metrics by Land Use Category



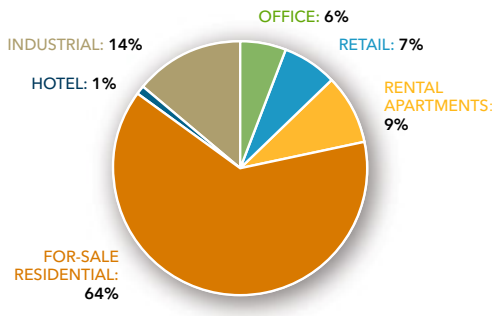
Population & Employment Density



Detroit-Ann Arbor Product Findings

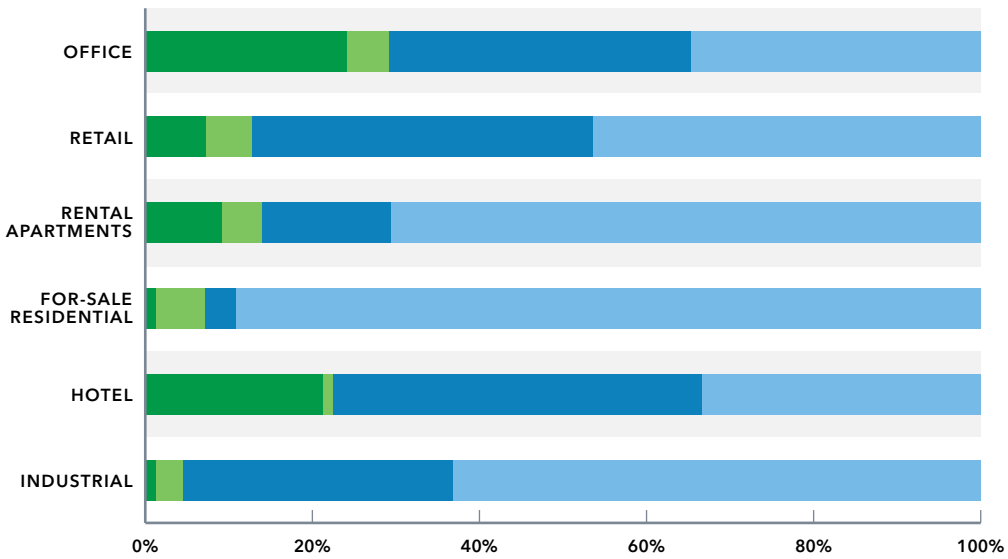
- **There is an estimated 3.6 billion square feet of real estate in the Detroit-Ann Arbor metro region, not including owner-user space, such as hospitals and universities.** Sixty-four percent of the space is for-sale residential,[22] although 11-to-12 percentage points of this share is actually occupied by renters in Detroit-Ann Arbor.

Breakdown of Total Regional Square Footage by Product Type

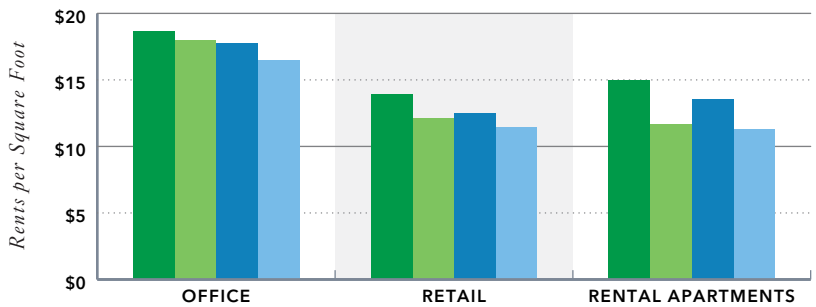


- **WalkUPs account for 3.7 percent of the total estimated square footage in the Detroit-Ann Arbor regions.** Office and hotel have the highest walkable urban square footage. Twenty-four percent of the office inventory and 21 percent of the region's hotel inventory are located in WalkUPs.
- **Only 8.1 percent of the Detroit-Ann Arbor metro region's housing stock, including both for-sale and rental apartments, is walkable.** Of the modern housing stock, built since 1960, the walkable share drops to only 4.2 percent.

Estimated Distribution of Regional Square Footage Across Land Use Categories



Average Annual Rents by Land Use Category



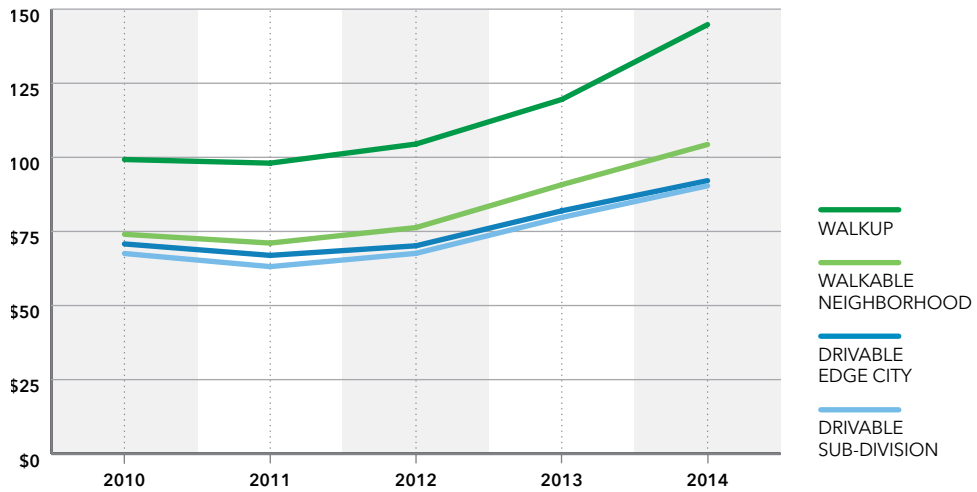
- **WalkUPs have an average gross floor-area-ratio (FAR) of 0.35 in Detroit-Ann Arbor, versus 0.16 for both Edge Cities and Walkable Neighborhoods, and .06 for Drivable Sub-divisions.**[23] WalkUPs are more than twice as dense as Edge Cities and Walkable Neighborhoods are nearly six times as dense as Drivable Sub-divisions, on average.
- **WalkUPs command the highest rents for office, retail, and rental apartments.** Compared to Edge Cities, average WalkUP rents are higher by the following percentages:

  OFFICE . . . . . +4%
  RETAIL . . . . . +15%
  RENTAL APARTMENTS: . . . . . +28%

- **WalkUPs have the highest average for-sale residential prices per square foot.** They are 60 percent higher than Edge City prices and 57 percent higher than Drivable Sub-divisions. Walkable Neighborhoods also have a premium over their drivable counterparts of 13 percent to 15 percent. Moreover the price gap between walkable and drivable places has grown since 2010.
- **An increasing share of Detroit-Ann Arbor's new income property development is occurring in walkable urban places.** In the most recent cycle, nearly 25 percent of the entire region's income property development occurred in WalkUPs or Walkable Neighborhoods, occupying just 3.2 percent of the total urbanized land.

Average Home Sale Price:

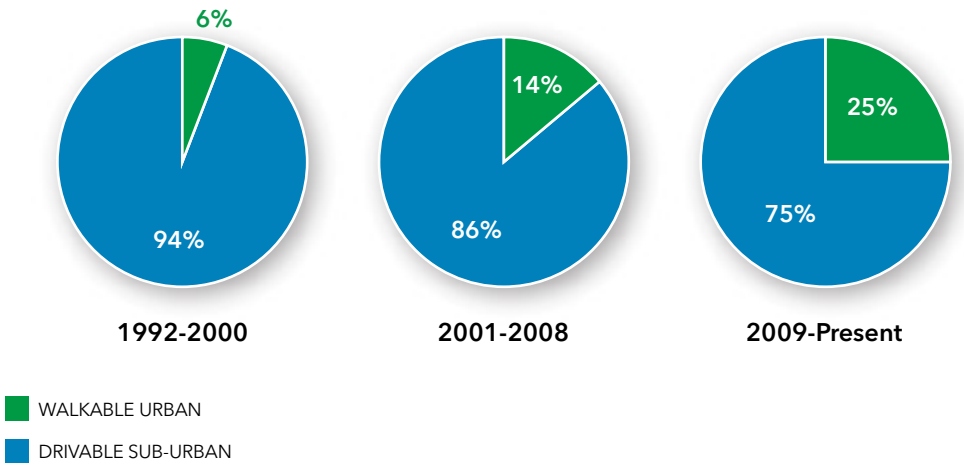
(Price per Square Foot)



Last Three Real Estate Cycles:

Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments




GRAND RAPIDS
HOLLAND
MUSKEGON

Grand Rapids-Muskegon-Holland

Introduction

The Grand Rapids-Muskegon-Holland metropolitan area delivers hard evidence of walkable urbanism's potential to succeed, even in an automobile-oriented metro environment with free-flowing traffic, abundant land, and no rail transit. Grand Rapids is a model not only for cities across Michigan, but also for much of the rest of the country, where similar conditions prevail.

The indications from the real estate data are clear: walkable urban properties are more desirable today. Average WalkUP office rents are 46 percent higher than in Edge Cities and the average apartment rental rate in WalkUPs is 39 percent higher than in Edge Cities. The premium for for-sale residential in WalkUPs is 77 percent over Edge Cities and 58 percent over Drivable Sub-divisions. Only WalkUP retail rents were slightly lower than in Edge Cities. It is worth noting, though, that these premiums reflect the difference between the weighted average rents of all seven established and emerging WalkUPs in the metro area, and the weighted average for all Edge Cities. In Downtown Grand Rapids alone, retail rents are higher than the Edge City average.

Walkable urbanism in the Grand Rapids metro area is gaining market share over the last three real estate cycles. In the 1992-2000 cycle, only four percent of new development was walkable urban. In the 2001-2008 cycle, it tripled to 13 percent. In the latest real estate cycle 31 percent of all income-property development in the metro region occurred in walkable urban places. In Downtown Grand Rapids, this is visible in the form of a variety of new lofts, apartments and office space. The trend shows no sign of abating. Several new projects, including a 20-story residential tower, a 12-story office building, and a new 160,000 square foot research center that is part of Michigan State University are planned.[24]

The shift towards walkable urban development is not only visible in Downtown Grand Rapids, however. One developer with experience in Downtown Grand Rapids is now working on several projects in Downtown Muskegon, including the redevelopment of an old office building into 48 market-rate apartments.[25] Downtown Holland is seeing a new 140-room Marriott Courtyard hotel under construction—a significant development for a city with a population of 33,000.

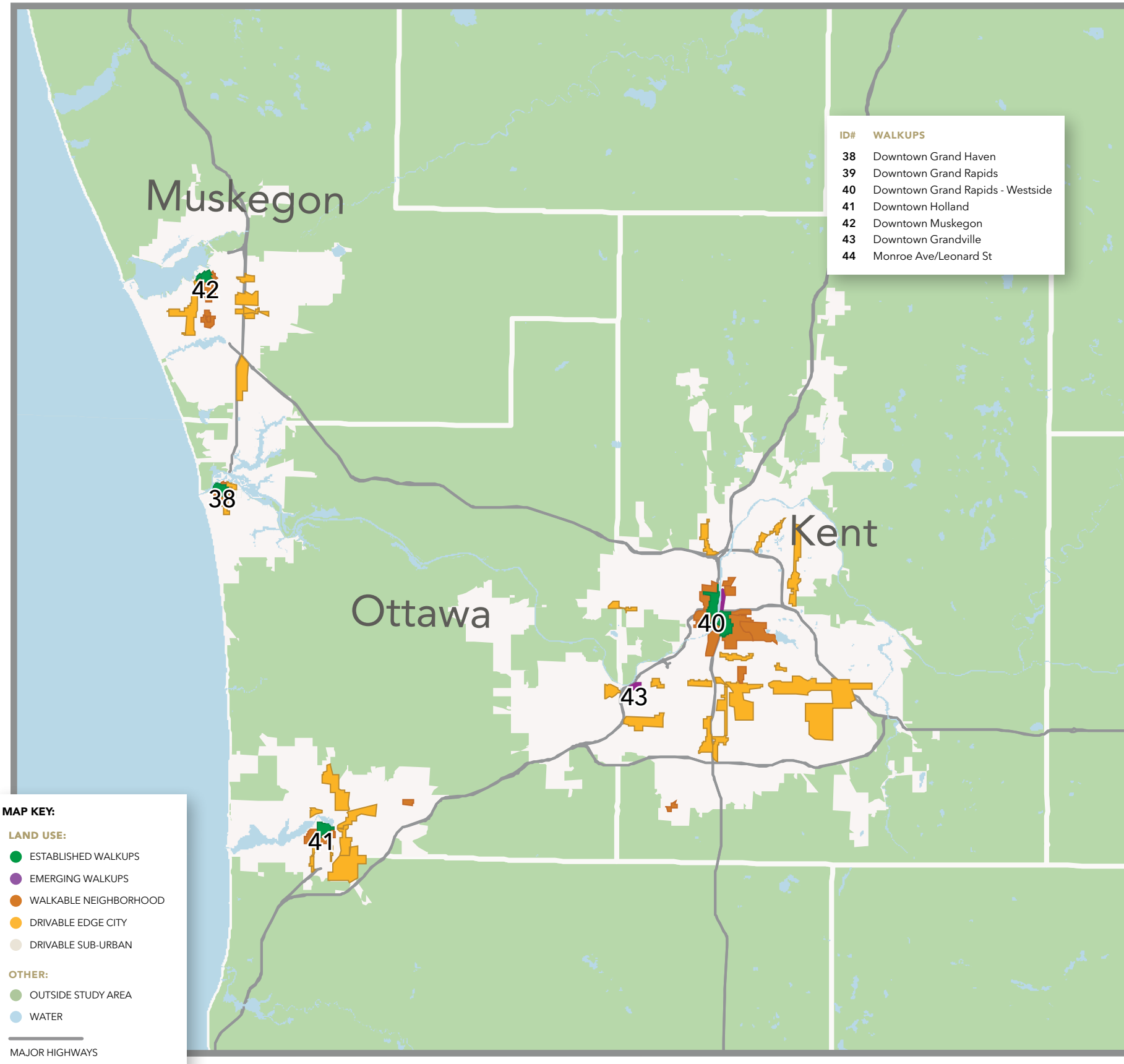
The remarkable activity in Downtown Grand Rapids is not an accident. It happened because of the commitment of both the public sector and the private sector, including several "anchor" institutions located Downtown. Brownfield incentives and other public investments were critical to the realization of many developments Downtown over the last several years.

The return on these investments is apparent not only in terms of rising property values and property taxes but also in the attraction and retention of young, educated people. In the context of a state which has experienced significant brain drain, the Grand Rapids-Muskegon-Holland metropolitan area has seen its population of people under the age of 35 with college degrees increase by 54 percent since 2005, as compared to only a 2.5 percent increase in the same population for the State of Michigan and an 18 percent increase for the entire United States.

Causation is difficult to prove, but research conducted by the National Association of Realtors, Richard Florida, and the Milken Institute, as well as our recent research shows that those with the most education are most likely to have a preference for living in walkable places.

In the context of a state which has experienced significant brain drain, the Grand Rapids-Muskegon-Holland metropolitan area has seen its population of people under the age of 35 with college degrees increase by 54 percent since 2005, as compared to only a 2.5 percent increase in the same population for the State of Michigan.

The improvements in walkable urbanism in the Grand Rapids metro have most likely played a role in the success of attracting young, educated people.

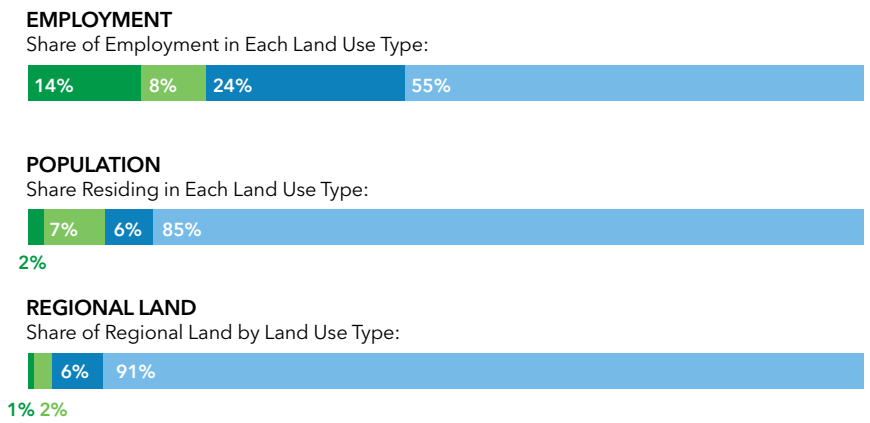

Muskegon
Ottawa
Kent
42
38
40
43
41
ID# WALKUPS
38 Downtown Grand Haven
39 Downtown Grand Rapids
40 Downtown Grand Rapids - Westside
41 Downtown Holland
42 Downtown Muskegon
43 Downtown Grandville
44 Monroe Ave/Leonard St
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
OTHER:
OUTSIDE STUDY AREA
WATER
MAJOR HIGHWAYS

Grand Rapids-Muskegon-Holland Geographic Findings

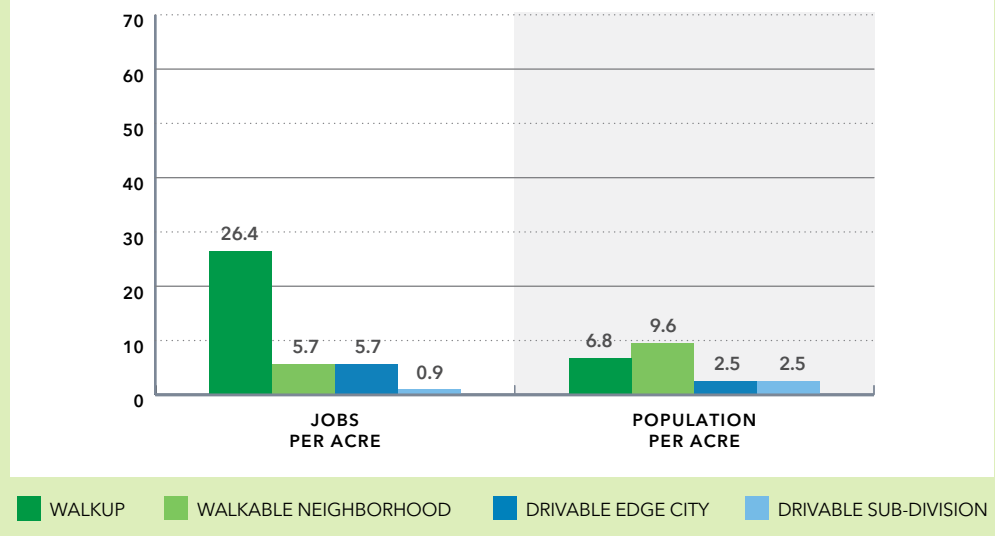
We divided the entire Grand Rapids-Muskegon-Holland metro land use into the four major categories described on page 18 of this report. This section presents key statistics related to the breakdown of land, population, and employment among these areas.

- **There are seven WalkUPs in the Grand Rapids-Muskegon-Holland metro area.** The five established WalkUPs are: Downtown Grand Rapids, Downtown Grand Rapids - Westside, Downtown Muskegon, Downtown Holland, and Downtown Grand Haven. Downtown Grandville and Monroe Ave./Leonard St. are both emerging WalkUPs. The average size of all WalkUPs in the Grand-Rapids-Muskegon-Holland metro area is 326 acres. Together they make up 0.8 percent of the metro area's urbanized land. Walkable Neighborhoods account for an additional 2.1 percent of the urbanized land.
- **These WalkUPs have 13.5 percent of the metro area's employment and 1.9 percent of the population.**
- **WalkUPs in this metro area have more than four times the job density as Edge Cities while Walkable Neighborhoods have nearly six times the job density of Drivable Sub-divisions.** WalkUPs have over twice the population density of Edge Cities while Walkable Neighborhoods have nearly four times the population density of Drivable Sub-divisions.
- **In the Grand Rapids-Muskegon-Holland metro region, a greater percentage of people walk or use a non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities and Drivable Sub-divisions.** Twenty-four percent of WalkUP residents either walk, cycle, or use transit to get to work. In Walkable Neighborhoods, this share is 14 percent and in both Edge Cities and Drivable Sub-divisions, it is four percent.

Key Metrics by Land Use



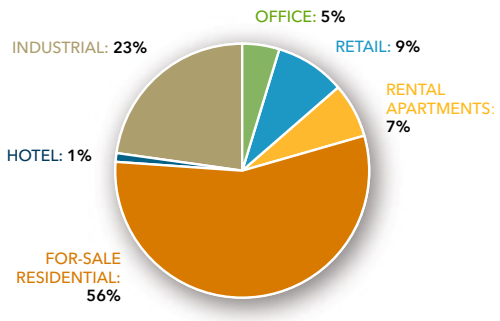
Population & Employment Density



Grand Rapids-Muskegon-Holland
Product Findings

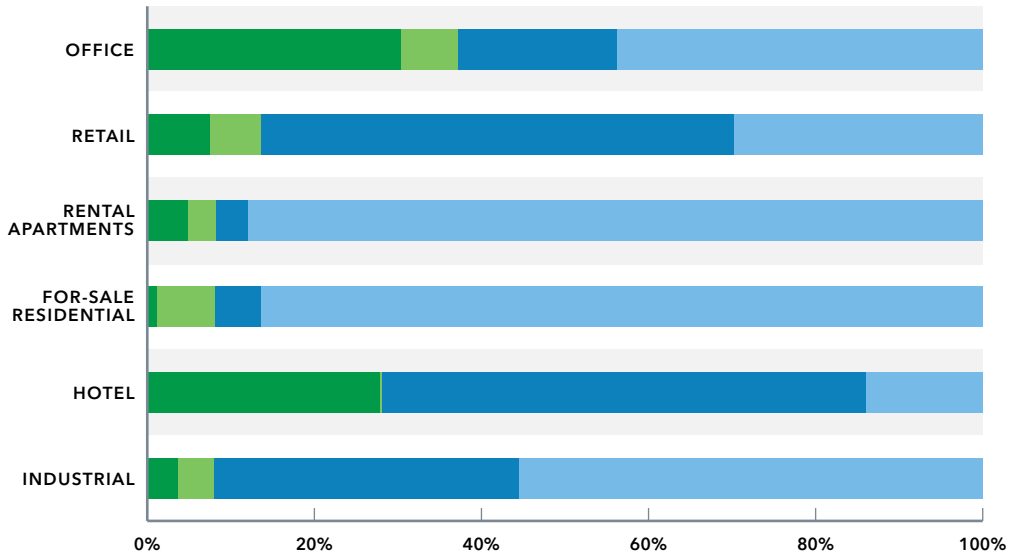
- **There is an estimated 728 million square feet of real estate in the Grand Rapids-Muskegon-Holland metro region, not including owner-user space, such as hospitals, universities, and government buildings.** Fifty-six percent of the space is for-sale residential, although at least 10 percentage points of this share is actually renter-occupied.[26] To our knowledge, this is the first time such an inventory has been made.

Breakdown of Total Regional Square Footage by Product Type

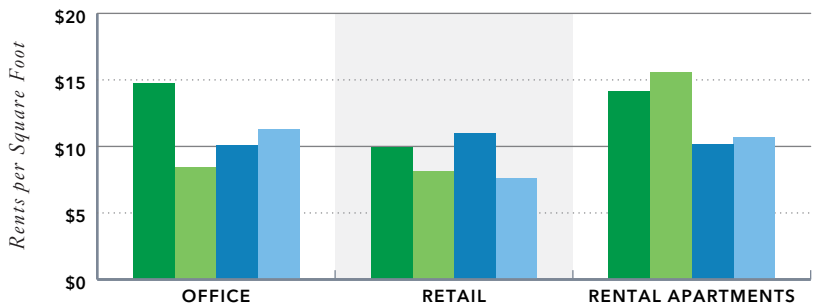


- **WalkUPs account for 6.5 percent of the total estimated square footage in the Grand Rapids-Muskegon-Holland metro region.** Office and hotel have the highest walkable urban square footage: Thirty percent of the office inventory and 28 percent of the region's hotel inventory are located in WalkUPs.

Estimated Distribution of Regional Square Footage Across Land Use Categories



Average Annual Rents by Land Use Category



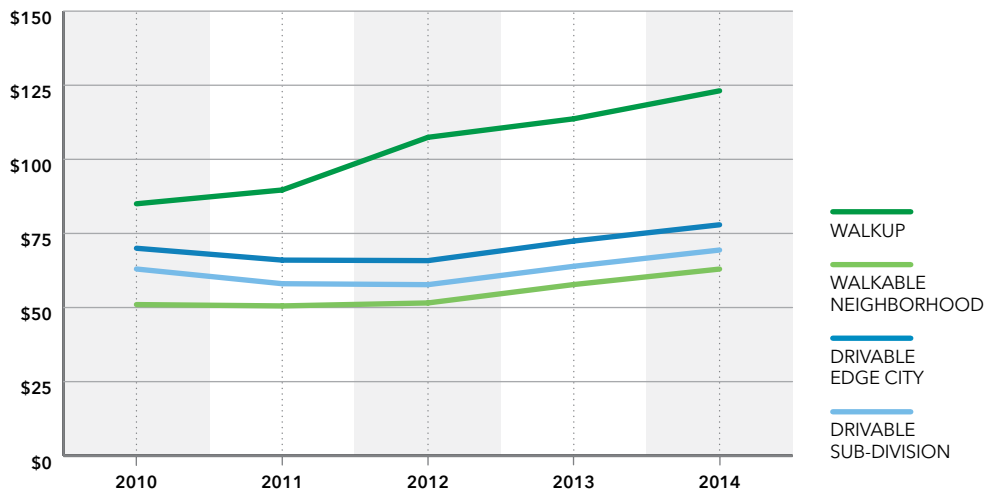
- **An estimated 8.2 percent of the metro area's total housing stock is located in a WalkUP or Walkable Neighborhood.**
- **WalkUPs have an average gross floor-area-ratio (FAR) of 0.32 in Grand Rapids versus 0.16 for both Walkable Neighborhoods and Edge Cities, and 0.05 for Drivable Sub-divisions.** This means that WalkUPs are twice as dense as Edge Cities while Walkable Neighborhoods are nearly four times as dense as Drivable Sub-divisions in the Grand Rapids metro area.
- **WalkUPs command the highest rents for office and multifamily apartments but are somewhat lower than Edge Cities, on average, for retail.** Compared to Edge Cities, average WalkUP rents differ by the following percentages:

OFFICE	+46%
RETAIL	–9%
RENTAL APARTMENTS:	+39%

- **Average for-sale residential prices per square foot are 58 percent higher in WalkUPs than in Drivable Sub-divisions.** This premium has increased from 22 percent in 2010. Prices in Walkable Neighborhoods, however, still lag those of all other categories.
- **Walkable urbanism's share of new income property development is clearly trending upwards.** From 1992-2000, only four percent of new development occurred in WalkUPs or Walkable Neighborhoods. In the latest cycle, 31 percent of all new income property development in the region occurred on just 2.9 percent of the metropolitan land.

Average Home Sale Price:

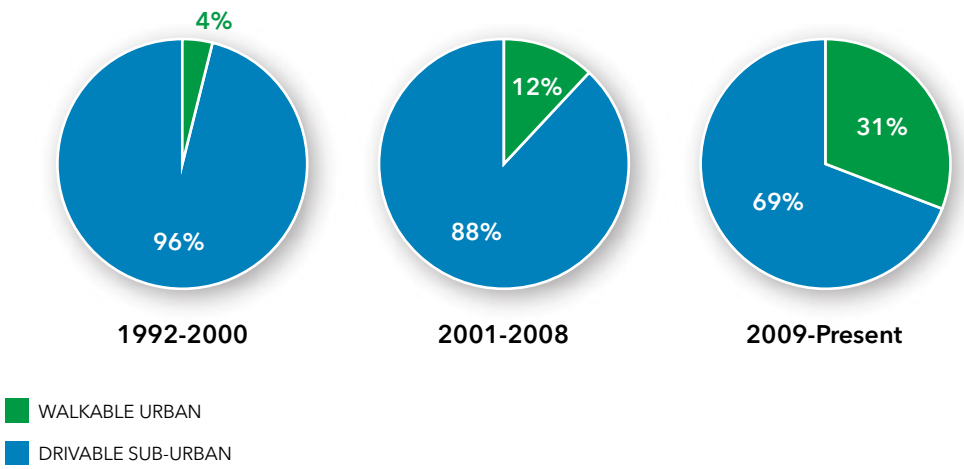
(Price per Square Foot)



Last Three Real Estate Cycles:

Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments




FLINT
FLINT
VEHICLE CITY

Flint Introduction

The economic troubles of Flint are well known. Its economy was highly dependent on employment by General Motors, and when several of its area plants closed in the 1980s, the entire area suffered severely. This compounded the problems of the City of Flint, which like many cities around the country had experienced white flight and disinvestment even before the plant closures.

The entire metropolitan area is still struggling to reposition itself in a changed economy. Since 2000 alone, the population of Genesee County, which is also the Flint MSA, has fallen five percent.

As a consequence, little new real estate development has happened that has not been the beneficiary of some government or foundation assistance, particularly within the city. The lack of growth and development makes it difficult to speak of trends one way or the other relating to walkable urbanism.

That said, the hard work of local foundations, governments, the Genesee County Land Bank, and the Downtown Development Authority, is clearly having an impact on Downtown Flint, the only WalkUP identified in the metro area. Several buildings downtown, such as the Durant Hotel, have been renovated, and a local development firm has successfully converted a variety of buildings into modern lofts for rent. These units have seen very strong demand.[27]

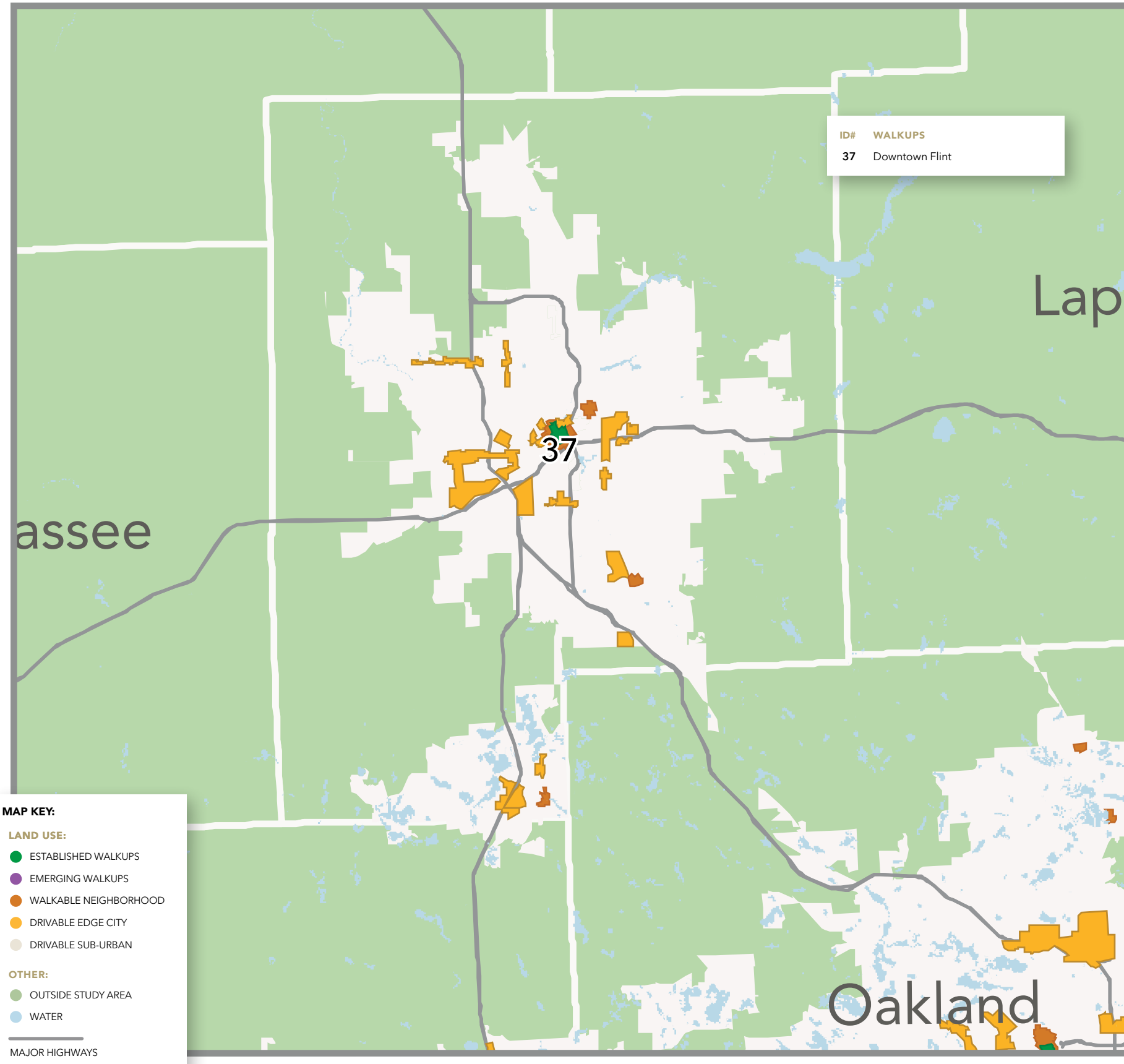
In addition, Michigan State University and the University of Michigan have now established satellite campus facilities in Downtown. The Flint Farmers Market also recently moved to a Downtown location. These are all positive developments that may eventually spark the virtuous cycle on which WalkUPs thrive. When people visit Downtown and see its activity and amenities, some may decide to live there or bring their own businesses, generating even more demand.

The hard work of local foundations, governments, the Genesee County Land Bank, and the Downtown Development Authority is clearly having an impact on Downtown Flint. Several buildings downtown, such as the Durant Hotel, have been renovated, and a variety of buildings converted into modern lofts for rent have seen strong demand.

Although the improvements Downtown are quite tangible, they are not yet consistently reflected in real estate rents. Downtown retail rents are 43 percent higher than in Edge Cities, but average Downtown office rents are still lower than in the drivable portions of the metro area. There were not enough sales to make any judgment about for-sale residential values. Office rents may begin to increase, however, because Downtown has captured 60 percent of the net office absorption in the metro area since 2008, and now has a vacancy rate of four percent—well below the regional average. Downtown apartment rents are about the same as those in Edge Cities, where the majority of Flint's multifamily apartments are located. The reader should be warned, however, that these rents are based on CoStar's tracking of asking rents in buildings with available space. It is a limited sample that does not reflect existing leases and the margin for error can be high, particularly in smaller metro areas. Nonetheless, it is the best data available.

Finally it is worth noting that, as a region, Flint may have the potential for more WalkUPs. Even compared to the other Michigan Metros, the quantity of land and housing that is walkable, is low. Downtown, the only WalkUP, constitutes only 0.2 percent of the land area in metro Flint, and Walkable Neighborhoods only make up 0.5 percent. The total amount of the metro area's housing stock in either WalkUPs or Walkable Neighborhoods is only 0.33 percent, meaning that housing options for those who want to live in a walkable place are incredibly limited.

Even in the context of a declining population, there is likely unmet demand for walkability that developers could fill. They may well need help, however, because current rents and prices may not support the economics of new development. And other cost factors, like the high cost of water in the City of Flint, may deter potential residents and businesses.[28]

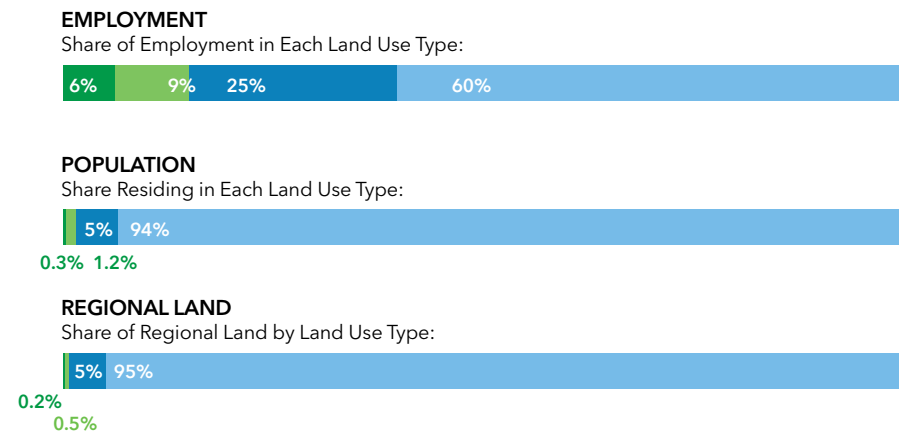

ID# WALKUPS
37 Downtown Flint
37
Lap
assee
Oakland
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
OTHER:
OUTSIDE STUDY AREA
WATER
MAJOR HIGHWAYS

Flint Geographic Findings

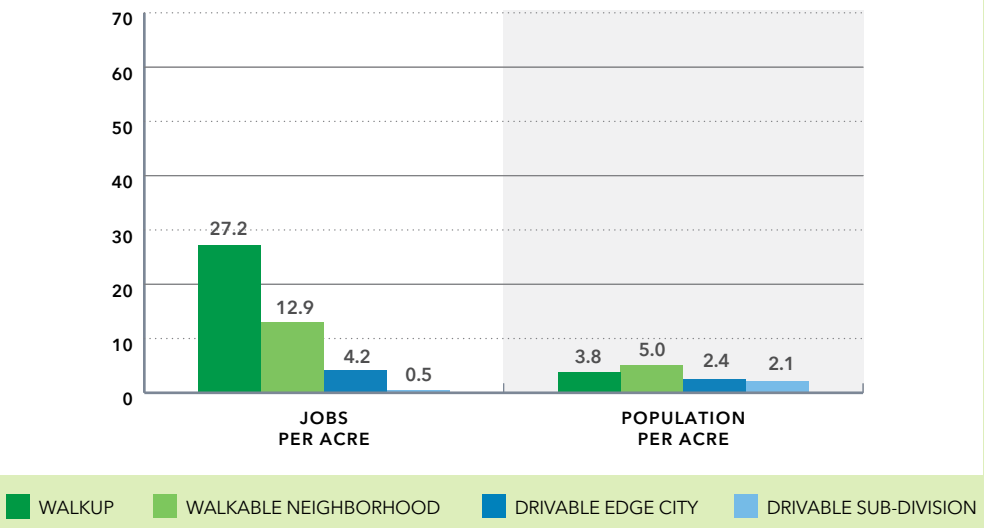
The research team divided the entire Flint metro region into the four major categories described on page 18 of this report. This section presents key statistics related to the breakdown of land, population, and employment among these areas.

- **Downtown Flint is the only WalkUP in the Flint metro area.** Its 263 acres constitutes 0.2 percent of the metro area's urbanized land. Walkable Neighborhoods account for an additional 0.5 percent.
- **Six percent of Flint's employment is located in its Downtown, but very little population or housing is found in either its WalkUP or Walkable Neighborhoods.**
- **Downtown Flint has the highest employment density.** It has seven times the number of jobs per acre as the average for Edge Cities and 1.6 times as many residents per acre. Walkable Neighborhoods have 27 times as many jobs per acre as Drivable Sub-divisions and over twice as many residents per acre. In Flint, Walkable Neighborhoods have the highest population density.
- **In the Flint metro region, a greater percentage of people walk or use another non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities and Drivable Sub-divisions.** Thirteen percent of WalkUP residents either walk, cycle, or use transit to get to work. In Walkable Neighborhoods, this share is 11 percent, in Edge Cities, seven percent, and in Drivable Sub-divisions, three percent.

Key Metrics by Land Use



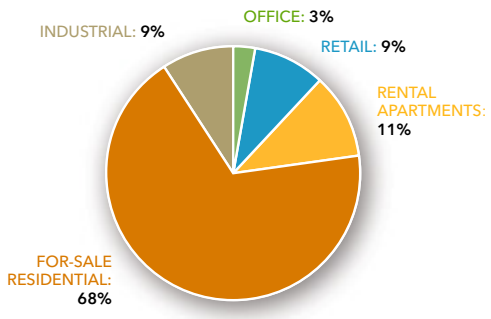
Population & Employment Density



Flint Product Findings

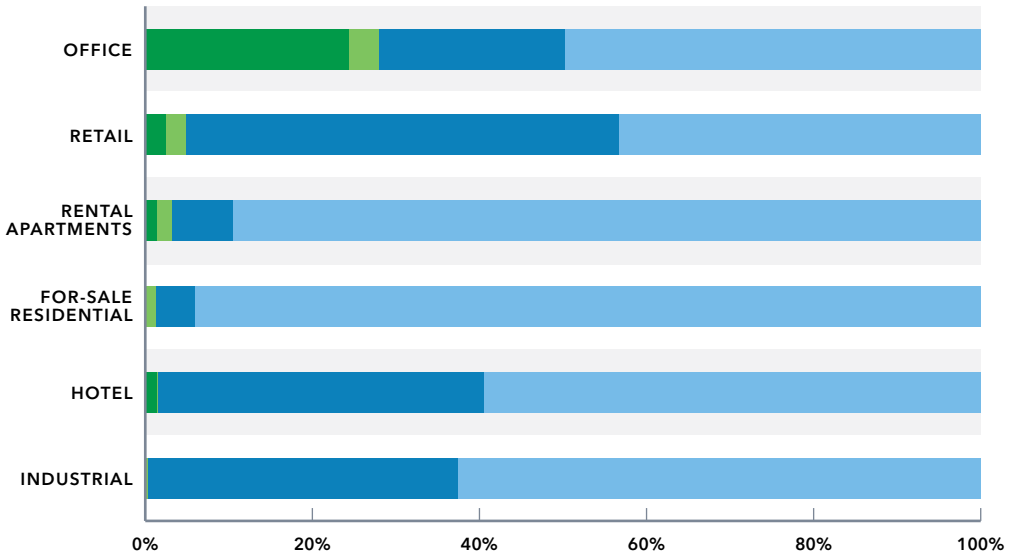
- **There is an estimated 266 million square feet of real estate in the Flint metro region, not including owner-user space, such as hospitals, universities, and government buildings.** Sixty-eight percent of the space is for-sale residential, although at least 14 percentage points of this share are actually occupied by renters.[29]

Breakdown of Total Regional Square Footage by Product Type

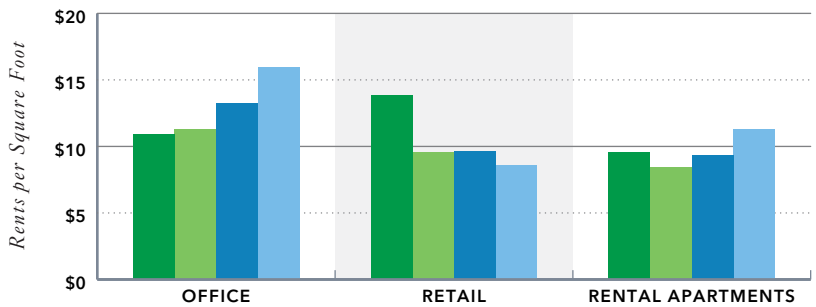


- **Flint's WalkUP accounts for 1.3 percent of the total estimated square footage in the Flint metro region.** Office has the highest WalkUP square footage. Twenty-four percent of the region's office inventory is located in WalkUPs.

Estimated Distribution of Regional Square Footage Across Land Use Categories



Average Annual Rents by Land Use Category



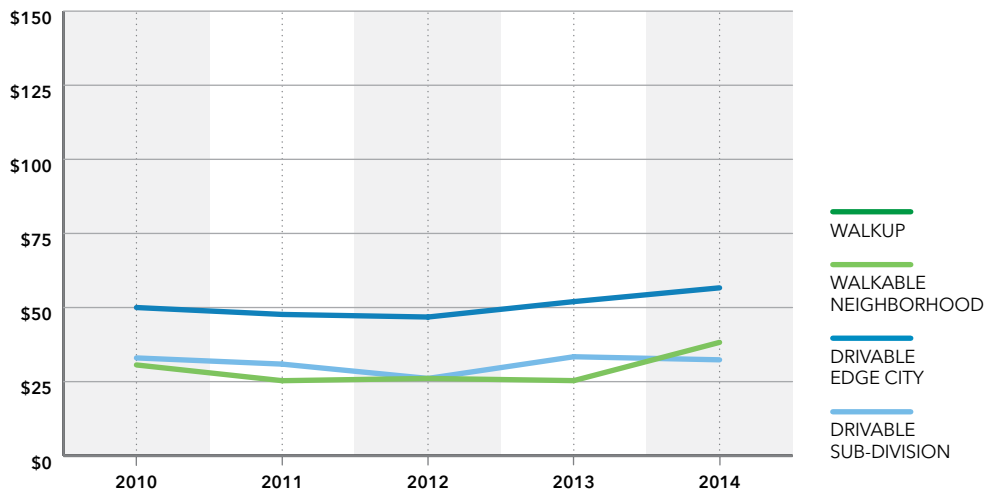
- **Only 1.5 percent of the Flint metro area's total housing stock is located in a WalkUP or Walkable Neighborhood.**
- **Downtown Flint has an average gross floor-area-ratio (FAR) of 0.27 as compared to 0.11 for Edge Cities, 0.10 for Walkable Neighborhoods, and 0.04 for Drivable Sub-divisions.** On average, Downtown is more than twice as dense as Edge Cities, and Walkable Neighborhoods are more than twice as dense as Drivable Sub-divisions.[30]
- **In the Flint metro area, average retail and rental apartment rents are higher in WalkUps than in Edge Cities.** However, rental apartments actually rent for even higher amounts in Drivable Sub-divisions. In addition, office rents in Downtown are actually lower than in all other categories. The following percentages describe how average WalkUP rents differ from Edge City rents:

  OFFICE . . . . . -18%
  RETAIL . . . . . +43%
  RENTAL APARTMENTS: . . . . . +3%

- **No data was available on home prices in Downtown Flint, which is a function of the low for-sale residential supply.** Of the remaining major land-use categories, Drivable Sub-divisions had the highest average prices per square foot.
- **The vast majority of new income property development in the Flint metro area still occurs in a drivable sub-urban format, and based on the percentage of new square footage alone, no trend in favor of WalkUPs is apparent.** This statement has to be qualified, however, by the fact that very little new development has occurred in the current cycle throughout the metro area.

Average Home Sale Price:

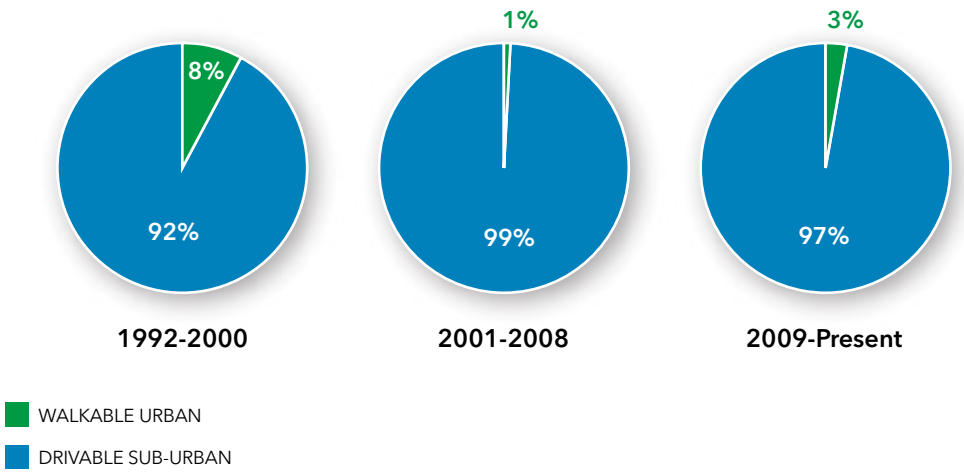
(Price per Square Foot)



Last Three Real Estate Cycles:

Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments




LANSING

Lansing Introduction

The Lansing-East Lansing metropolitan area may be near an inflection point. After decades of predominantly drivable sub-urban development, the pent-up demand for WalkUPs is becoming evident. Compared to Edge Cities, average WalkUP office rents are 26 percent higher, retail rents are 12 percent higher, and multifamily apartment rents are 27 percent higher. In addition, the vacancy rates for office, retail, and rental apartments are lower in WalkUPs.

ed developments, complete with a more walkable street network, arrayed along a bus-rapid transit line that would connect four of Lansing's five established WalkUPs: Downtown Lansing, Michigan Avenue/ Sparrow, MSU's North Campus, and Downtown East Lansing.

The Capital Corridor Plan also would connect Meridian Mall in Meridian Township to the WalkUPs. This might eventually spur a redevelopment of the mall's surroundings, a trend that has occurred in many other metropolitan areas throughout the country. Just before the plan was released, two new mixed use buildings across from the west end of Michigan State University on Michigan Avenue were constructed, along with the Midtown mixed use project with 66 units, one-third of a mile west of campus, by the Gillespie Group. Since the plan came out in 2014, a target market analysis of the corridor was completed and a total of 891 units in 10 projects have been proposed or have started construction.[31]

In most cases, changes in the built environment happens slowly, but as we have seen in certain neighborhoods in Boston and Washington, D.C., dramatic changes can occur within 10-15 years when the market concentrates its attention on a few places. The quantity of development proposed along the Capital Corridor in Lansing may presage just such a transformation.

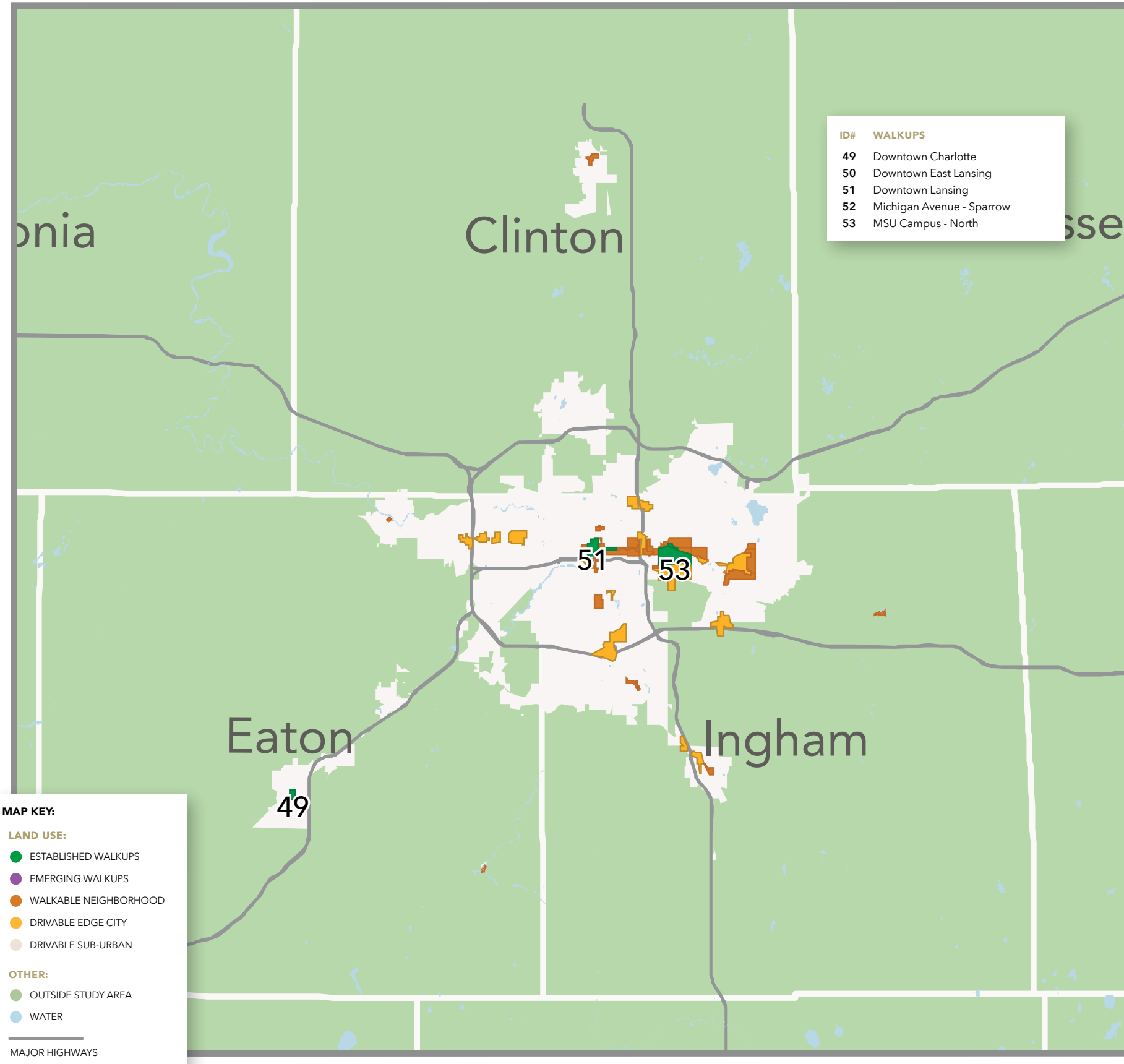
The renewed interest in WalkUPs is also evident in some recent development projects. In Downtown Lansing, the Eyde Company recently redeveloped the old Knapp's department store into a mixed-use building with office, retail, and apartments. The apartments rent for approximately $1.50 per square foot—61 percent higher than the regional average. There also have been other conversions of older industrial buildings in Downtown Lansing into lofts, such as the Motor Wheel Lofts, and several new apartment buildings, both in and around the Downtown Lansing and East Lansing WalkUPs.

These projects have already begun to change the face of Lansing's WalkUPs. But a recently completed plan, known as the Capital Corridor Plan, could be transformative. It envisions a series of transit-orient-

Although not all of these developments are happening within the boundaries of the WalkUPs, most of them are occurring within two-to-three blocks of those boundaries, particularly Downtown East Lansing and MSU's North Campus. As this development is built out, the boundaries of the WalkUPs that we have defined may need to expand outward to reflect a new reality.

In most cases, changes in the built environment happen slowly, but as we have seen in certain neighborhoods in Boston and Washington, D.C., dramatic changes can occur within 10-15 years when the market concentrates its attention on a few places. The quantity of development proposed along this corridor in Lansing may presage just such a transformation.

This is both a tremendous opportunity and a challenge. Large amounts of new development concentrated in one corridor rightfully generates concerns over gentrification and displacement of low-income residents. Establishing plans in advance of this gentrification to preserve affordable housing is critical.


Clinton
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ID# WALKUPS
49 Downtown Charlotte
50 Downtown East Lansing
51 Downtown Lansing
52 Michigan Avenue - Sparrow
53 MSU Campus - North
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
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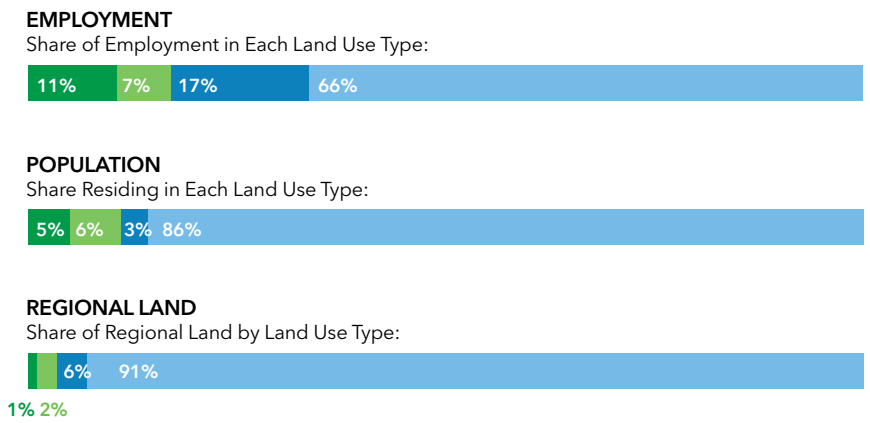
MAJOR HIGHWAYS

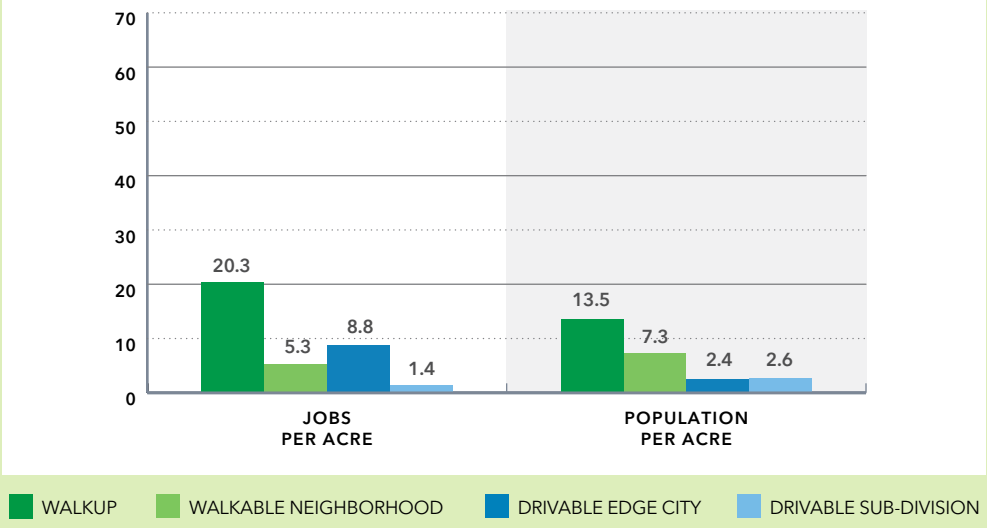
Lansing Geographic Findings

- **There are five established WalkUPs in the Lansing metropolitan area:** Downtown Lansing, Downtown East Lansing, Michigan Avenue/Sparrow, MSU-North Campus, and Downtown Charlotte. They average 230 acres in size.
- **The five WalkUPs comprise one percent of the metro area's urbanized land, which is comparable to larger metropolitan areas such as Atlanta, Boston, and Washington, D.C.** Walkable Neighborhoods comprise an additional 2.4 percent of metropolitan land use. As a point of comparison, Walkable Neighborhoods make up 4.4 percent of the land use in metro Boston.
- **Five percent of the Lansing metro area's population and 10.6 percent of its employment are located in WalkUPs.** Both measures are substantially less than Detroit-Ann Arbor, Boston, or Washington, D.C. However, 43 percent of the region's employment is within a half-mile of the four WalkUPs along the Michigan Ave./Grand River Ave. corridor between Downtown and East Lansing. That includes most of the state government employment in the region, as well as employment at Lansing Community College, Western Michigan's Cooley Law School, the Accident Fund Insurance Company of America, Blue Cross Blue Shield of Michigan, GM's Lansing Grand River Assembly plant, MSU, and Sparrow Health System. There also is considerable retail employment in the two Downtowns and at Frandor Shopping Center.
- **WalkUPs are the densest land use categories in metropolitan Lansing.** Compared to the other Michigan Metros, Lansing's WalkUPs have the highest population density of 13.5 persons per acre.
- **WalkUPs in this metro area have more than four times the job density as Edge Cities, while Walkable Neighborhoods have nearly six times the job density of Drivable Sub-divisions.** WalkUPs have almost twice the population density of Walkable Neighborhoods while Edge Cities and Drivable Subdivisions have roughly the same population density. WalkUPs have five times the population density of Edge City and Drivable Subdivisions.
- **In the Lansing-East Lansing metro region, a greater percentage (65 percent) of people walk, cycle, or use transit to get to work as compared to Walkable Neighborhoods, Edge Cities, and Drivable Sub-divisions.** In Walkable Neighborhoods, this share is 23 percent, in Edge Cities, 16 percent, and in Drivable Sub-divisions, three percent.

Key Metrics by Land Use



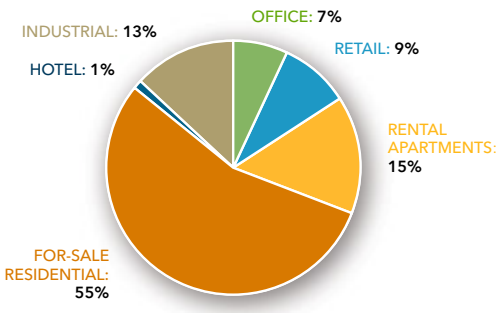
Population & Employment Density



Lansing Product Findings

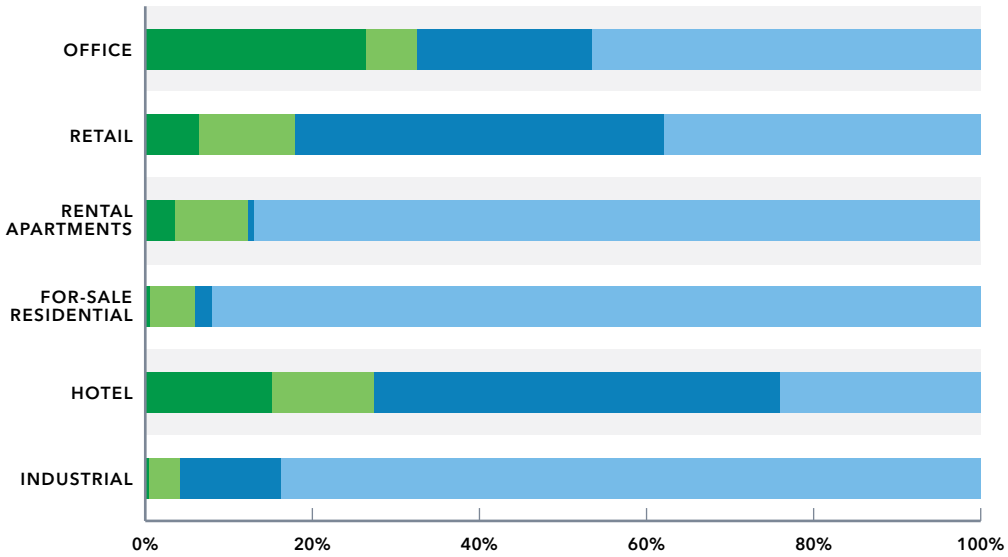
- **There is an estimated 274 million square feet of real estate in the Lansing metro region, not including owner-user space, such as hospitals, universities, and government buildings.** Fifty-five percent of the space is for-sale housing, although about 12 percentage points of this share is actually renter occupied.[32] To our knowledge, this is the first time such an inventory has been made.

Breakdown of Total Regional Square Footage by Product Type

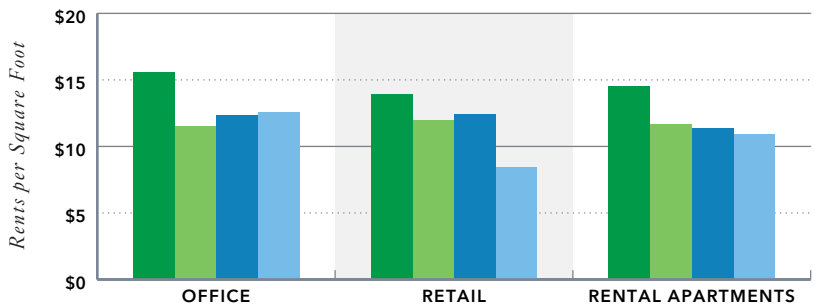


- **WalkUPs account for 3.4 percent of the total estimated square footage in the Lansing metro region.** Office and hotel have the highest walkable urban square footage: Twenty-six percent of the office inventory and 15 percent of the region's hotel inventory are located in WalkUPs.

Estimated Distribution of Regional Square Footage Across Land Use Categories



Average Annual Rents by Land Use Category



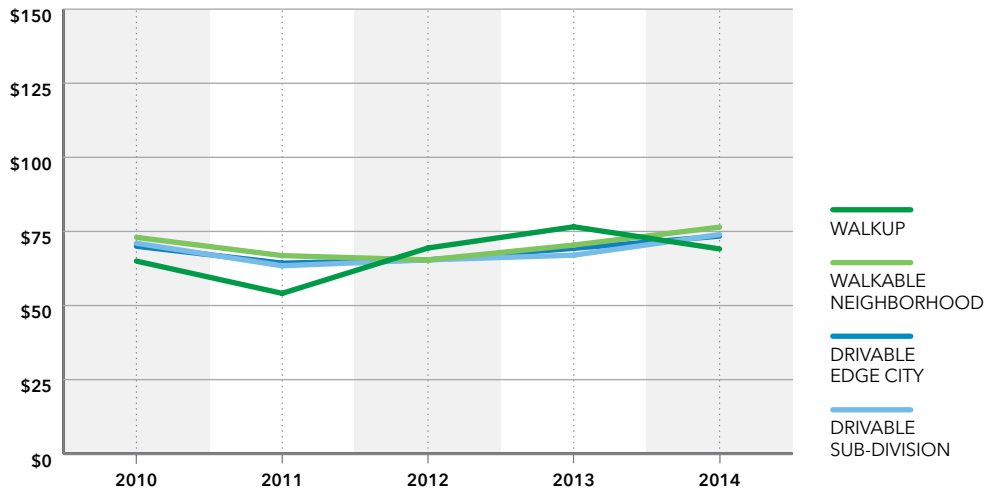
- **An estimated 7.4 percent of the metro area's total housing stock, including both for-sale and rental residential, is located in a WalkUP or Walkable Neighborhood.**
- **On average, Lansing's WalkUPs have a gross floor-area-ratio (FAR) of 0.43 compared to average FARs of 0.15 for its Walkable Neighborhoods, 0.13 for its Edge Cities and 0.05 for its Drivable Subdivisions.** This means that WalkUPs are over three times denser than Edge Cities while Walkable Neighborhoods are three times denser than Drivable Sub-divisions.[33]
- **WalkUPs command the highest rents for office, retail, and rental apartments in Lansing.** The average difference in rents between WalkUPs and Edge Cities for these product types is shown below:

  OFFICE . . . . . +26%
  RETAIL . . . . . +12%
  RENTAL APARTMENTS: . . . . . +27%

- **Average for-sale residential prices appear to be recovering in all of the land-use categories.** In 2014, the average home price in WalkUPs was actually somewhat less than in the other categories but this may be due to random variation. In 2013, average WalkUP prices were higher.
- **The majority of new income property development in the Lansing metro area still occurs in Edge Cities or Drivable Subdivisions, and the data does not suggest as clear a trend in favor of walkable urbanism as it does in Detroit-Ann Arbor or Grand Rapids.** Nonetheless, the most recent cycle shows a slight uptick in the share of development happening in WalkUPs or Walkable Neighborhoods. In addition, the total amount of new development in the latest cycle is much smaller than in previous cycles, which has been the case in all Michigan Metros and is part of the reason this recovery in general has been so weak. Only time will tell if this is the start of a new trend. But given the quantity of already proposed development in and around WalkUPs and Walkable Neighborhoods, we expect that data from the next cycle will indeed trend towards walkable urbanism.

Average Home Sale Price:

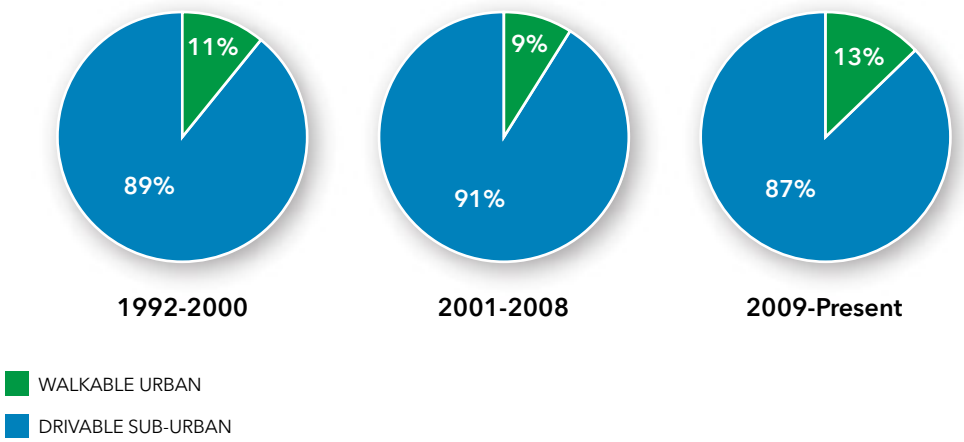
(Price per Square Foot)



Last Three Real Estate Cycles:

Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments



KALAMAZOO BATTLE CREEK

Kalamazoo-Battle Creeek Introduction

The Kalamazoo-Battle Creek metropolitan area is largely drivable sub-urban. In our analysis, 98.5 percent of the urbanized land is classified as an Edge City or a Drivable Sub-division. Of the 1.5 percent that is walkable, approximately half is located in the three WalkUPs: Downtown Kalamazoo, Downtown Battle Creek, and Western Michigan University, that together make up 890 acres. The remaining 0.8 percent falls into the Walkable Neighborhood category.

These statistics reflect the reality of development patterns in the late 20th century. Single-family home development spread across the countryside and new commercial development followed them. Downtown's historic role as the center of commerce slowly eroded. The effect on both Downtown Kalamazoo and Battle Creek were evident by the 1980s, despite the efforts of some early placemaking organizations, particularly in Downtown Kalamazoo.

This research indicates that the drivable sub-urban pattern of development remains the dominant force in Kalamazoo-Battle Creek but that the early signs of revitalization in each Downtown are apparent. In Downtown Kalamazoo, several former commercial buildings have been converted into apartments or condominiums and they have been quite successful. The Downtown Kalamazoo apartment vacancy rate is only two percent. Considering normal turnover, that is effectively full occupancy. In Downtown Battle Creek, a $23 million investment is planned to convert the Heritage Tower, one of Downtown's landmarks, into apartments. This would create only the second market-rate residential building Downtown, next to the Battle Creek Towers, which is already achieving rents that are 20 percent over Edge City rents.

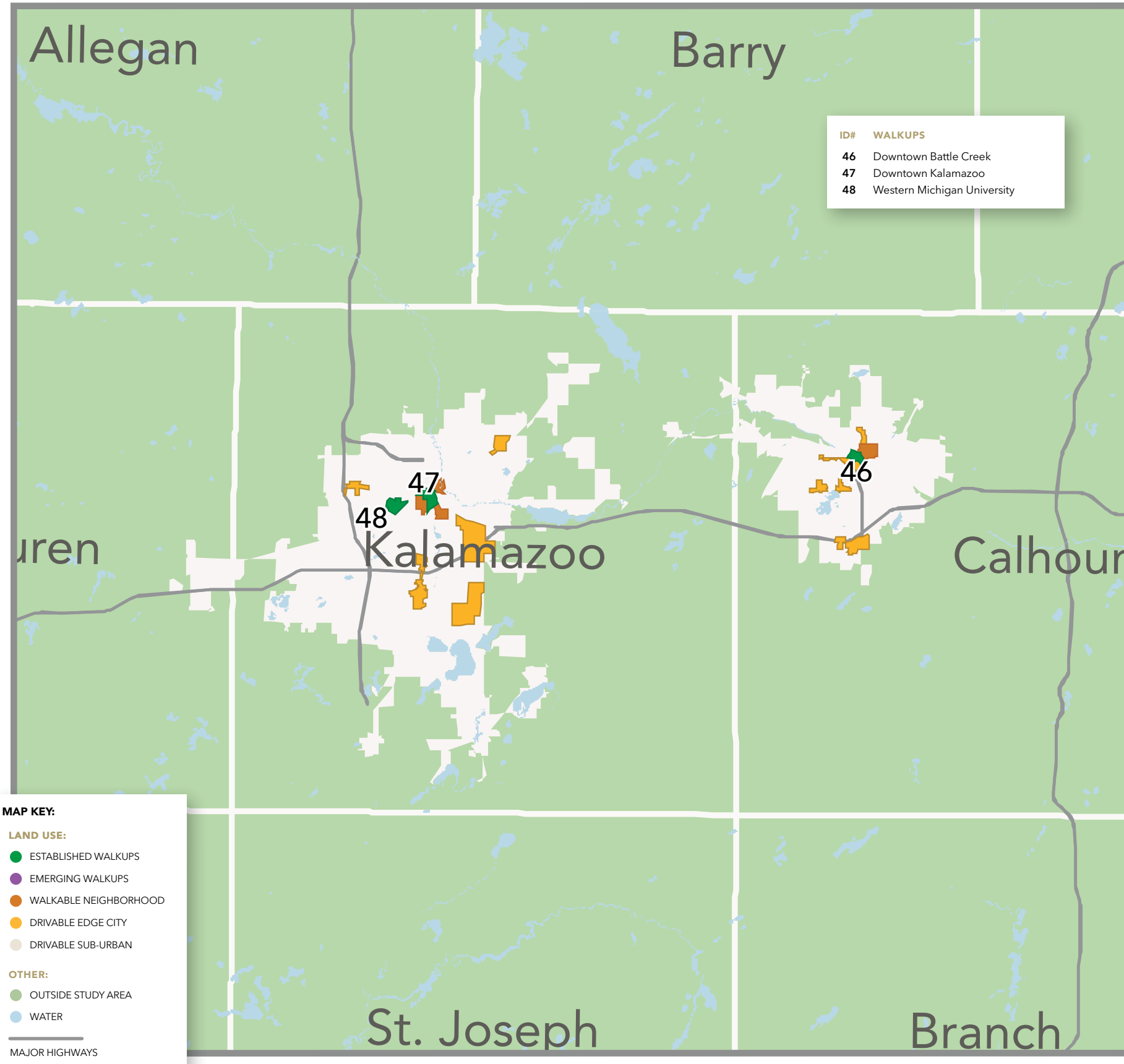
The office market is also quite healthy in the WalkUPs. Together, they account for 36 percent of the region's total office inventory. The average office vacancy rate in these WalkUPs is now only three percent, down considerably from 10 percent in 2008. That is especially remarkable given that the vacancy rate in Edge Cities remained steady at nine percent and the vacancy rate in Drivable Sub-divisions actually increased over the same period. Virtually all of the net office absorption in the entire region happened in the WalkUPs. Nonetheless, the average rents in WalkUPs are only on par with those of Edge Cities. No walkable premium is yet apparent, but if the absorption trends are any indication of demand, a WalkUP office rent premium is likely to emerge, encouraging new development.

For retail space, the data suggests that a premium has already emerged. The average rent per square foot for retail space in Downtown Kalamazoo and Battle Creek is 13 percent higher than in Edge Cities and 16 percent higher than in Drivable Sub-divisions. Moreover, the WalkUP retail vacancy rate has remained at a low level of five percent or less since 2008, outperforming Edge Cities, which returned to a five percent vacancy rate in 2014 after being as high as nine percent in 2008. One caveat, however, is that the retail rent averages do not control for retail product type.[34] In other words, the mix of retail that is prevalent in each type of location, e.g. Power Centers in Edge Cities and Drivable Sub-divisions, versus small boutique retail space in the Downtowns, may well be influencing the result. In addition, as mentioned before, all of the commercial rent data is based on asking rents for currently available space, not actual leases.

Finally, some institutional and anchor uses have recently moved to the Downtown Kalamazoo and Battle Creek WalkUPs or expanded their presence, which should provide a strong foundation for future growth. Western Michigan University recently opened a school of medicine that includes a large facility in Downtown Kalamazoo. And since 2009, Downtown Battle Creek has hosted the Global Food Protection Institute, a nonprofit that conducts training and research.

Despite the strong performance of the three WalkUPs in Kalamazoo-Battle Creek, they have seen only a small share of the region's new construction. In the latest cycle, only four percent of the new square footage delivered in the region was in WalkUPs, compared to eight percent in the previous cycle. This is likely a reflection of the fact that, even though rents are on par or higher than rents in drivable locations, they are still not high enough to support new construction, particularly of the type and quality needed in a Downtown environment. It is also a reflection that this real estate cycle locally and nationally has been unusually weak, under-performing previous cycles. Government assistance of some form is usually necessary to get new projects off the ground. But we recommend patient equity investment in new projects rather than a total reliance on subsidies to allow for future reinvestment if and when these projects begin to make a return on investment.

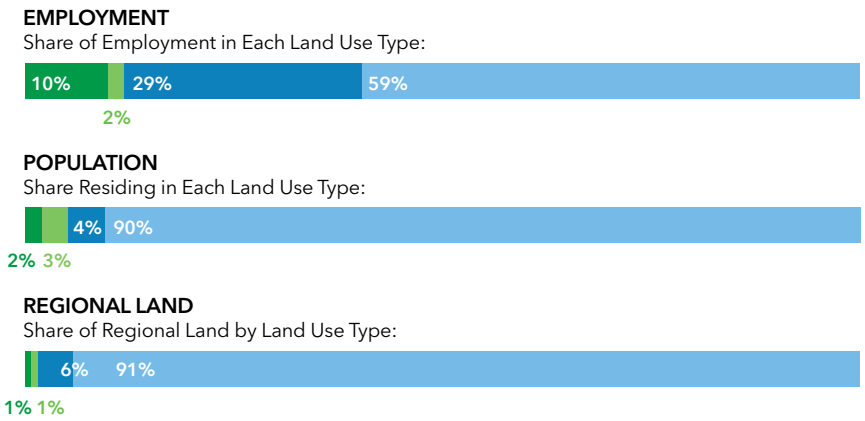
As the regional economy recovers from the recession, this situation may change. In Downtown Kalamazoo, a 34,000 square-foot, mixed-use project that will add 45 new apartment units is set to begin construction this summer and a planned 205,000 square-foot, mixed-use project may move forward.[35]


Allegan
Barry
Kalamazoo
Calhoun
St. Joseph
Branch
47
48
46
ID# WALKUPS
46 Downtown Battle Creek
47 Downtown Kalamazoo
48 Western Michigan University
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
OTHER:
OUTSIDE STUDY AREA
WATER
MAJOR HIGHWAYS

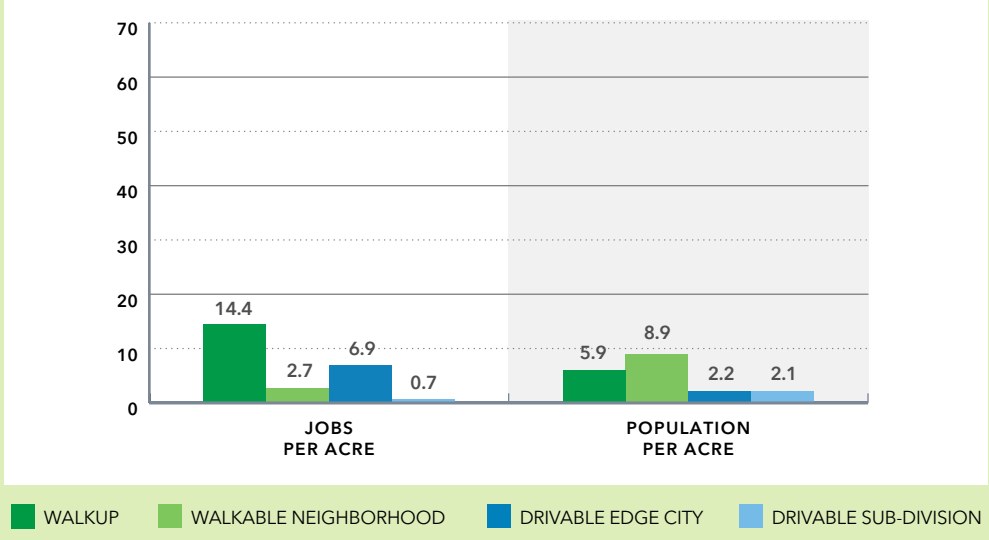
Kalamazoo-Battle Creeek Geographic Findings

- **There are three WalkUPs in the Kalamazoo-Battle Creek region:** Downtown Kalamazoo, Downtown Battle Creek, and the Western Michigan University campus. On average, they are 297 acres in size.
- **Almost 10 percent of Kalamazoo-Battle Creek's employment and 3.2 percent of its residents are located in WalkUPs, which together make up 0.7 percent of the metro area's land.** Walkable Neighborhoods account for an additional 0.8 percent of the urbanized land.
- **Kalamazoo-Battle Creek's three WalkUPs have the highest job density, but are surpassed by Walkable Neighborhoods in terms of population density.** WalkUPs have twice the job density as Edge Cities while Walkable Neighborhoods have nearly four times the job density of Drivable Sub-divisions. WalkUPs have over twice the population density of Edge Cities while Walkable Neighborhoods have over four times the population density of Drivable Sub-divisions.
- **In the Kalamazoo-Battle Creek metro region, a greater percentage of people walk or use another non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities and Drivable Sub-divisions.** Thirty-seven percent of WalkUP residents either walk, cycle, or use transit to get to work. In Walkable Neighborhoods, this share is 12 percent, in Edge Cities, four percent, and in Drivable Sub-divisions, two percent.

Key Metrics by Land Use



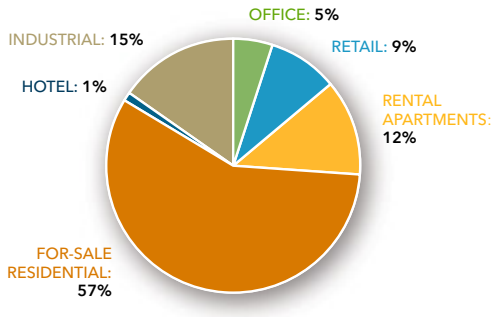
Population & Employment Density



Kalamazoo-Battle Creeek Product Findings

- **There is an estimated 225 million square feet of real estate in the Kalamazoo-Battle Creek metro region, not including owner-user space, such as hospitals, universities and government buildings** (of which there are many and they contain a large amount of space—they are not included because the CoStar data does not include them). Fifty-seven percent of the space is for-sale housing, although at least 11 percentage points of this share is actually occupied by renters.[36] To our knowledge, this is the first time such an inventory has been made.

Breakdown of Total Regional Square Footage by Product Type

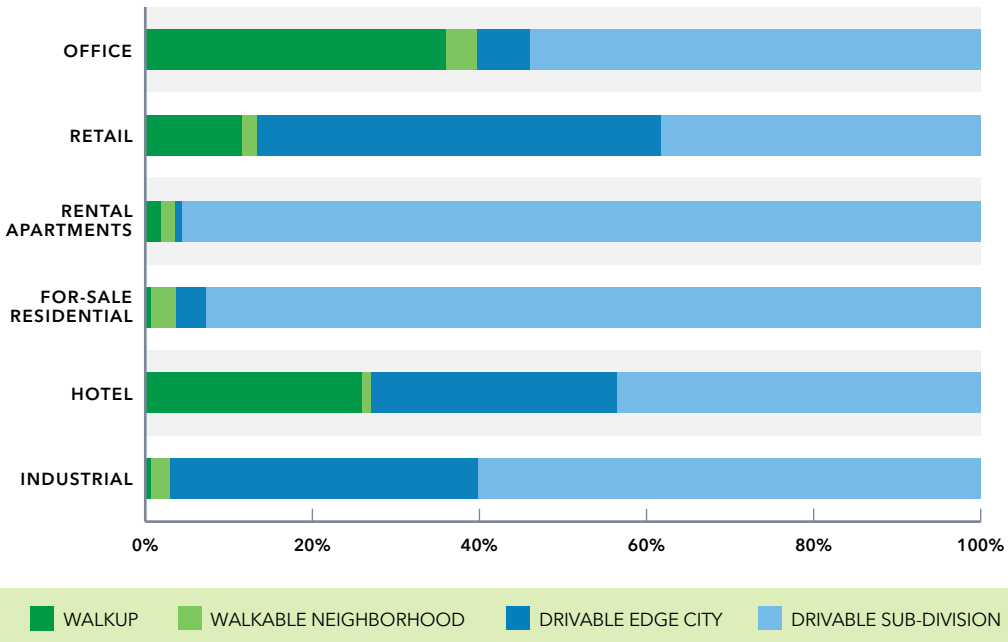


- **WalkUPs account for 6.5 percent of the total estimated square footage in the Kalamazoo-Battle Creek metro region.** Office and hotel have the highest walkable urban square footage: 36 percent of the office inventory and 26 percent of the region's hotel inventory are located in WalkUPs.

- **An estimated 3.6 percent of the metro area's total housing stock, including for-sale and rental residential, is located in a WalkUP or Walkable Neighborhood.**

- **WalkUPs have an average gross floor-area-ratio (FAR) of 0.52 in Kalamazoo-Battle Creek versus 0.14 for Walkable Neighborhoods, 0.13 for Edge Cities, and 0.04 for Drivable Sub-divisions.** This means that WalkUPs are four-times denser than Edge Cities while Walkable Neighborhoods are over three times denser than Drivable Sub-divisions, on average. [37]

Estimated Distribution of Regional Square Footage Across Land Use Categories

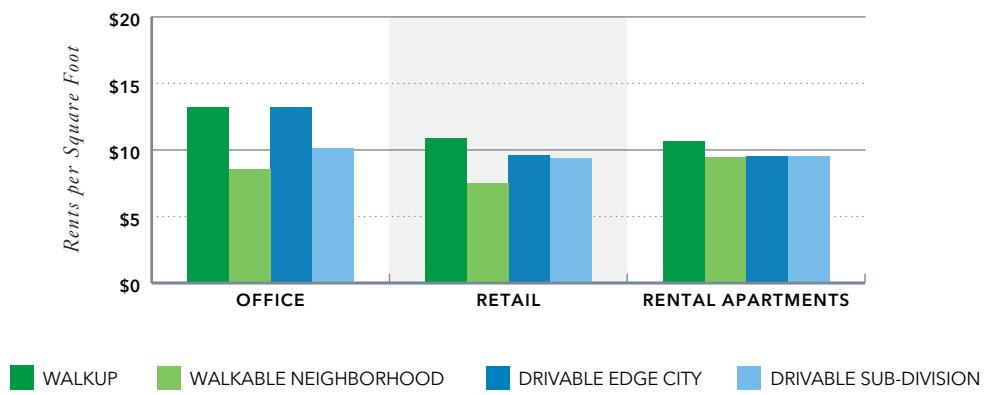


- **WalkUPs command the highest rents for retail and rental apartments, while office rents are on par with Edge Cities.** Compared to Edge Cities, average WalkUP rents are higher by the following percentages:

  OFFICE 0%
  RETAIL . . . . . +13%
  RENTAL APARTMENTS: . . . . . +12%

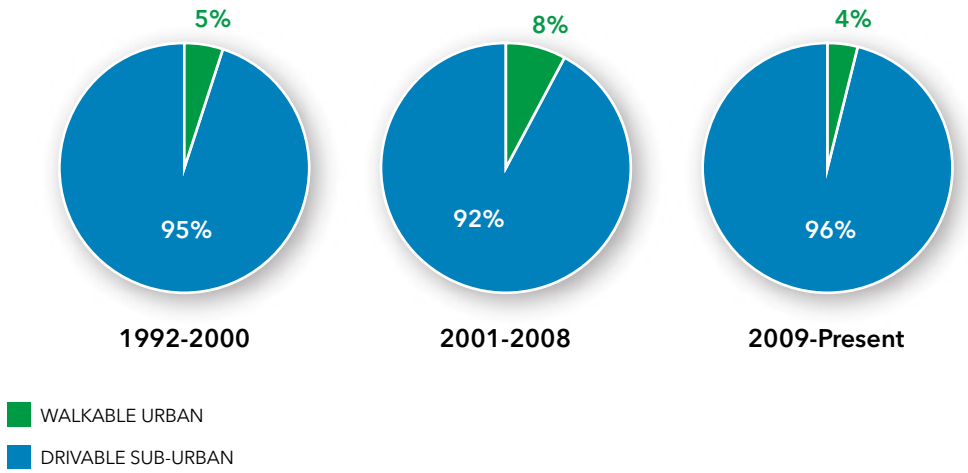
- **The vast majority of new income property development in the Kalamazoo-Battle Creek metro area still occurs in a drivable format, and based on the percentage of new square footage alone, no trend in favor of WalkUPs is apparent.** The total amount of new development in the latest cycle is much smaller than in previous cycles, which has been the case in all Michigan Metros and is part of the reason this recovery in general has been so weak.

Average Annual Rents by Land Use Category



Last Three Real Estate Cycles:
Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments



SAGINAW-BAY CITY-MIDLAND

Saginaw-Bay City-Midland
Introduction

The renaissance of walkable urban places in Saginaw-Bay City-Midland, is clearly underway. After decades of disinvestment, a number of new walkable urban development projects have recently been built in this region's established and emerging WalkUPs.

In Downtown Midland, an emerging WalkUP, a 225,000 square-foot, mixed-use development called East End was completed in 2013[38] and is 95 percent leased. Another project that will add 84,000 square feet of retail and residential uses was announced in 2014.

In Downtown Bay City, the only established WalkUP in the region, a local developer redeveloped a vacant building into 24 new residential units and commercial space, known as the Mills End Lofts. The building is fully occupied and, echoing similar experiences in Kalamazoo and Flint, there is now a waiting list to rent these apartments. Following this success, discussions are underway about renovating another Downtown building and converting it to residential space.[39]

Finally, in Downtown Saginaw, an emerging WalkUP, a developer renovated and converted the historic Bancroft and Eddy Buildings into 150 apartments. After opening in October 2014, these apartments have been leasing at a healthy pace of 10 units per month, demonstrating that there is demand for sizable projects in small downtowns, even in the context of a slow-growing region.

These signs of revitalization in the region's WalkUPs are also present in the data, though not consistently across all product types. Retail rents are 35 percent higher in WalkUPs than in Edge Cities and rental apartments command 17 percent higher rents per square foot than in Edge Cities. However, office rents are actually 22 percent lower in WalkUPs than in Edge Cities. The most striking statistic is regarding the price of for-sale residential properties. Based on an analysis of residential sales data provided by Corelogic, we estimate that home prices, on a per square foot basis, are now 105 percent higher in WalkUPs than in Drivable Sub-divisions—more than double the price per square foot. As of 2010, the gap was only 20 percent. Note, however, that because there is so little for-sale residential inventory in WalkUPs, the average price per square foot may be influenced by a small number of sales, and is therefore subject to more fluctuation than the other categories.

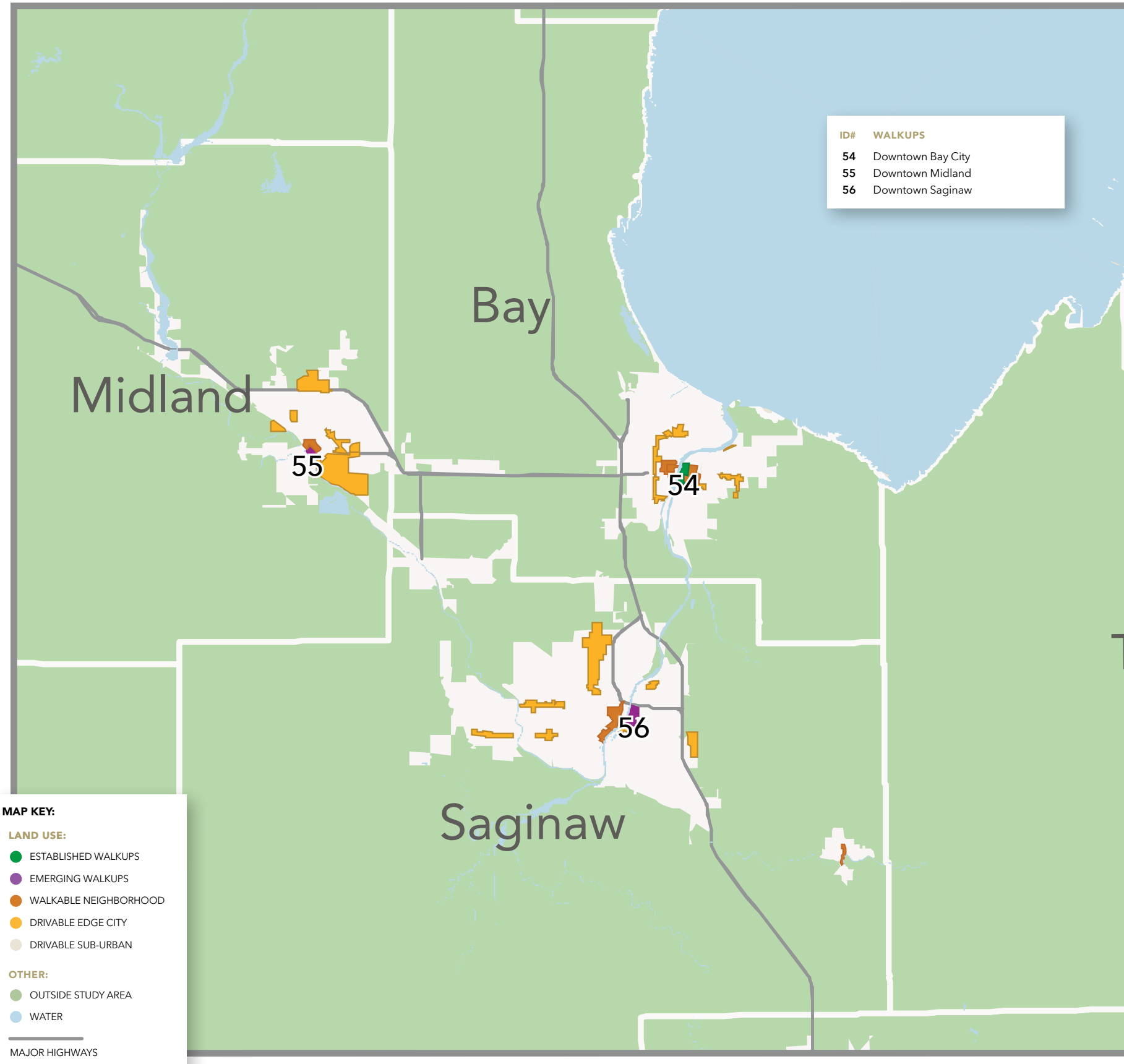
Still, the WalkUPs of Saginaw-Bay City-Midland have much further to go until critical mass is reached. On average, the two emerging WalkUPs of Downtown Midland and Downtown Saginaw, and the established WalkUP of Downtown Bay City, have a gross FAR of 0.137. This is the lowest average WalkUP floor-area-ratio (FAR) of all the Michigan Metros, and is actually lower than the average FAR for Edge Cities in Grand Rapids. In addition, the average Walk Score of both Downtown Midland and Downtown Saginaw is just 61, well below the threshold of 70.5 for established WalkUPs. Even Downtown Bay City, the only established WalkUP in the metro area, just meets the threshold with an average Walk Score of 73.*

These positive signs are encouraging for walkable urban development. They illustrate not only the relevance of what appears to be a larger trend in favor of walkable development in smaller cities and metro areas like Saginaw-Bay City-Midland, but also the potential of judicious government assistance.

These positive signs are encouraging for walkable urban development. They illustrate not only the relevance of what appears to be a larger trend in favor of walkable development in smaller cities and metro areas like Saginaw-Bay City-Midland, but also the potential of judicious government assistance. Both the Mills End Lofts and the Bancroft Apartment developments received financial assistance from the Michigan Economic Development Corporation (MEDC). These successful projects have proven that there is demand for walkable urbanism and add vital activity to these WalkUPs, bringing them closer to "critical mass." Critical mass is achieved when retail, residential and office development occurs without public financial assistance.

These statistics indicate that more development and placemaking is needed to truly generate the activity and vitality of successful WalkUPs. There needs to be more "there, there."

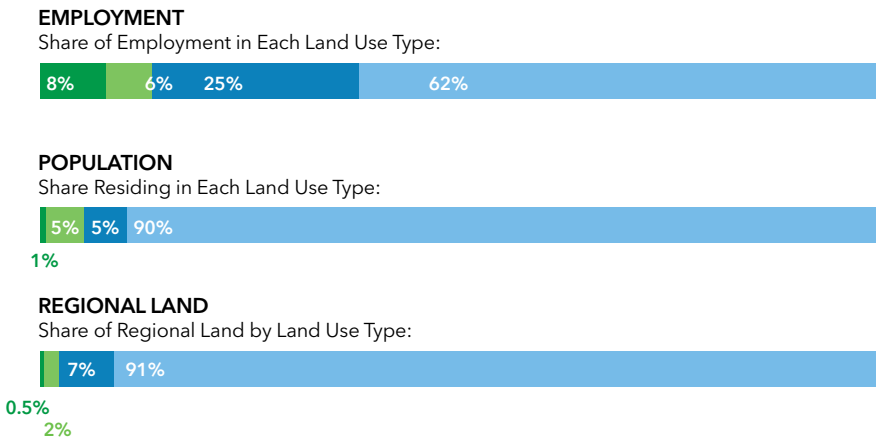
**Note that there are points within each of the Downtowns that may be higher than 70.5, however, this analysis is based on the average score across the entire District. See the Methodology section for details on how this was calculated.*


ID# WALKUPS
54 Downtown Bay City
55 Downtown Midland
56 Downtown Saginaw
Midland
Bay
Saginaw
55
54
56
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
OTHER:
OUTSIDE STUDY AREA
WATER
MAJOR HIGHWAYS

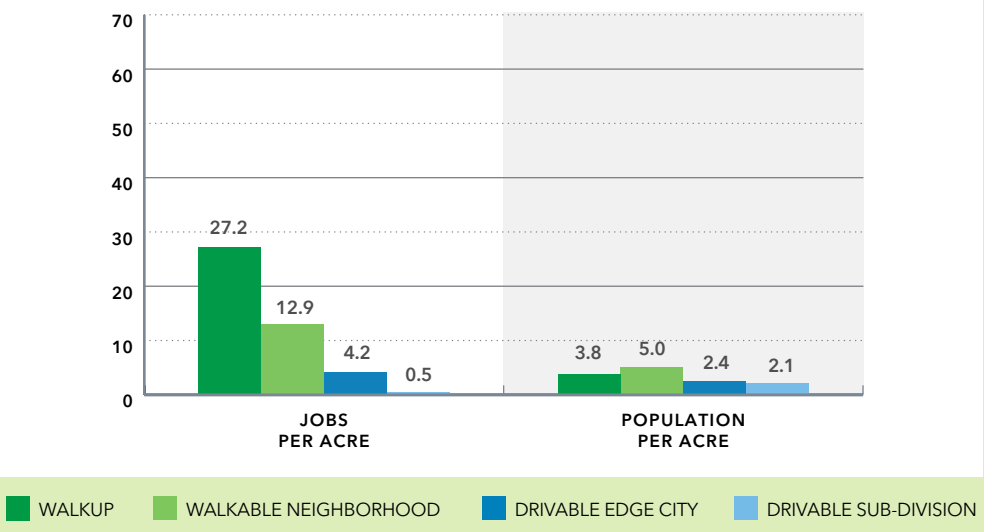
Saginaw-Bay City-Midland Geographic Findings

- **The Saginaw-Bay City-Midland region has one established WalkUP, Downtown Bay City,** and two emerging WalkUPs, Downtown Midland and Downtown Saginaw. On average, they are 209 acres in size.
- **Almost eight percent of Saginaw-Bay City-Midland's employment and 0.8 percent of its population are located in WalkUPs, which together make up only 0.5 percent of the metro area's urbanized land.** Walkable Neighborhoods account for an additional 1.8 percent of the urbanized land.
- **WalkUPs in Saginaw-Bay City-Midland have by far the highest job density of the four land-use options, however Walkable Neighborhoods have the highest population density.** WalkUPs have more than six times as many jobs per acre as Edge Cities and 1.6 times as many people per acre.
- **WalkUPs have over six times the job density of Edge Cities while Walkable Neighborhoods have over 25 times the job density of Drivable Sub-divisions.** WalkUPs have about 60 percent higher population density than Edge Cities and Walkable Neighborhoods have over twice the population density of Drivable Sub-divisions.
- **In the Saginaw-Bay City-Midland metro region, a greater percentage of people walk or use another non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities and Drivable Sub-divisions.** Fifteen percent of WalkUP residents either walk, cycle, or use transit to get to work. In Walkable Neighborhoods, this share is eight percent, in Edge Cities, three percent, and in Drivable Sub-divisions, four percent.

Key Metrics by Land Use



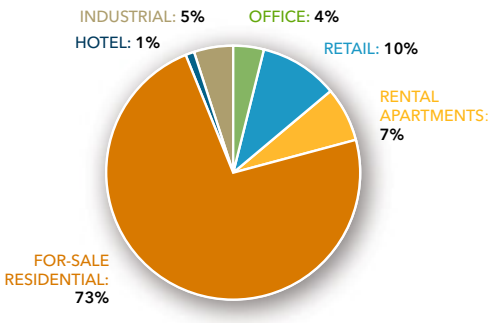
Population & Employment Density



Saginaw-Bay City-Midland Product Findings

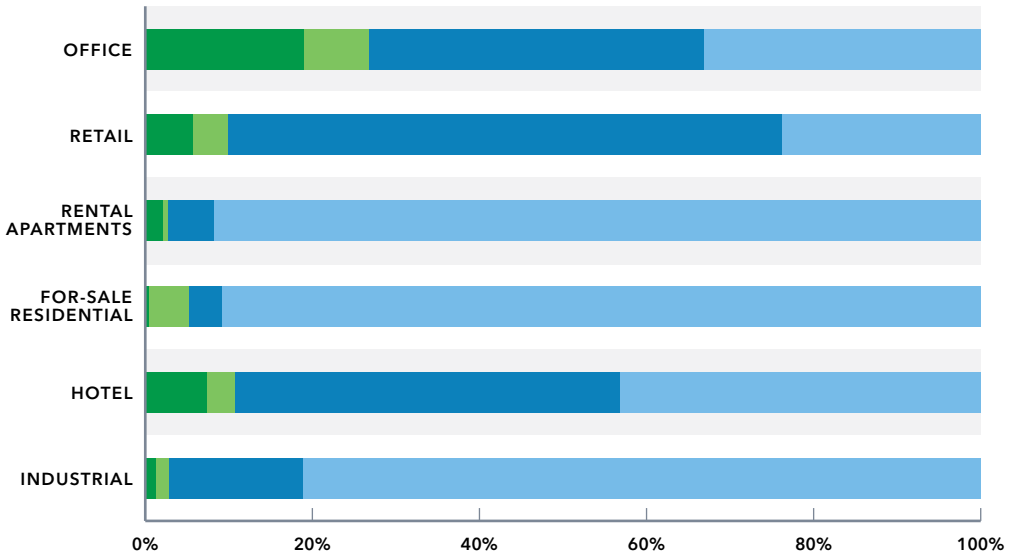
- **There is an estimated 181 million square feet of real estate in the Saginaw-Bay City-Midland metro region, not including owner-user space, such as hospitals, universities, and government buildings.** Seventy-three percent of the space is for-sale housing, although at least 15 percentage points of this share is actually renter-occupied.[40] To our knowledge, this is the first time such an inventory has been made.

Breakdown of Total Regional Square Footage by Product Type

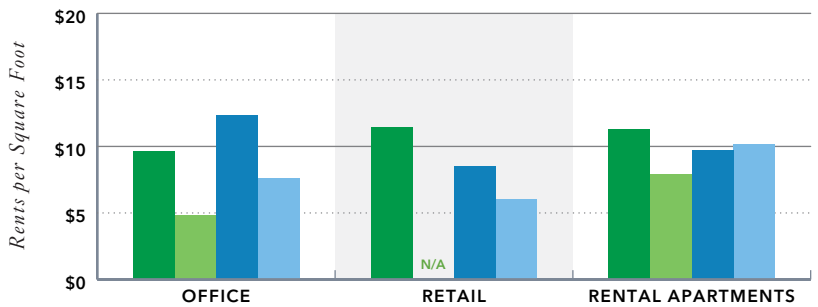


- **WalkUPs account for 1.6 percent of the total estimated square footage in the Saginaw-Bay City-Midland metro region, the lowest of the Michigan Metros analyzed.** Office has the highest walkable urban square footage with 19 percent of the region's office inventory located in WalkUPs.

Estimated Distribution of Regional Square Footage Across Land Use Categories



Average Annual Rents by Land Use Category



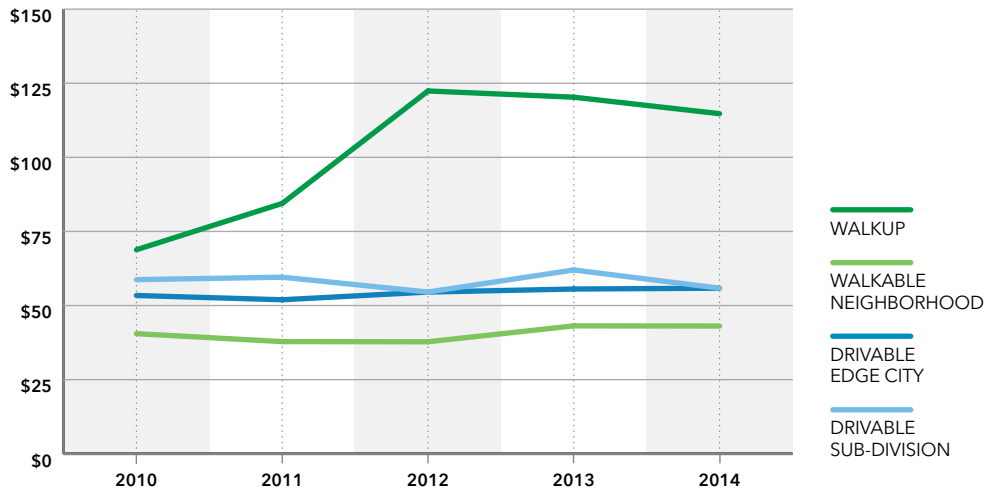
- **An estimated five percent of the metro area's total housing stock, including for-sale and rental residential, is located in a WalkUP or Walkable Neighborhood.**
- **WalkUPs have an average gross floor-area-ratio (FAR) of 0.16 in Saginaw-Bay City-Midland versus 0.10 for Walkable Neighborhoods, 0.08 for Edge Cities, and 0.04 for Drivable Sub-divisions.** This means that WalkUPs have twice the density of Edge Cities, while Walkable Neighborhoods are 2.8 times denser than Drivable Sub-divisions.[41]
- **WalkUPs command the highest rents for retail and multifamily apartments although office space in WalkUPs is actually renting at a discount relative to Edge Cities.** WalkUP rents differ from Edge Cities by the following amounts:

  OFFICE . . . . . –22%
  RETAIL . . . . . +35%
  RENTAL APARTMENTS: . . . . . +17%

- **The average price per square foot for for-sale residential homes has increased much faster in WalkUPs than in the other land-use categories.** As of 2014, WalkUP home prices were 105 percent higher than in Drivable Sub-divisions and 90 percent higher than in Edge Cities.
- **Twenty-eight percent of all income property development in the metro region occurred in WalkUPs or Walkable Neighborhoods in the current cycle (2009-2014), a very large jump over the previous two cycles.** The walkable urban development in the current cycle is heavily influenced by the inclusion of the East End and Mill End Lofts projects. But the total amount of new development in the latest cycle is much smaller than in previous cycles, which has been the case in all Michigan Metros and is part of the reason this recovery in general has been so weak. More time and data are needed to know if this is truly representative of a market trend, or just an aberration.

Average Home Sale Price:

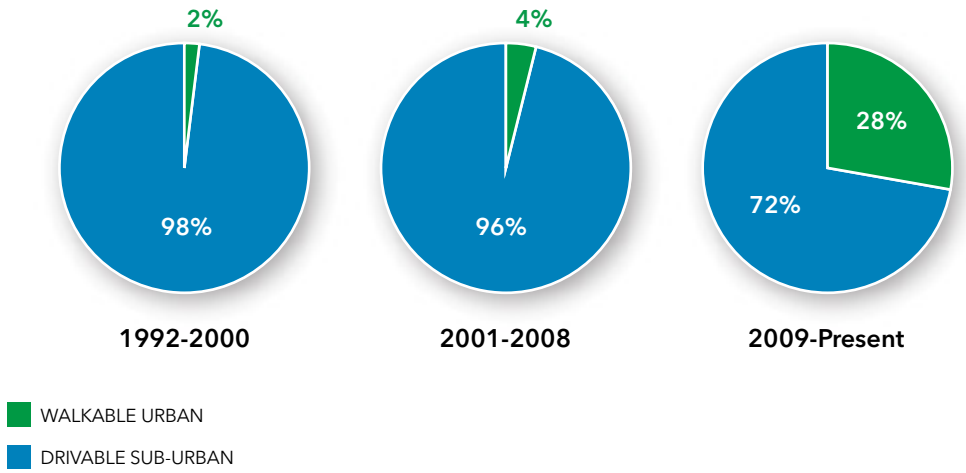
(Price per Square Foot)



Last Three Real Estate Cycles:

Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments




JACKSON

Jackson Introduction

Jackson is the smallest metro area studied. Although the Metropolitan Statistical Area, defined as Jackson County, contains approximately 160,000 people, the urbanized land area within the County, as defined by the Census and used as the study area for this report, contains just 78,000 persons.

The next smallest metro area of the Michigan Metros is the Saginaw-Bay City-Midland area, which contains over 250,000 people. As such, we recognize that some comparisons, both to the Michigan Metros, and to the larger coastal metros that we have studied, metro Washington, D.C., Atlanta, and Boston, may not be entirely apt. But based on our research in these large metros, walkable urban places are key to future growth. Small metros have walkable areas, and the stronger they become, the more small metros can grow over time.

Downtown Jackson, the sole WalkUP in the metro region, has struggled with the same issues that have affected many downtowns in Michigan. It suffered from declining interest and investment for much of the late 20th century, but in the last few years there have been some signs of revitalization.

Jackson has the smallest amount of walkable urban land compared to the rest of the Michigan Metros. Jackson's sole WalkUP, its 114-acre Downtown, is only 0.3 percent of total urbanized land in the metro area. An additional one percent of the urbanized land falls into the Walkable Neighborhood category. In contrast, in Boston, one of the most walkable metropolitan areas in the country, the share of land in WalkUPs is 1.2 percent, and the share of land in Walkable Neighborhoods is 4.4 percent. In Lansing, a more comparable metro, 3.4 percent of the urbanized land is walkable urban—nearly three times as much as in Jackson.

Downtown Jackson, the sole WalkUP in the metro region, has struggled with the same issues that have affected many downtowns in Michigan. It suffered from declining interest and investment for much of the late 20th century, but in the last few years has shown some signs of revitalization. Earlier this year, a developer secured an option to purchase from the City the Hayes Hotel, a 10-story building in the heart of Downtown that has been vacant and potentially convert it into a mixed-use development.

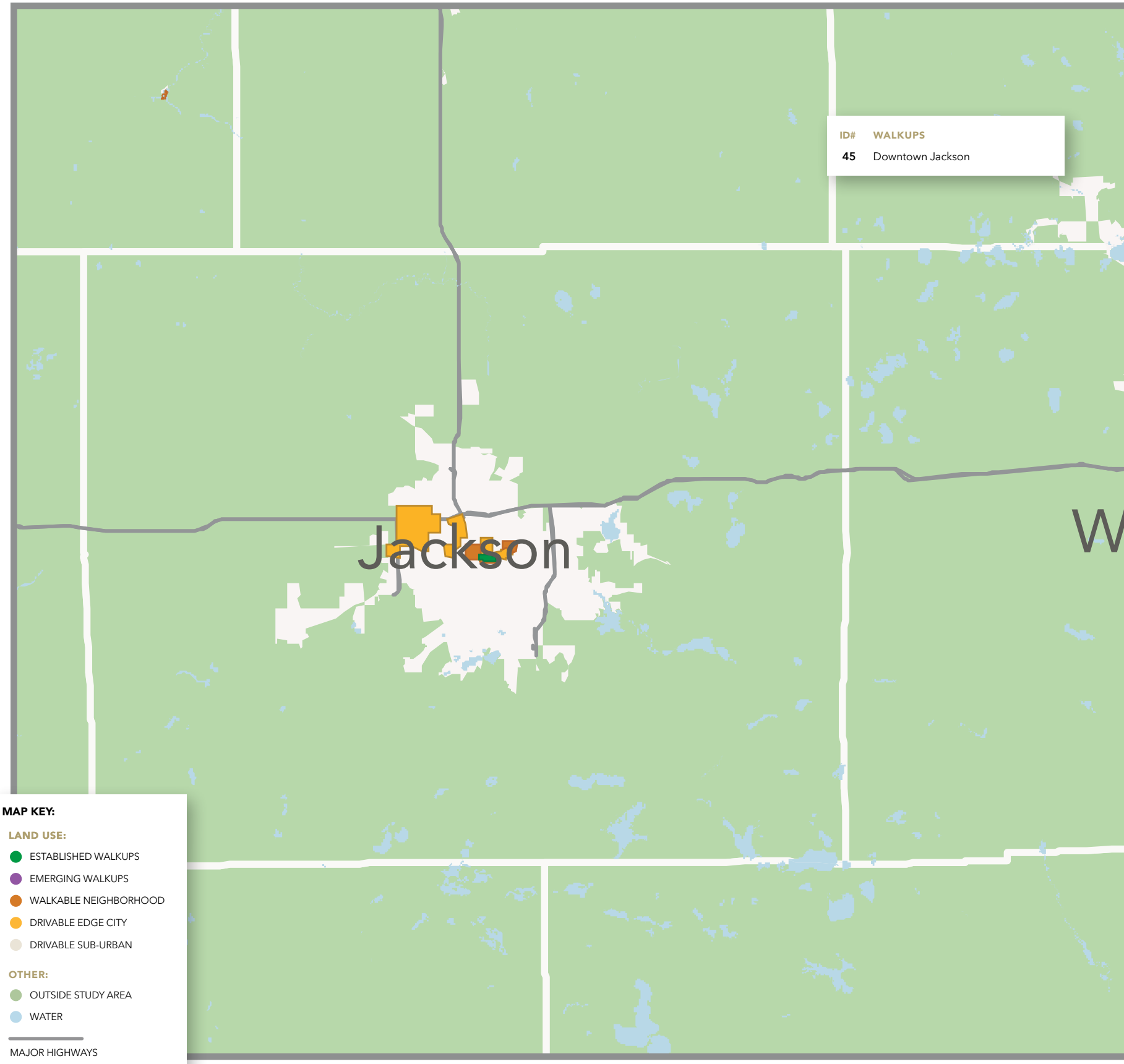
The Michigan Technology Development Center, a partnership between Consumers Energy, headquartered in Downtown Jackson, and HCL Technologies, recently established a presence in Downtown. The center brought 120 new jobs to the city with plans to add 180 more jobs. In addition, the city is repaving Michigan Avenue in Downtown Jackson and replacing the sewer and water lines under the street at a total cost of $3.4 million. Streetscape improvements also are being undertaken. This will give a fresh look and feel to the downtown.

A positive indicator of Downtown Jackson's revitalization is the performance of office properties. Based on an analysis of CoStar data, office rents in Downtown, are now, on average 26 percent higher than in the Edge Cities of the Jackson metro area. Even more striking is that the Downtown office vacancy rate has fallen dramatically, from almost 24 percent in 2008, to 6.2 percent today. It is now almost as low as the Edge City vacancy rate of five percent.

Retail rents, however are still lower in Downtown than in Edge Cities, and because of the lack of residential units Downtown, no data was available on for-sale prices or apartment rents that would allow a comparison.

This lack of housing is a key opportunity for developers. Based on 2011 Census data, there are 10,700 employees in Downtown Jackson.[42] But according to the latest American Community Survey data, there are only 400 housing units Downtown, and many of those may be obsolete; just 56 of those housing units were built after 1969. Yet a recent survey of workers employed Downtown found that 30 percent would consider living Downtown, implying a potential market of 2,000 to 3,000 units, depending on the average household size.[43] In addition, a target market analysis completed in late 2014 concluded that there is potential demand for 97 new residential units per year in the Downtown.[44]

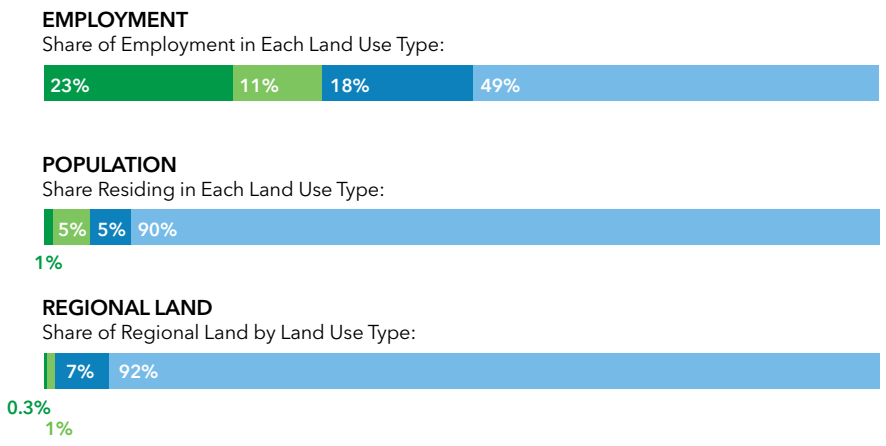
Concerns over the financial feasibility of new development are likely the key barriers for developers to meeting that demand. Creativity in construction and financing—and potentially public investment—may be needed to overcome hurdles in the short-term.


ID# WALKUPS
45 Downtown Jackson
Jackson
MAP KEY:
LAND USE:
ESTABLISHED WALKUPS
EMERGING WALKUPS
WALKABLE NEIGHBORHOOD
DRIVABLE EDGE CITY
DRIVABLE SUB-URBAN
OTHER:
OUTSIDE STUDY AREA
WATER
MAJOR HIGHWAYS

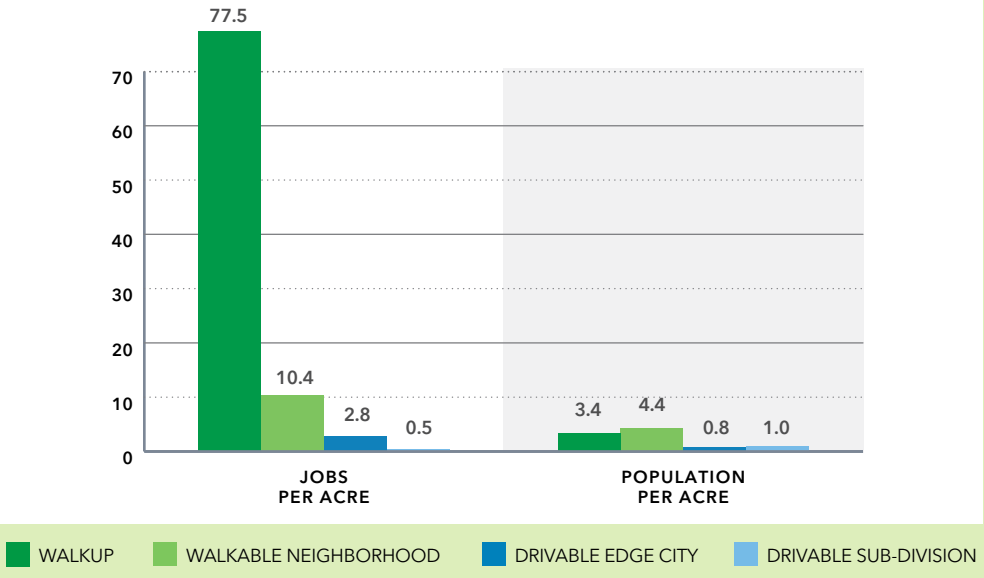
Jackson Geographic Findings

- **There is one WalkUP in the Jackson metro region: Downtown Jackson.**
- **Twenty-three percent of the Jackson metro region's employment and one percent of the region's resident population is located in its one WalkUP, which makes up 0.3 percent of the metro area's urbanized land.** Walkable Neighborhoods account for an additional one percent of the urbanized land.
- **Downtown Jackson is remarkable for its high employment density of 78 jobs per acre.** Its population density however, at 3.4 per acre, is the lowest of the Michigan Metros. An aggressive population attraction strategy based on new or rehabilitated housing in and adjacent to downtown is indicated.
- **The Downtown Jackson WalkUP has 27 times the job density of Edge Cities, while Walkable Neighborhoods have 21 times the job density of Drivable Sub-divisions.** Jackson's Downtown WalkUP has four times the population density of Edge Cities, and Walkable Neighborhoods also have four times the population density of Drivable Sub-divisions.
- **In the Jackson metro region, a greater percentage of people walk or use another non-car mode of transportation to get to work (bike, transit) in WalkUPs compared to Walkable Neighborhoods, Edge Cities, and Drivable Sub-divisions.** Nine percent of Walkable Neighborhood residents either walk, cycle, or use transit to get to work. In Edge Cities, this share is 13 percent, and in Drivable Sub-divisions, four percent. No data was available on commute modes for residents of downtown Jackson.

Key Metrics by Land Use



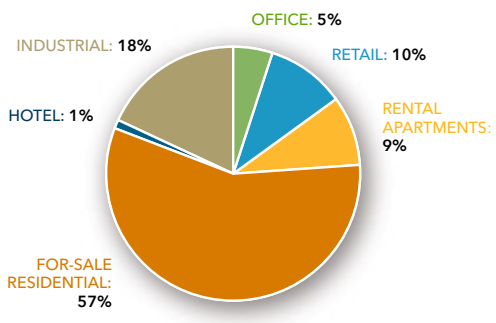
Population & Employment Density



Jackson Product Findings

- **There is an estimated 70 million square feet of real estate in the Jackson metro region, not including owner-user space, such as hospitals, universities, and government buildings.** Fifty-seven percent of the space is for-sale housing, although at least 14 percentage points of this share is actually renter-occupied.[45] To our knowledge, this is the first time such an inventory has been made.

Breakdown of Total Regional Square Footage by Product Type

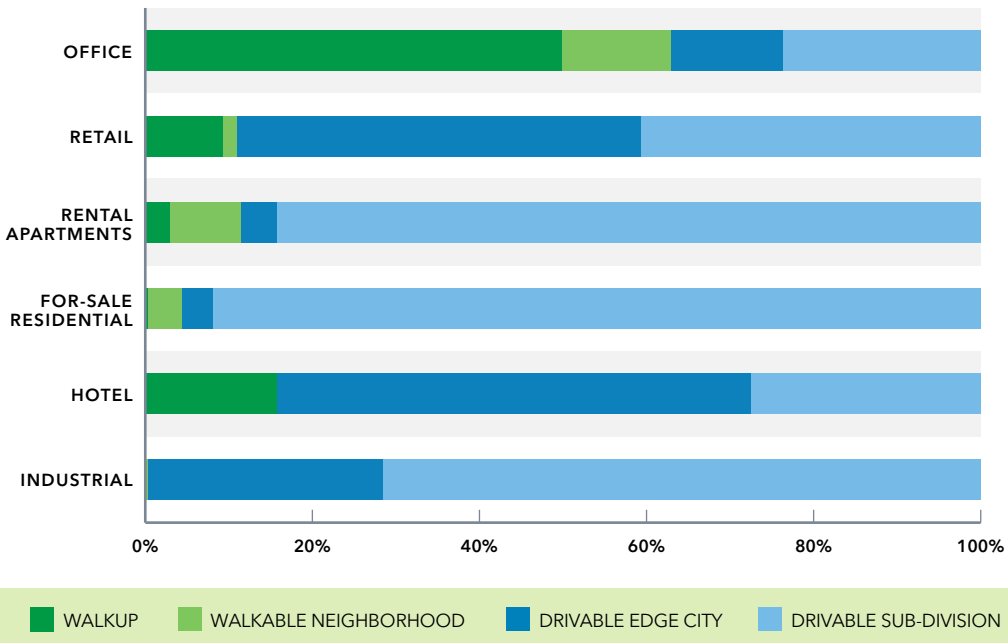


- **The Jackson metro regions's only WalkUP accounts for four percent of the area's total estimated square footage.** Office and hotel have the highest walkable urban square footage. Fifty percent of the office inventory and 16 percent of the region's hotel inventory are located in WalkUPs.

- **An estimated 5.4 percent of the metro area's total housing stock, including for-sale residential and rental residential, is located in a WalkUP or Walkable Neighborhood.**

- **Jackson's WalkUP has a gross floor-area ratio (FAR) of 0.57 compared to average FARs of 0.16 for its Walkable Neighborhoods, 0.09 for its Edge Cities, and 0.04 for its Drivable Sub-divisions.** This means that its WalkUP is over six times denser than Edge Cities while Walkable Neighborhoods are four times denser than Drivable Sub-divisions.

Estimated Distribution of Regional Square Footage Across Land Use Categories

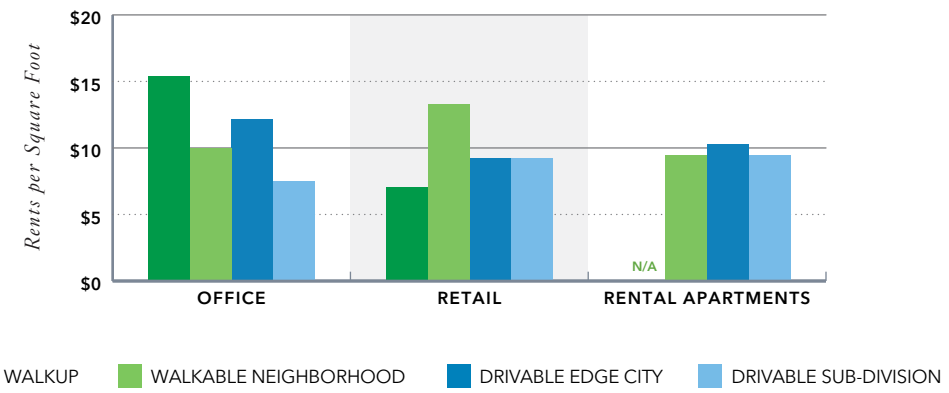


- **Jackson's only WalkUP commands the highest rents for office, but current rents for its retail space are actually the lowest of the entire Jackson area's land-use options—and 24 percent lower than the average for its Edge Cities.** (No data was available on rents for rental apartments in Downtown Jackson.)

  OFFICE . . . . . –27%
  RETAIL . . . . . –24%

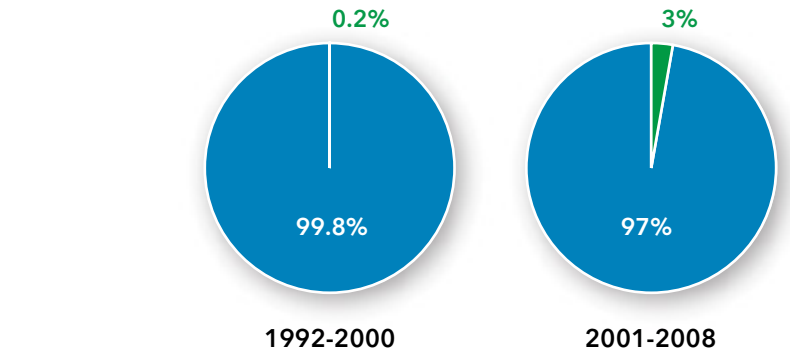
- **There has been very little new income property development in the Jackson metro area in the most recent cycle (CoStar did not track any), therefore it was not possible to assess any trend one way or the other.** The low amount of new development in the latest cycle has been the case in all Michigan Metros and is part of the reason this recovery in general has been so weak.

Average Annual Rents by Land Use Category



1992-2000 & 2001-2008 Real Estate Cycles:
Share of Income Property Development in Walkable Urban vs. Drivable Sub-Urban

Income Property = Office, Retail, Hotel, and Rental Apartments



Data not available for income property development in Jackson for the real estate cycle beginning in 2009.

WALKUP RANKINGS

COPPER

SILVER

GOLD

PLATINUM

The chart at the right shows the average annual rents per square foot for each product type for WalkUPs in Michigan Metros across each Economic Ranking level.

The chart also shows the overall averages for Edge Cities.

WalkUPs classified as Urban University were not ranked because there are few real estate assets that are rented; the vast majority of space is owner-occupied.

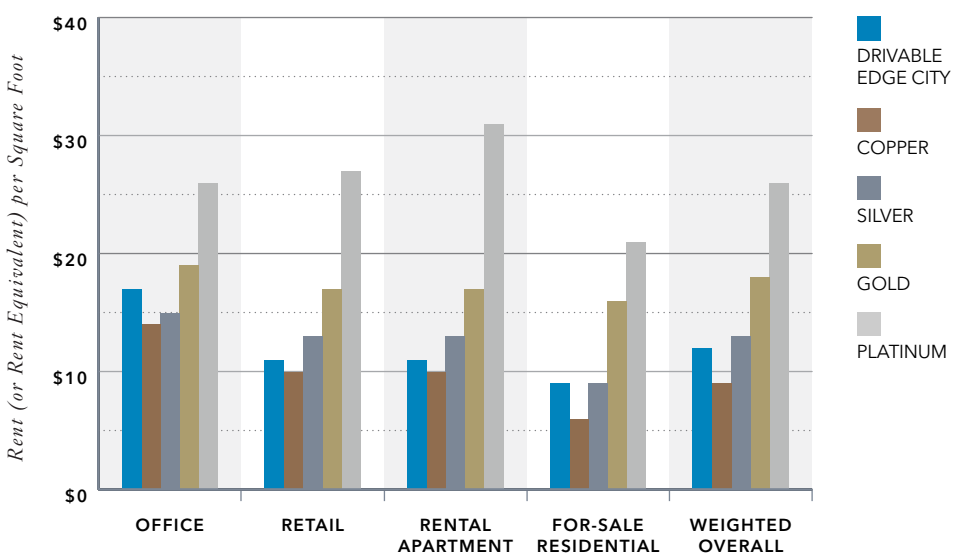
Economic Rankings

WalkUPs in Michigan Metros fall into four metal levels measured by economic performance. Each WalkUP level has different growth, risk, and investment potential.

Economic rankings for WalkUPs are based on the rents per square foot achieved for four product types: office, retail, rental apartments, and for-sale housing (translated into a rent per square foot equivalent). Each WalkUP's average rent per square foot was determined and weighted according to the percentage of square feet by product type. The assumption is that the amount the market is willing and able to pay in terms of rent and value is a proxy for that WalkUP's economic performance. It is also a crucial metric for real estate investors and developers trying to understand where the WalkUP stands on the risk-reward curve.

The average annual weighted rents per square foot range from $5.21 to $26.76 in the Michigan Metro WalkUPs. A metal rankings system for WalkUPs has Platinum as the highest, while Gold is the second highest; both are considered to be a place that has attained "critical mass."[46] Silver is the third highest and is considered to be a place that is demonstrating growth but not yet at critical mass. Copper is the lowest ranked WalkUP.

Weighted Average Rents by Product Type

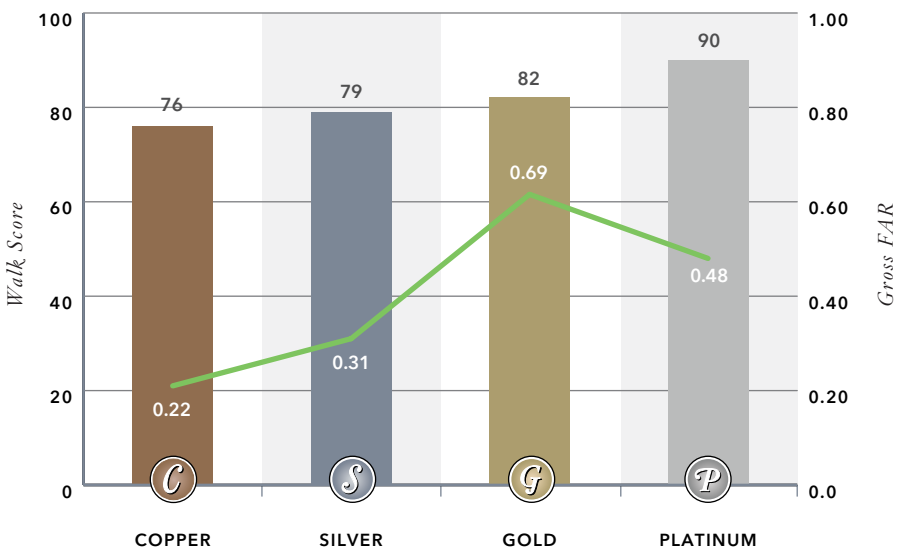


These rankings, however, are relative to all WalkUPs in Michigan only. Therefore a Platinum ranked WalkUP in this report does not mean the same thing as a Platinum WalkUP in the Boston or Washington, D.C. reports.

There is a correlation between the Walk Score and overall average rent in each WalkUP. Although the correlation is fairly weak (R2 of .24), it suggests that each additional Walk Score point over 70.5 translates into $0.33 of additional real estate rents per square foot. This direct correlation between the walkability of the WalkUP and real estate rents has been observed in the other metropolitan areas we have studied. While correlation is not causality, it does demonstrate the theory to real estate investors and economic development officials in Michigan Metros that increased walkable urbanism results in higher rents and economic activity, as we have shown in other U.S. metropolitan areas.

Finally, this analysis shows that the two WalkUP categories at critical mass with the highest metal ranking, Gold and Platinum, have the highest density in the seven Michigan Metros, 2.3 times the two lower ranked WalkUP categories, Copper and Silver. In addition, the two critical mass WalkUPs have 4.3 times the density of Edge Cities. Once again, there is a correlation between density and economic performance that is not yet proven to be causal. But experience in other metropolitan areas leads one to conclude that high economic performance is tied to higher density.

Average Walk Score & Gross Far by Economic Ranking



COPPER

DETROIT-ANN ARBOR:
Downtown Dearborn East
Downtown Lincoln Park
Downtown Monroe
Downtown Mt. Clemens
Downtown Wayne
Downtown Wyandotte
Downtown Ypsilanti
Eastpointe
Grosse Pointe Park
Hamtramck
Hubbard Farms - Mexicantown

GRAND RAPIDS-MUSKEGON-HOLLAND:
Downtown Grand Rapids - Westside
Downtown Holland
Downtown Muskegon

LANSING:
Downtown Charlotte

SAGINAW-BAY CITY-MIDLAND:
Downtown Bay City

CHARACTERISTICS

Sixteen of the 42 ranked WalkUPs fall into the Copper category, the lowest WalkUP economic performance ranking. In general, these WalkUPs are far from "critical mass." Most Copper WalkUPs have seen little new development in recent years, notwithstanding a few examples to the contrary, particularly in Downtown Holland and Downtown Muskegon. In addition, due to their relatively low densities, some of the Copper WalkUPs may not be all that different in character to a drivable sub-urban location, with surface parking lots that decrease density and walkability. Nonetheless, the data indicate that these places have at least the potential to function as walkable urban places because they have a significant quantity of destinations and commercial space, as well as a reasonably dense street network.

The average rents for all product types in Copper WalkUPs are lower than Edge Cities, meaning that the premiums pointed out regarding walkability have not materialized. On average, rents are 22 percent lower in Copper WalkUPs than in Edge Cities. This is probably explained by the fact that these WalkUPs are also the least walkable, as measured by Walk Score. They have an average Walk Score of 76, as compared to 79 for Silver WalkUPs, 82 for Gold, and 90 for Platinum.

Copper WalkUPs also have the lowest density, with average gross floor-area ratios (FARs) of just 0.22, about 67 percent as dense as Silver WalkUPs. This, combined with the fact that half of the space, on average, is devoted to residential uses, suggests that these places are probably somewhere on the fence between local-serving and regionally significant.

Average Key Metrics

Walk Score: 76

Gross FAR: 0.22
(Floor Area Ratio)

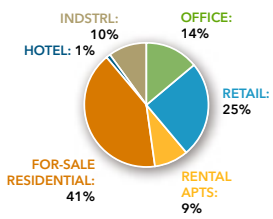
Annual Rent per Sq. Ft. {$ = $5}

OFFICE:	$$$	$13.67
RETAIL:	$$	$9.92
RENTAL APARTMENTS:	$$	$9.90
OVERALL AVERAGE:	$$	$8.88

Housing per Sq. Ft. {$ = $5}

FOR-SALE RESIDENTIAL:	$$$$$$$$$$	$71.00

Square Footage Breakdown by Use:



OBSERVATIONS

Many of these WalkUPs are in the Detroit-Ann Arbor metro region and fall outside the "favored quarter," a term that describes the portion of the metropolitan area where high-income households and job growth—key drivers of real estate value - have concentrated. This area often extends in a roughly 90-degree arc in one direction, starting in the major Downtown, thus the name. The favored quarter in Detroit is to the northwest and northeast from Downtown Detroit, primarily focusing in Oakland County.

There are no easy solutions for places outside the favored quarter, but their affordability should be viewed as an asset, particularly for young entrepreneurs and artists who can serve as urban pioneers. Place-based management that addresses basic concerns with respect to safety and cleanliness, as well as festival promotion, economic development, marketing, etc., can help leverage this affordability as a means of attraction.

SILVER

DETROIT-ANN ARBOR:
Berkley
Downtown Dearborn - West
Downtown Farmington
Downtown Ferndale
Downtown Pontiac
Downtown Port Huron
Downtown Rochester
Midtown - Arts Center District
Midtown - Cass Park District
Midtown - Medical Center District
New Center

FLINT:
Downtown Flint

GRAND RAPIDS-MUSKEGON-HOLLAND:
Downtown Grand Haven

KALAMAZOO-BATTLE CREEK:
Downtown Kalamazoo
Downtown Battle Creek

LANSING-JACKSON:
Downtown Jackson
Downtown Lansing
Michigan Avenue - Sparrow - Lansing

CHARACTERISTICS

The Silver WalkUPs are a diverse group that includes several Downtowns, such as Flint, Jackson, Kalamazoo and Lansing, and many Suburban Town Centers. As described in the previous chapters, many of these WalkUPs, particularly the Downtowns, have seen noticeable development and investment, particularly in the last five years. However, much of this development received public assistance of some kind. As defined, Silver WalkUPs have not yet achieved "critical mass," defined as not requiring government assistance or subsidy for new development. But they have a trajectory that suggests they will continue to develop into higher performing walkable urban places.

Silver WalkUPs have 50 percent higher rents on average than the Copper WalkUPs and 15 percent higher rents than Edge Cities. It is only at this level of performance that the premiums associated with walkability become evident, although even here office rents and for-sale residential prices are lower than the Edge City average.

Average Key Metrics

Walk Score: 79

Gross FAR: 0.31
(Floor Area Ratio)

Annual Rent per Sq. Ft.
{$ = $5}

OFFICE:
$$$ $14.78

RETAIL:
$$$ $13.45

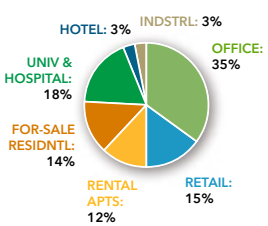
RENTAL APARTMENTS:
$$$ $12.58

OVERALL AVERAGE:
$$$ $13.34

Housing per Sq. Ft. {$ = $5}

FOR-SALE RESIDENTIAL:
$$$$$$$$$$ $61.00

Square Footage Breakdown by Use:



OBSERVATIONS

Silver WalkUPs have the greatest value-creation potential for investors and developers. They may still have an image as being economically risky, which is reflected in their high capitalization rates and lower valuations compared to the Gold and Platinum WalkUPs. But unlike Copper WalkUPs, they usually have examples of recent developments that demonstrate the potential for success. These places are likely to be improved by more development and place management, and produce the relatively highest return on investment since acquisition costs are generally lower.

Many real estate developers target Silver WalkUPs since they have the highest return potential as the place moves toward critical mass and a Gold ranking.

GOLD

DETROIT-ANN ARBOR:
Downtown Detroit
Downtown Royal Oak
Downtown Northville
Downtown Plymouth

GRAND RAPIDS-MUSKEGON-HOLLAND:
Downtown Grand Rapids

LANSING-JACKSON:
Downtown East Lansing

CHARACTERISTICS

Gold WalkUPs have achieved critical mass; there is a "there there." Investors often recognize this with lower capitalization rates, which increase valuations. Land prices are at a premium, reflecting the higher rents and selling prices per square foot that have been achieved. This group includes both Downtown Detroit and Downtown Grand Rapids, both prime examples of the WalkUP revitalization occurring in Michigan, particularly in this real estate cycle. It also includes several smaller WalkUPs, such as Downtown Northville, Royal Oak, and Downtown Plymouth, that are excellent examples of how even "human scale" places, without skyscrapers, can become thriving walkable urban places that support high real estate values.

Overall rents in Gold WalkUPs are 39 percent higher than in Silver WalkUPs and 59 percent higher than the Edge City average. This group also has the highest average gross FAR of 0.69, more than twice as dense as Silver WalkUPs, and nearly three times as dense as Copper WalkUPs.

The high average density is due to the inclusion of Downtown Detroit, one of the highest density WalkUPs in the Michigan Metros.

Average Key Metrics

Walk Score: 82

Gross FAR: 0.69
(Floor Area Ratio)

Annual Rent per Sq. Ft.

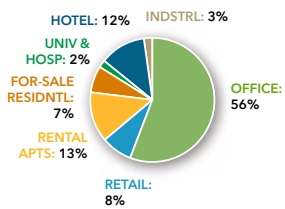
{$ = $5}

OFFICE:	$19.32
RETAIL:	$16.96
RENTAL APARTMENTS:	$17.12
OVERALL AVERAGE:	$18.46

Housing per Sq. Ft. {$ = $5}

FOR-SALE RESIDENTIAL:	$148.00

Square Footage Breakdown by Use:



OBSERVATIONS

Developers are attracted to Gold WalkUPs since the market risk is lower and they are relatively assured "exit strategies" for selling stabilized projects to institutional investors. Given the high land prices, there is a smaller upside for investment returns than in Silver WalkUPs. Institutional investors are more attracted to Gold WalkUPs, because there is some upside remaining in asset pricing (moving to Platinum) but lower risk. Compared to Washington, D.C. and Boston, however, the Gold WalkUPs in the Michigan Metros probably have greater upward price potential because they are starting at a lower base.

Compared their counterparts in metro Boston and Washington, D.C., Gold-ranked Michigan Metro WalkUPs are generally on the line, just barely qualifying for the ranking.

PLATINUM

DETROIT-ANN ARBOR:

Downtown Birmingham

Main Street – Ann Arbor

CHARACTERISTICS

Only two of the 42 ranked WalkUPs identified in the Michigan Metros are ranked as Platinum: Main Street - Ann Arbor and Downtown Birmingham. Both had noticeably higher average rents than any of the other WalkUPs. On average, rents in these WalkUPs are 44 percent higher than the Gold WalkUPs, and 123 percent higher than the average for Edge Cities.

With an average Walk Score of 90 between them, they are also among the most walkable places in the entire state. If the University of Michigan/State Street WalkUP in Ann Arbor had sufficient rentable data (the vast majority of this WalkUP is owner-occupied), it too would have been listed as Platinum.

The high rents in these places are due to both their walkability and their location within the region. Birmingham benefits from its location in the wealthier northern suburbs of Detroit, the favored quarter, while Main Street - Ann Arbor benefits from its proximity to the University of Michigan, an internationally elite institution and one of the top five research centers in the world.

Average Key Metrics

Walk Score: 90

Gross FAR: 0.48
(Floor Area Ratio)

Annual Rent per Sq. Ft. {$ = $5}

OFFICE:
$$$$$ $$$$$ $26.21

RETAIL:
$$$$$ $$$$$ $27.48

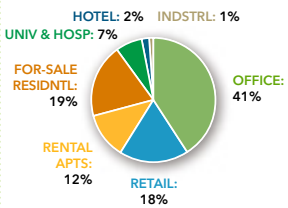
RENTAL APARTMENTS:
$$$$$$ $$$$ $30.81

OVERALL AVERAGE:
$$$$$ $$$$$ $25.97

Housing per Sq. Ft. {$ = $5}

FOR-SALE RESIDENTIAL:
$$$$$$$$$$ $208.00
$$$$$$$$$$
$$$$$$$$$$
$$$$$$$$$$
$$ $$$$$$$$

Square Footage Breakdown by Use:



OBSERVATIONS

Platinum WalkUPs present the most attractive investment opportunities for large institutional owners, such as insurance companies, pension funds, sovereign wealth funds and REITs, typically resulting in the lowest capitalization rates and highest valuations and land prices.


COPPER


SILVER


GOLD


PLATINUM

Social Equity Rankings

While employing the same four metal levels for Social Equity as the Economic rankings, the rankings are driven by entirely different variables: Accessibility/Opportunity and Affordability.

While financial returns are the principal objective of real estate investors, public policy must take into account a variety of other concerns. Increasingly prominent among those is the issue of social equity. From federal agencies to municipal governments and community-based organizations, there is a growing interest in ensuring that public policies and private investments are oriented to improve economic opportunity for the disadvantaged; reduce disparate burdens on low-income, minority, and foreign-born residents; and minimize displacement from areas experiencing reinvestment.

To better understand the social equity dimensions of the WalkUPs that have been defined, the research team developed a series of metrics that attempt to characterize the social equity

Metrics Used to Determine Social Equity

In examining social equity, we evaluated each WalkUP based on two dimensions: Accessibility/Opportunity and Affordability. Each data point used to assess these factors is described below:

AFFORDABILITY (50% of Social Equity ranking)

- **Housing & Transportation Index**
  Housing and transportation costs as a percentage of area median income, a measure introduced by the Center for Neighborhood Technology, which has developed a model to estimate both average housing and transportation costs for almost every census block group in the country. Housing and transportation costs are often linked. Exurban subdivisions may indeed offer cheaper housing, but those savings can be offset by higher transportation costs associated with longer commutes. Similarly, the higher price of close-in housing may be offset by lower transportation costs.

- **Affordable Housing Availability**
  Ratio of affordable housing to low-wage workers. Based on data from the Census' Local Employment Dynamics, we estimated the percentage of employees in a WalkUP who earn $15,000 or less per year. That share was then compared to the share of housing stock that would be affordable to such employees, assuming they were the only earner in their households, in the same WalkUP. This metric assesses the ability of low-wage workers employed in the WalkUP to find an affordable home there, should they desire one.

ACCESSIBILITY/OPPORTUNITY (50% of Social Equity ranking)

- **Non-Car Commuting Accessibility**
  Proportion of the WalkUP's residents that commute by non-car modes (i.e. Transit, Biking, Walking), a measure available in the American Community Survey. This measure reports actual commuting behavior. In general, if people can and do reach their jobs by non-car modes, the WalkUP is considered more accessible than one where transit is available but not well utilized.

  Note that, for the previous WalkUP WakeUp Call reports, we were able to measure the share of the region's population that could access the WalkUP via transit. This data was unavailable in all of the Michigan Metros except Detroit-Ann Arbor; therefore, it was not included.

- **Jobs Accessibility**
  Ratio of jobs to working-age population within a 45-minute drive time. This measure, based on data from the EPA's Smart Location Database, is intended to assess economic opportunity. A higher jobs-to-working age population ratio indicates either a greater number of jobs and/or less competition for the jobs within a reasonable commuting distance than a low ratio. Again, data on the number of jobs and working age population accessible by transit was not available.

- **Unemployment Rate**
  Percentage of a WalkUP's total labor force that is unemployed but actively seeking employment and willing to work. This measure, based on data from the American Community Survey, provides basic insight into the economic climate of the WalkUP, particularly as it relates to its residents.[47]

- **School Reading Proficiency**
  Calculated based on the average scores of the three nearest elementary schools on the Michigan Educational Assesment Program (MEAP) test. The higher number of students performing at least proficient in reading, the higher the score given to the WalkUP. School test scores may be an imperfect measure of school quality – but for lack of anything better, and due to the importance of schools in the location decision for many families, they are included.

of each place, with particular attention paid to how these places function for low-income households.

Measuring social equity is naturally more art than science. The concept of social equity is subjective. This research has developed a place-based social equity metric for the first time to our knowledge to quantify this subjective concept.

Our Social Equity rankings are based on two components: Accessibility/Opportunity and Affordability. A WalkUP ranks high on accessibility/opportunity if it is easy to reach for a large share of the region's population and accessible by non-driving modes, and if it provides opportunities for jobs and good schools. A WalkUP ranks high on affordability if it is not severely cost-burdened by housing and transportation costs.

Each metric under accessibility/opportunity was combined into one index and the WalkUPs were scored against each other. A score of 0 indicates the accessibility/opportunity in that WalkUP is average. A score above 0 indicates above average accessibility/opportunity. A negative score indicates below average accessibility/opportunity. A similar index was created for affordability, so that each WalkUP received two scores, one for accessibility/opportunity, and one for affordability.

The scores of these WalkUPs were then plotted on a scatterplot, with affordability on the X-axis and accessibility/opportunity on the Y-axis. Those in the top right quadrant of the chart have both above average accessibility/opportunity and affordability. Those in the bottom left have below average scores on both dimensions. The metal rankings are determined by the placement on this spectrum. Those WalkUPs nearest the top right receive a Platinum ranking and those nearest the bottom left receive a Copper ranking, as shown below.

In addition to WalkUPs, we have also ranked the average social equity of the other three land use types. As can be seen in the scatterplot, Drivable Sub-divisions are ranked Copper, and Edge Cities and Walkable Neighborhoods are ranked Silver. WalkUPs as a whole receive a Gold ranking.

The key factor that drives these rankings is the increase in the total cost devoted to housing and transportation that is associated with living in Drivable Sub-divisions. On average, households in Drivable Sub-divisions spend 54 percent of their income on housing and transportation, versus 40 percent for households in WalkUPs and 47 percent for those in both Walkable Neighborhoods and Edge Cities. For a household earning the median income the Detroit metro area, these savings can be meaningful. The seven percent savings associated with living in a Walkable Neighborhood versus the Drivable Sub-divisions equates to nearly $300 a month.

The scatterplot shows that there is a cluster in the upper left hand quadrant spreading down to the lower right quadrant. This is consistent with findings in all metropolitan areas studied. It implies that there are two broad types of social equity rankings: first are those with high opportunity/low affordability and the other with low opportunity/high affordability. This implies two distinct strategies: (1) to bring affordable housing to high opportunity places or (2) to bring opportunity to affordable places.

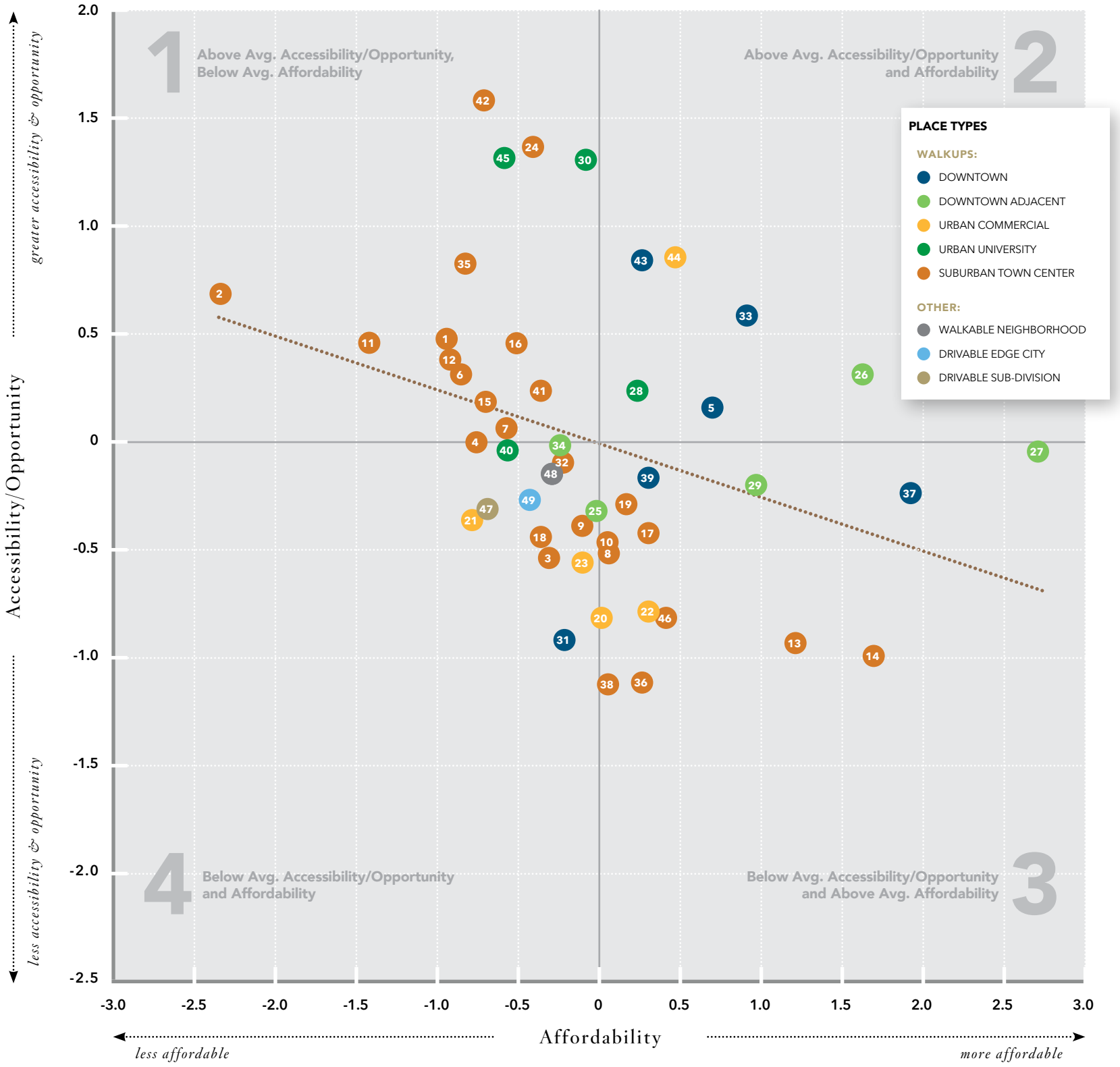
From a public policy perspective, the ultimate goal would be to move a WalkUP's the social equity performance to the upper right corner of the scatterplot, no matter where it resides on the scatterplot today. Two example of this are Downtown Detroit (5) and Grand Rapids (33), which are ranked in social equity as Gold and Platinum, respectively. Being in the upper right hand quadrant does not have to be at the expense of economic performance; both are ranked gold in that metric.

ID#	WALKUPS
1	Downtown Berkley
2	Downtown Birmingham
3	Downtown Dearborn East
4	Downtown Dearborn West
5	Downtown Detroit
6	Downtown Farmington
7	Downtown Ferndale
8	Downtown Lincoln Park
9	Downtown Monroe
10	Downtown Mt. Clemens
11	Downtown Northville
12	Downtown Plymouth
13	Downtown Pontiac
14	Downtown Port Huron
15	Downtown Rochester
16	Downtown Royal Oak
17	Downtown Wayne
18	Downtown Wyandotte
19	Downtown Ypsilanti
20	Eastpointe
21	Grosse Pointe Park
22	Hamtramck
23	Hubbard Farms - Mexicantown
24	Main Street - Ann Arbor
25	Midtown - Arts Center District
26	Midtown - Cass Park District
27	Midtown - Medical Center District
28	Midtown - University Center
29	New Center
30	U of M - Central Campus
31	Downtown Flint
32	Downtown Grand Haven
33	Downtown Grand Rapids
34	Downtown Grand Rapids - Westside
35	Downtown Holland
36	Downtown Muskegon
37	Downtown Jackson
38	Downtown Battle Creek
39	Downtown Kalamazoo
40	Western Michigan University
41	Downtown Charlotte
42	Downtown East Lansing
43	Downtown Lansing
44	Michigan Avenue - Sparrow
45	MSU - North Campus
46	Downtown Bay City
47	Drivable Sub-division
48	Walkable Neighborhood
49	Drivable Edge Cities

Scatterplot Showing Distribution of

Accessibility/Opportunity vs. Affordability

for Regionally Significant WalkUPs in Michigan Metros

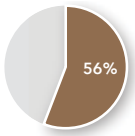


COPPER

	Scatterplot Quadrant
DETROIT-ANN ARBOR:	
Downtown Northville	1
Grosse Point Park	3
Downtown Birmingham	1
FLINT:	
Downtown Flint	3
GRAND RAPIDS-MUSKEGON-HOLLAND:	
Downtown Muskegon	4
KALAMAZOO-BATTLE CREEK:	
Downtown Battle Creek	4

Average Key Metrics

Housing & Transportation Index:
(H&T costs as a % of a the metro region's median income)



Affordable Housing Availability: 0.52
(Ratio of affordable housing to low-wage workers in a WalkUP)

ABC Commuting: 14%
(Proportion of WalkUP's residents that commute by non-car modes)

Jobs Accessibility: 0.56
(Ratio of jobs to working-age population within a 45-minute drive time)

Unemployment Rate: 18%

School Reading Proficiency: 59%
(% of students with proficient or higher reading level)

Of the 46 established WalkUPs in the Michigan Metros, six score a "Copper" on the social equity scale. They include Downtown Northville and Downtown Birmingham, both of which score above average in terms of accessibility/opportunity, but significantly below average on affordability. Both have relatively high average housing and transportation costs and only small shares of their housing stock would be affordable to the lowest wage employees who work in the WalkUP. The provision of more affordable housing would improve their ranking.

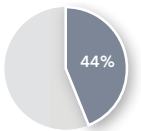
Downtown Flint, Downtown Muskegon, and Downtown Battle Creek are on the flip side. They score relatively low in terms of accessibility/opportunity, despite nearly or even better than average affordability. High unemployment rates of above 18 percent, a low jobs-to-working-age population ratio within 45 minutes, and below average school test scores are the main reasons for their ranking. Improvement in these metrics is a task not only for the place, but for the entire region.

SILVER

	Scatterplot Quadrant:
DETROIT-ANN ARBOR:	
Berkley	1
Downtown Dearborn - West	3
Downtown Dearborn East	3
Downtown Farmington	1
Downtown Ferndale	1
Downtown Lincoln Park	4
Downtown Monroe	3
Downtown Mt. Clemens	4
Downtown Plymouth	1
Downtown Pontiac	4
Downtown Port Huron	4
Downtown Rochester	1
Downtown Royal Oak	1
Downtown Wayne	4
Downtown Wyandotte	3
Downtown Ypsilanti	4
Eastpointe	4
Hamtramck	4
Hubbard Farms/Mexican Town	3
Midtown - Arts Center District	3
GRAND RAPIDS-MUSKEGON-HOLLAND:	
Downtown Grand Haven	3
Downtown Grand Rapids - Westside	3
Downtown Holland	1
KALAMAZOO-BATTLE CREEK:	
Western Michigan University	3
LANSING-JACKSON:	
Downtown Charlotte	1
Downtown East Lansing	1
MSU Campus - North	1
SAGINAW-BAY CITY:	
Downtown Bay City	4

Average Key Metrics

Housing & Transportation Index:
(H&T costs as a % of a the metro region's median income)



Affordable Housing Availability: 0.45
(Ratio of affordable housing to low-wage workers in a WalkUP)

ABC Commuting: 20%
(Proportion of WalkUP's residents that commute by non-car modes)

Jobs Accessibility: 0.60
(Ratio of jobs to working-age population within a 45-minute drive time)

Unemployment Rate: 15%

School Reading Proficiency: 62%
(% of students with proficient or higher reading level)

We ranked 28 of the 46 established WalkUPs Silver. With so many in this group, they are naturally a diverse group that includes WalkUPs that rank relatively high on the accessibility/opportunity ranking but below average on affordability, like Downtown East Lansing. On the opposite end of the spectrum are places such as Downtown Pontiac, which is quite affordable but scores low on the accessibility/opportunity metrics.

Therefore, the policy actions that might result in a higher ranking differ greatly depending on the specific circumstances of the WalkUP. Those in the upper left-hand quadrant of the scatterplot would need to place greater emphasis on affordable housing or developing better transit connections to employment centers to reduce transportation costs. Those in the bottom right quadrant have affordable housing but need jobs and development. The affordability (and walkability) of these places in particular should make them prime targets for the urban pioneers described in the previous chapter.

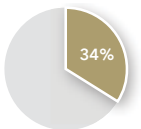
Despite the wide variety of WalkUPs contained within this ranking, it is nonetheless possible to observe some improvements in averages of the key statistics, such as housing and transportation costs as a percentage of area median income. In the Silver WalkUPs, they average 43 percent, as compared to 57 percent in the Copper WalkUPs.

GOLD

	Scatterplot Quadrant
DETROIT-ANN ARBOR:	
Downtown Detroit	2
Main St. Ann Arbor	1
Midtown - Medical Center District	4
Midtown - University Center	2
New Center	4
University of Michigan - Central Campus	1
JACKSON:	
Jackson	4
KALAMAZOO-BATTLE CREEK:	
Downtown Kalamazoo	4

Average Key Metrics

Housing & Transportation Index:
(H&T costs as a % of a the metro region's median income)



Affordable Housing Availability: **1.15**
(Ratio of affordable housing to low-wage workers in a WalkUP)

ABC Commuting: **48%**
(Proportion of WalkUP's residents that commute by non-car modes)

Jobs Accessibility: **0.60**
(Ratio of jobs to working-age population within a 45-minute drive time)

Unemployment Rate: **14%**

School Reading Proficiency: **56%**
(% of students with proficient or higher reading level)

The WalkUPs receiving Gold for social equity include three Downtowns: Downtown Detroit, Downtown Kalamazoo, and Downtown Jackson. In addition, Midtown Detroit is well-represented with two WalkUPs rated Gold. Finally, both WalkUPs in Ann Arbor receive the Gold rating. A key differentiator for all of these WalkUPs is their central location within their metro region (or major sub-region in the case of Ann Arbor). This centrality tends to facilitate the greatest possible access to jobs, which is captured in the jobs-to-people ratio. Within 45 minutes of these WalkUPs, there is on average 0.72 jobs for every one working-age person. That is a significant improvement over the 0.65 ratio in Silver WalkUPs and 0.55 in Copper WalkUPs. In addition, the Gold WalkUPs have the lowest unemployment rate.

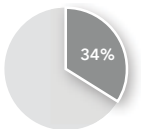
In addition to the greater accessibility to jobs, these Gold WalkUPs are significantly more affordable than the average Silver WalkUP. The average housing and transportation costs in the Gold WalkUPs are 35 percent, eight percentage points lower than the same costs in the Silver WalkUPs. Plus, a greater share of these housing units is affordable to the lowest-wage workers in the WalkUP.

PLATINUM

	Scatterplot Quadrant
DETROIT-ANN ARBOR:	
Midtown - Cass Park District	2
GRAND RAPIDS-MUSKEGON-HOLLAND:	
Downtown Grand Rapids	2
LANSING-JACKSON:	
Downtown Lansing	2
Michigan Avenue - Sparrow	2

Average Key Metrics

Housing & Transportation Index:
(H&T costs as a % of a the metro region's median income)



Affordable Housing Availability: 1.14
(Ratio of affordable housing to low-wage workers in a WalkUP)

ABC Commuting: 38%
(Proportion of WalkUP's residents that commute by non-car modes)

Jobs Accessibility: 0.88
(Ratio of jobs to working-age population within a 45-minute drive time)

Unemployment Rate: 17%

School Reading Proficiency: 51%
(% of students with proficient or higher reading level)

Four WalkUPs receive the Platinum ranking: Downtown Lansing and the nearby Michigan Avenue - Sparrow, Midtown - Cass Park District, and Downtown Grand Rapids. For certain components of the accessibility/opportunity index, these WalkUPs actually have lower scores than the Gold WalkUPs but they still maintain an above average overall score for accessibility/opportunity, primarily due to the high number of jobs available to the working-age population within 45 minutes.

These WalkUPs combine that above-average accessibility/opportunity with excellent affordability. The average housing and transportation cost as a percentage of income in these WalkUPs is just 34 percent, one point lower than the Gold WalkUPs. In addition, the share of housing stock that is affordable in these WalKUPs compares favorably with the number of employees earning less than $15,000 that work in them.

The Platinum ranking should not, however, be understood as a clean bill of health in terms of social equity. All of the rankings in this report are determined on a curve. That is to say that these rankings are not based on any universal standards of social equity. Even those that do relatively the best may have significant need for improvement. Indeed the data suggest that, even in these Platinum WalkUPs, there may be concerns regarding unemployment and schools. In fact, as a group the Platinum WalkUPs score well despite their schools rather than because of them.

NEXT STEPS

Conclusions & Recommendations

The drivable sub-urban development in Michigan Metros has long been influenced by the state's car and truck manufacturing industry. Though one or two real estate cycles behing metros like Boston and Washington, D.C., this research shows the pent-up demand for walkable urban development.

The purpose of the *WalkUP Wake-Up Call* reports is to provide a basic understanding of how metropolitan regions work, specifically through the lens of the two primary approaches to metropolitan development, drivable sub-urban and walkable urban. The analysis is relevant because, as we have seen in Washington, Boston, Atlanta, and in other metros across the country, walkable urban development has become the major unserved market, which has led to price premiums. This is an indicator of pent up demand. Dozens of studies—not just those from advocates, but also from independent academic and business sources—have found that increased walkable urbanism drives economic growth, attracts young educated workers, can provide increased social equity, and is environmentally sustainable.

In the Washington and Boston *WalkUP Wake-Up Call* reports, this understanding of walkable urbanism's impact is clear. The dramatic transformation of neighborhoods like Columbia Heights in Washington, D.C., a neighborhood scarred by riots in 1968 to one that now has among the highest residential real estate prices in the District, or the numerous cranes erecting millions of new square feet in the Seaport District adjacent to Downtown Boston, reflect the pent-up demand. The value premiums associated with these walkable urban places have become so large as to be unmistakable. For example, in Boston, we determined that the average value of office space in walkable urban places is 134 percent higher, on average, than office space located in a drivable sub-urban location.

Outside of these and a few other metropolitan areas in the U.S., however, many developers, investors and even some policymakers regard these trends with skepticism. They make arguments such as: "the car culture is too ingrained," "there may be a market in coastal cities but not here," "development costs are too high," or "there is no rail transit." The aim of this report, then, was to understand who is right in Michigan, a state hammered by the decline of its industrial base, especially automobile manufacturing, and little rail transit (the under-construction M-1 light rail line in Downtown and Midtown Detroit will be the first in nearly 30 years).

Does the trend in favor of walkable urbanism apply in a Midwestern state with plenty of available land, a car-oriented culture, and no rail transit, or will the same economics of drivable sub-urban development that dominated the last fifty years also command the next? Moreover, this report examines whether the walkable urban trend extends beyond major metropolitan areas like Detroit into smaller, mid-size metro areas, a question not previously explored.

These questions are not merely academic. If there truly is pent-up demand for walkable real estate, then there are profitable opportunities for developers and investors. For policymakers, the question is also critical. If the market wants walkable urbanism, policymakers need to ensure their respective city, region, or the state of Michigan can provide it. If not, they may lose growth to other jurisdictions. Not providing walkable urbanism may also put their future economic base at risk, since significant young educated workers are demanding walkable urban places to live, work, and play.

The same trends that are so obvious in Boston and Washington are in fact emerging in the Michigan Metros at varying strengths in each metro area. Although signs point to the trend continuing in the future, key issues need to be addressed if walkable urbanism is to flourish in Michigan.

THE MARKET WANTS WALKUPS, BUT THE SUPPLY IS LIMITED

A variety of "target market analyses," funded by MSHDA and conducted by various market analysts, have been conducted for Downtown Kalamazoo, Downtown Holland, Downtown Jackson, Southwest Detroit, and the proposed bus-rapid transit corridor in Lansing. All have found significant demand for new residential units. The Downtown Detroit Target Market Analysis in particular, estimates demand for more than 1,100 units per year. Moreover, demographic trends and national polls suggest there is a significant potential demand for walkable urban places. But the most convincing evidence is the experience on the ground in those places that have seen new residential development. Downtown Kalamazoo, Flint, Saginaw, and Bay City have all seen very strong demand for the new units built in their downtowns. There are waiting lists to get in these units. In addition, rental apartments in WalkUPs are achieving higher rents on a per square foot basis than those located in Edge Cities in every metro area except Jackson, where not enough WalkUP apartments exist to evaluate. That premium ranges from three percent in Flint, to 40 percent in Grand Rapids.

The market demand is also indicated by dramatic increases in the average price of for-sale residential homes in WalkUPs in Detroit-Ann Arbor, Grand Rapids and Saginaw-Bay City-Midland. In each case the average price per square foot of homes is not only significantly higher than Drivable Sub-divisions, ranging from 57 percent in Detroit-Ann Arbor to 105 percent in Saginaw-Bay City-Midland, these value premiums have grown over the last five years with no sign of flattening out. The trend may extend to other metros as well but we simply do not know because of data limitations. In Flint and Jackson, there were not enough for-sale homes and flats in WalkUPs to provide any reliable pricing data. In Kalamazoo-Bat-

tle Creek, data on prices per square foot was not available. Lansing was the only metro with complete data where WalkUP home prices were not higher than other real estate product categories. But in Lansing, over 800 multifamily units in 10 projects between downtown Lansing and East Lansing have been announced, which could change future prices.

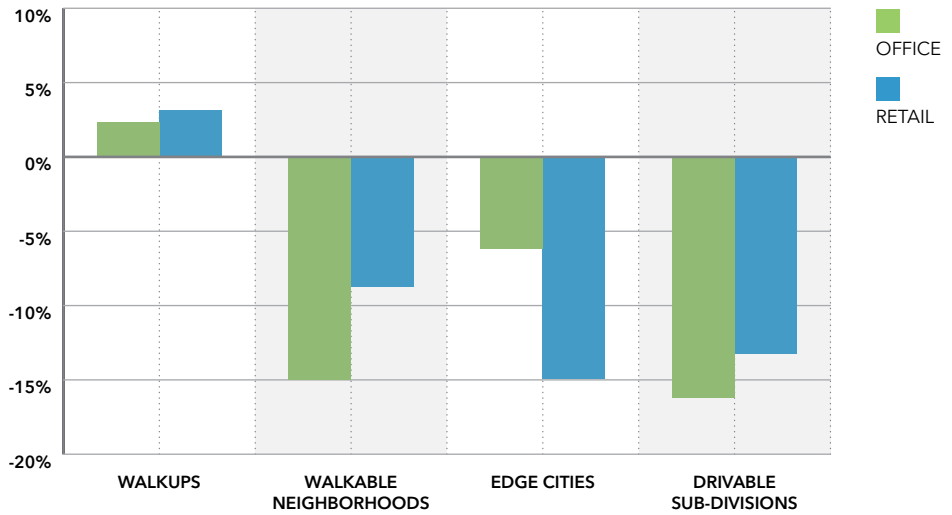
There is every reason to believe that significant pent-up demand remains. More than 64 percent of households in Michigan Metros are now comprised of singles and couples, and their share is likely to grow. They are the most likely households to choose a smaller home, perhaps without a yard, in a walkable urban place. But only eight percent of the Michigan Metro housing stock is in Walkable Neighborhoods or WalkUPs. Even if just half of those single and couple households are interested in a walkable urban place, the demand still dwarfs the supply. It would take many years of building in walkable urban places to bring supply and demand back to balance.

Data on office performance is less conclusive than that for residential but there are still strong signs of a market preference toward walkable urbanism. In four of the seven Michigan Metros, including the largest, Detroit-Ann Arbor, office rents are at least equal to, or higher than in Edge Cities. And in five of the Michigan Metros, again including Detroit-Ann Arbor, office vacancy rates are also lower in WalkUPs. Further, the momentum appears to be in favor of WalkUPs. WalkUPs have managed to slightly increase their average rents since 2008, while average rents in Edge Cities and Drivable Sub-divisions have fallen.

Retail development is known to follow its customers, and as we have shown in this report, the vast majority of them live in drivable sub-urban locations. Just 7 percent of the total retail inventory in the Michigan Metros is located in WalkUPs. Still, there is some evidence that this WalkUP retail is particularly desirable. In five of the seven Michigan Metros, retail rents were, on average higher in WalkUPs than in Edge Cities. The WalkUP premiums range from

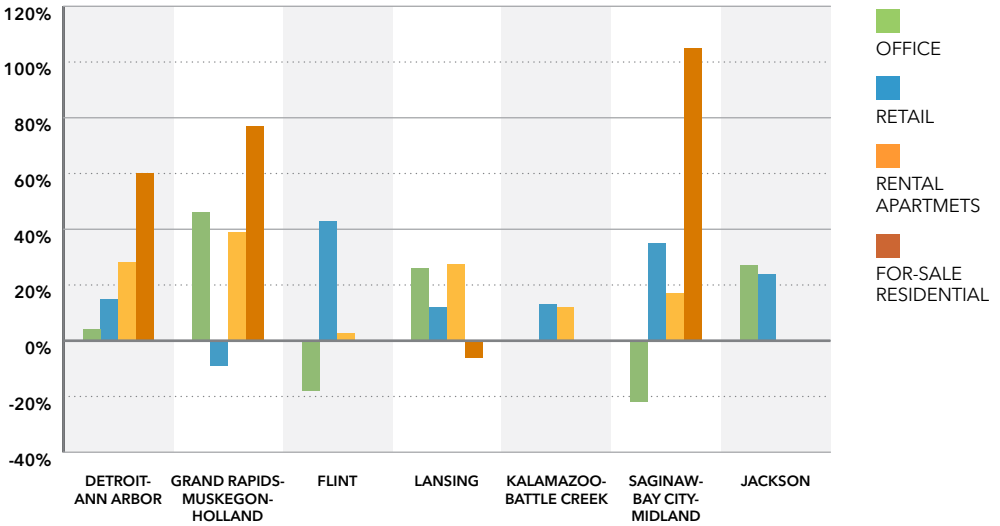
Change in Average Rents per Square Foot Since 2008

Weighted Average Across All Michigan Metros



Rent/Price Premium of WalkUPs vs. Edge Cities

Average Price per Square Foot



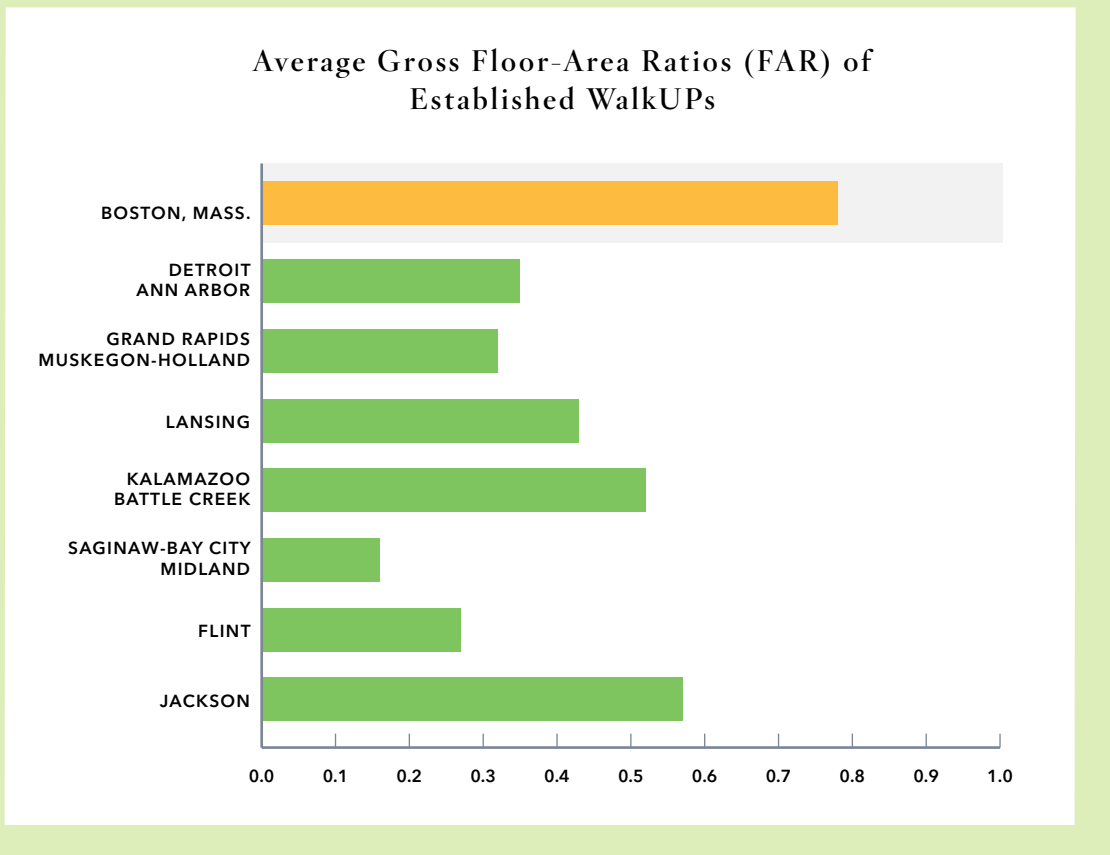
12 percent in Lansing, to 43 percent in Flint. A key caveat, however, is that these average rates cover a wide variety of retail types, from small shops to major power centers and regional malls, which are not evenly distributed across WalkUPs and drivable sub-urban locations. Better data would be needed to understand how the different types of retail respond to walkable urbanism.

THE MARKET MAKES A CLEAR DISTINCTION BETWEEN WALKUPS AND WALKABLE NEIGHBORHOODS

The positive market signals associated with WalkUPs are not found with the same strength in local-serving Walkable Neighborhoods. For example, Detroit-Ann Arbor WalkUP home prices per square foot are 57 percent higher than Drivable Sub-division prices but Walkable Neighborhood prices are only 13 percent higher. In Grand Rapids-Muskegon-Holland, Flint and Saginaw-Bay City-Midland, Walkable Neighborhood prices are actually lower than in Drivable Sub-divisions. These three metros also have lower multifamily rental rates per square foot than Drivable Sub-divisions. Although they maintain premiums over Drivable Sub-divisions in some metros, in others they are actually at a discount. This may be a reflection of Michigan Metros being one-to-two real estate cycles behind Boston and Washington.

Retail rents in Walkable Neighborhoods are higher, on average, than in Drivable Sub-divisions by 10 percent, but they vary widely by metro area. And, due to the previously mentioned caveats regarding retail rents, less emphasis should be placed on this estimate. Office rental premiums in Walkable Neighborhoods are, on average, lower than all other land use categories.

Nonetheless, there is probably untapped potential in some of these Walkable Neighborhoods, particularly those close to established WalkUPs. These neighborhoods have the potential to offer both a single-family detached home and the ability to walk to restaurants and retail. For many, that is the perfect balance. In Washington and Boston, rental apartments and for-sale residential within walking



distance of WalkUPs have achieved significant price premiums over similar products not within walking distance in the same jurisdiction. For-sale residential within walking distance of Downtown Ann Arbor and Birmingham have a 46 and 19 percent price per square foot premium respectively over non-walkable for-sale residential in those jurisdictions.

MICHIGAN'S WALKUPS NEED MORE DENSITY

Each WalkUP report has found a strong positive correlation among density, Walk Score and economic performance. This makes sense because the more people and employees there are in a walkable urban place, the more shops and destinations there must be to serve them, which in turn attracts more people and employees, starting a "virtuous cycle." The WalkUPs of the Michigan Metros, however, are clearly lacking in this density. The average gross FAR in the established WalkUPs in the Michigan Metros is 0.43. In Atlanta, it is 0.60, and in Boston, it is 0.78, almost double the Michigan FAR. Much of the difference appears to be due to a lack of residential products. The average population density of a WalkUP in Boston is 28 people per acre. Across all the Michigan Metros, it is just 9.1 people per square acre. The lower average density is also reflected in the Walk Score, which averages 78.5 across all of the WalkUPs in the Michigan metros, compared to 85.0 across all WalkUPs in Boston. This may be a reflection of Michigan Metros being one-to-two real estate cycles behind Boston and Washington.

As we have seen, while the WalkUPs in Michigan are supporting rent premiums, they are not as high in Boston and Washington, D.C. It may be tempting to explain the discrepancy using all of the skeptics' arguments presented above. But this data suggests another potential explanation—that the Michigan WalkUPs are not dense enough. Consider that in Boston, the average weighted rent for WalkUPs with gross FARs below 0.8 is $21.60 per square foot. not much higher than the regional average. But for those over 0.8, the weighted average rent is $41.64 per square foot. This is not to suggest that a 0.8 FAR is the magic number—there are many variables that influence rents—but it is worth noting that only three of the 46 established WalkUPs in the Michigan Metros have a gross FAR of 0.8 or higher.

FINANCIAL FEASIBILITY ISSUES CAN LIMIT NEW DEVELOPMENT IN WALKUPS; PUBLIC ASSISTANCE IS NEEDED

Achieving higher density requires developers willing to build it, but the land-use regulations and economics of real estate development can make that difficult. Land assembly in urban infill environments is more time-consuming and expensive than in drivable locations. Higher density construction costs are more expensive on a per-square-foot basis so the development must achieve higher rents than drivable sub-urban to be justified. Regional economies in Michigan are only now beginning to recover from a deep recession that depressed rents and prices, and slowed development throughout the state. The key point is that, despite all of the pent-up demand for walkable urbanism, developers still might not be able to build it profitably, at least not in those WalkUPs ranked below Gold that are the majority of WalkUPs in the Michigan Metros.

Government assistance is probably the only effective means of overcoming this issue in the short-term. Governments can assemble sites themselves or provide parking facilities, sparing developers the cost and effort, and/or they can offer direct financial assistance. That could be provided any number of ways, including grants, low-interest loans, loan guarantees, and/or equity investment in projects. Ideally this investment would take the form of "patient equity," which allows for the public funds to be invested side by side with the developer. There would be a repayment mechanism (hopefully plus a healthy return), which could then be re-invested in other projects in the future. The rationale for the public support is that, after enough projects are developed, the increased density will support higher rents that will support private development without any assistance. Over the long term, however, as developers, investors, and lenders see the increased market potential of walkable urbanism, they will likely create ways to deliver it more efficiently. This may be happening already in select WalkUPs in Detroit-Ann Arbor, Grand Rapids-Muskegon-Holland and Lansing, where the share of development happening in walkable urban places is on the increase.

A key issue to consider here is that the achievement of density requires the concentration of development in a limited number of places. Metro regions can only support a certain amount of new development each year, determined by the region's job and population growth. And even with vital, walkable urban places, some portion of new development will occur in a drivable sub-urban format. Attempting to incentivize development in many places spread out across the region at the same time risks defeating the purpose, because no one single location will

achieve the necessary density and synergies to create a viable walkable urban place.

The WalkUPs listed in this report, especially those ranked Silver in the economic rankings, are the logical places to start. They already have the foundations of walkable urbanism, but need some help to reach the next level. In addition, subsidies will likely always be needed in all of these metros to ensure the availability of low- and moderate-income units.

PLACEMAKING IS NOT JUST ABOUT PLACES: IT MATTERS TO THE REGION'S ECONOMIC DEVELOPMENT

As described earlier in this report, the Foot Traffic Ahead report found a strong positive correlation among three variables: walkability, educational attainment and per capita GDP for the 30 largest metropolitan areas in the country. We found the same correlation among the Michigan Metros, suggesting that walkability's relevance to an educated work force in particular extends even to smaller metro areas.[48] Again, correlation is not causation, but the circumstantial evidence is strong that educated workers, particularly those under age 35, want to live in metro areas that have walkable urban places. If talent attraction and retention is a component of the regional economic development agenda, then there is a strong argument that placemaking must also be part of that agenda.

STRATEGIES TO SUPPORT WALKUPS

This report is too broad in scope to permit policy recommendations specific to any place. Nonetheless, there are a variety of known policies and tools that may be used by various levels of government to support and encourage the development of WalkUPs. At a minimum, the government must not discourage walkable urban development with outdated, auto-oriented zoning codes and parking regulations, or long public approval processes.

Doing the minimum, however, may not be enough for many communities that have long suffered from disinvestment and a poor image to harness the potential of this shift in market demand. This is particularly true for those WalkUPs ranked Copper on the economic scale and many Walkable Neighborhoods. In many cases, a major catalytic development effort is needed to transform these places and demonstrate their potential. Public support is often needed to get pioneering projects off the ground but this support need not necessarily be subsidies or incentives.

Public support may also take the form of an investment in the project, or a catalytic development organization, that pays back the invested capital, hopefully with a return. Holding public events/festivals, and/or placing public offices in the WalkUPs can also be effective means of changing an area's perception. These are just a few of many potential tools that fall under the fields of place making and place management. The EPA recently published a report detailing 30 potential strategies for attracting urban infill development to distressed locations.[49]

A MAJOR INVESTMENT IN RAIL TRANSIT WOULD SUPPORT THE DEVELOPMENT OF WALKABLE URBAN PLACES

Michigan has been the center of the car-and truck-manufacturing industry for 100 years, creating great wealth. The focus on cars and trucks has also propelled drivable sub-urban development, so the preponderance of that development type is not surprising. There is almost no rail transit in the state, though the M-1 light rail line on Woodard is under construction. However, metro Boston has 75 percent of its WalkUPs places served by rail transit.. In metro Washington, D.C., 77 percent of the WalkUPs have rail transit. It is not essential for a WalkUP to be served by rail, but it certainly helps. Rail transit is particularly attractive to people who have choice; middle- and upper-income households that have relied exclusively on autos for transportation. Rail transit also allows all households locating in a walkable urban place to drop one or more cars out of the household budget, money that could be invested in housing, education, or savings.

The investment in rail transit has been perceived to be "anti-car" in Michigan, betraying the industry responsible for so much of the wealth generation of the past century. However, it should be perceived as "pro-choice" in transportation options. Most Michiganders must drive; they have no choice. Offering choice is what a capitalist economy does and it is what the market is demanding. Opposing market forces is not a way to promote the underlying economic development goals of the state.


APPENDICES

Methodology

The methodology employed in this report has its basis in research described in the Brookings Institution report, *Walk This Way*,[50] and used in three prior *WalkUP Wake-Up Call* reports by the GW School of Business focused on Washington, D.C.,[51] Atlanta,[52] and Boston.[53]

The first task was to define the metropolitan areas. For this purpose, we used Census definition of urbanized land that fell within the boundaries of the respective metropolitan planning organization's (MPO) jurisdiction. In some cases, like Kalamazoo and Battle Creek, and Saginaw and Bay City, we combined two MPO jurisdictions into one region. These regions are not the same as the metropolitan statistical areas defined by the Census. The overall outline of the metro areas we defined is shown on the maps in this report.

We reviewed and compiled data from CoStar, Cushman and Wakefield, and the U.S. Census, in particular its employment location tool known as "OntheMap."[54] These commercial concentrations were initially separated into walkable and drivable using Walk Score. We obtained Walk Scores for points at 1,000-foot intervals across all of the urbanized land, as defined by the Census, within the Michigan Metros.[55]

For each WalkUP candidate, boundaries were refined based on a review of aerial photographs, established or commonly held neighborhood boundaries or place management districts, and input from local governments and real estate professionals. The local input was provided through two advisory committee meetings in each of the Michigan Metros. Ultimately the boundaries were finalized by the experienced judgment of our team, which included professionals from the Center for Real Estate and Urban Analysis at George Washington University School of Business and Michigan State University's Land Policy Institute affiliated with the School of Planning, Design and Construction. In addition, boundaries were drawn with the recognition that a single walkable place tends not to exceed 600 acres, based upon experience and the limitations people are willing to walk, generally agreed to be between 1,500 and 3,000 feet.

After boundaries were established, average Walk Scores and intersection densities[56] for each WalkUP candidate were calculated, and data on the commercial real estate inventory was aggregated from CoStar.

To be considered an established regionally significant WalkUP, each candidate had to meet the following criteria:

- **WALKSCORE:** Average value ≥ 70.5
- **INTERSECTION DENSITY:** Average ≥ 100 per square mile
- **OFFICE & RETAIL SPACE:**
  - **Office:** ≥ 1.4 million square feet
  and/or
  - **Retail:** ≥ 340,000 square feet

Candidates that did not meet the criteria were reclassified as regionally signinicant Edge Cities, emerging WalkUPs, or local-serving neighborhoods. For emerging WalkUPs, the minimum Walk Score criteria was reduced to 60, the intersection density per acre threshold reduced to 85, and the space requirements reduced to 80 percent of the established number, e.g. 1,112,000 square feet of office or 272,000 square feet of retail.

Regionally significant drivable sub-urban Edge Cities, were identified as locations that had a minimum of either 1.4 million square feet of office or industrial space, or 340,000 square feet of retail but did not meet the walkability criteria for established or emerging WalkUPs. Boundaries were drawn based on a review of CoStar data and aerial photographs for commercial concentrations.

Walkable Neighborhoods were identified as those areas with Walk Scores of at least 60 and average intersection densities of at least 100 per square mile. The process was not entirely mathematical, however, and some judgment by the George Washington University was applied to define the boundaries.

INVENTORY & PRODUCT MIX ESTIMATES

Estimates of the square footage of inventory and product mixes in each place are based on CoStar estimates of total inventory by product type for all commercial real estate, including rental apartments. Estimates of the for-sale residential square footage estimates are based on unit counts in the 2009-2013 American Community Survey data at the census block group level. For purposes of this analysis, we have assumed an average size of 1,800 square feet for each single-family detached unit, 1,200 square feet for each single-family attached unit, and 1,000 square feet for each owner-occupied multifamily unit. Estimates of university and hospital square footages are based on information provided by the institutions themselves where possible. However, no attempt was made to collect this information except in WalkUPs. More precise estimates of the total square footage could be made with parcel level data collected by the assessor, but this data was not available to the researchers.

TRAVEL BEHAVIOR ESTIMATES

Estimates of the distance between a worker's home and job are based on the Census LODES dataset, which identifies the census block of the both the worker's home and location of employment. The distances reported refer to straight lines between the home and job, not the distance along a street network.

ECONOMIC RANKINGS: METHODOLOGY & SOURCES

Building-level rent information was aggregated to the defined geographies to generate the analysis of rent premiums. The information on rents came primarily from CoStar. In the case of office buildings in Detroit-Ann Arbor, rent data was supplemented with information from Cushman and Wakefield, which generously agreed to work with us on this study. The CoStar rent information for office and retail is based on asking rents from buildings only with available space. For rental apartments, it is based on a sample of primarily larger buildings. It is not a perfect census. This is common practice for almost all market reports on these subjects, but the limitations of the sample should be acknowledged. The sample size within any geography is limited by the number of buildings offering space for rent that also name their asking rent. There is a margin of error and it increases for smaller geographies, particularly for Walkable Neighborhoods, where there are few commercial buildings.

Moreover, the rental rates presented in this report should be understood as broad averages across a variety of product classes, types, and ages. There is significant variation around these averages depending on these various factors. As a result, they may differ widely from any specific project or site. Estimates of for-sale residential home prices per square foot are based on data provided by Corelogic[57] at the census block group level. No data on prices per square foot were available in Kalamazoo County. For purposes of the economic rankings, for-sale housing prices were converted into annual rents per square foot by estimating the annual mortgage payment, assuming a 30-year fixed mortgage at a 4 percent interest rate, adding an assumed 3.5 percent property tax payment and a homeowners' insurance premium of $.50 per square foot.

For purposes of the economic rankings, a weighted average rent across all product types was calculated. The weights were determined by the square footage within each product type. For example, if a WalkUP has more office than retail, then the office rents factor more heavily into the average. In some cases, no rent or price data for certain product types was available. In those cases, the weighted average rent for the WalkUP was based only on the available data.

SOCIAL EQUITY RANKINGS: METHODOLOGY & SOURCES

The following data sources were used to calculate the social equity metrics.

- **Percentage of Low-Wage Jobs to Affordable Housing Ratio:** Using the Census's Onthe-Map tool, we estimated the share of workers employed in each WalkUP that earn less than $15,000. That share was then compared to the share of housing units affordable to households earning that wage in the WalkUP. For purposes of this analysis, we assumed apartments renting for less than $400 and homes worth less than $50,000 were affordable with this income. Data on apartment rents and home values were estimated from the 2009-2013 American Community Survey at the census block group level.
- **Housing and Transportation Costs as a Percentage of Median Income:** The Center for Neighborhood Technology's H+T index. http://htaindex.cnt.org/map/
- **Non-Car Commute Share:** American Community Survey 2009-2013
- **Jobs to Working Age Population Ratio within 45 Minutes:** The EPA Smart Location database. http://www2.epa.gov/smart-growth/smart-location-mapping
- **School Proficiency:** Data on average reading proficiency by school, for elementary schools, based on the Michigan Educational Assessment Program. Information on school district boundaries was not available, therefore scores for WalkUPs are based on the average scores of the three nearest schools. http://www.michigan.gov/mde/0,4615,7-140-22709_70117_40135---,00.html

Note that the boundaries of the geographies defined do not match census boundaries. Census data was aggregated to the WalkUP boundaries based on land area. For example, to estimate the quantity of housing units in each WalkUP, the number of housing units per acre in the Census block group was multiplied by the number of acres in the WalkUP that also fell within the Census block group. More precise information was not available.

Distribution of Land, Population, and Employment by Census Place

	LAND AREA				POPULATION				JOBS[2]			
	Total Acres	% in WalkUP[1]	% in Walkable Neighborhood	Total Walkable	Total	% in WalkUP	% in Walkable Neighborhood	Total % Walkable	Total	% in WalkUP	% in Walkable Neighborhood	Total % Walkable
WALKUPS												
Allen Park	4,482	0%	15%	15%	27,982	0%	22%	22%	10,546	0%	39%	39%
Ann Arbor	17,833	4%	5%	10%	115,331	16%	13%	29%	114,281	31%	1%	32%
Belleville	727	0%	12%	12%	3,941	0%	15%	15%	2,999	0%	20%	20%
Berkley	1,674	15%	64%	79%	15,091	14%	71%	85%	5,293	19%	75%	94%
Birmingham	3,067	10%	32%	42%	20,241	9%	37%	46%	14,573	68%	19%	87%
Brighton	2,276	2%	0%	2%	7,509	1%	0%	1%	11,672	5%	0%	5%
Center Line	1,114	0%	18%	18%	8,272	0%	24%	24%	4,564	0%	28%	28%
Clawson	1,408	0%	46%	46%	11,913	0%	47%	47%	4,210	0%	58%	58%
Dearborn	15,507	2%	10%	12%	97,140	2%	25%	27%	83,187	5%	5%	10%
Dearborn Heights	7,513	0%	5%	5%	57,291	0%	6%	6%	9,089	0%	17%	17%
Detroit	88,800	4%	7%	11%	706,663	4%	9%	14%	243,826	52%	16%	67%
Eastpointe	3,292	8%	0%	8%	32,524	6%	0%	6%	5,544	14%	0%	14%
Farmington	1,702	9%	0%	9%	10,447	8%	0%	8%	7,823	19%	0%	19%
Ferndale	2,483	4%	50%	54%	20,073	3%	60%	63%	7,074	16%	43%	59%
Garden City	3,756	0%	4%	4%	27,499	0%	3%	3%	5,965	0%	11%	11%
Grosse Pointe	678	0%	42%	42%	5,385	0%	46%	46%	1,778	0%	83%	83%
Grosse Pointe Farms	1,760	0%	18%	18%	9,407	0%	30%	30%	1,909	0%	61%	61%
Grosse Pointe Park	1,388	20%	10%	30%	11,475	34%	12%	45%	1,714	62%	2%	65%
Grosse Pointe Woods	2,079	0%	10%	10%	16,006	0%	11%	11%	4,926	0%	20%	20%
Hamtramck	1,335	16%	56%	72%	22,258	20%	71%	91%	3,072	35%	61%	96%
Hazel Park	1,803	0%	15%	15%	16,528	0%	17%	17%	2,828	0%	40%	40%
Highland Park	1,901	0%	12%	12%	11,293	0%	16%	16%	3,677	0%	2%	2%
Howell	3,179	1%	0%	1%	9,539	2%	0%	2%	7,001	16%	0%	16%
Huntington Woods	938	0%	18%	18%	6,280	0%	24%	24%	952	0%	61%	61%
Lake Orion	495	0%	21%	21%	3,001	0%	19%	19%	2,057	0%	26%	26%
Lincoln Park	3,758	5%	30%	35%	37,819	4%	34%	38%	5,693	24%	29%	53%
Madison Heights	4,536	0%	19%	19%	29,933	0%	27%	27%	22,806	0%	10%	10%
Marine City	1,374	0%	15%	15%	4,213	0%	47%	47%	1,158	0%	29%	29%
Milford	1,556	0%	5%	5%	6,265	0%	7%	7%	2,025	0%	29%	29%
Monroe	5,866	1%	8%	9%	20,627	2%	24%	26%	9,105	17%	8%	25%
Mount Clemens	2,604	5%	18%	23%	16,362	2%	28%	30%	16,225	5%	17%	22%
New Baltimore	2,949	0%	2%	2%	12,044	0%	2%	2%	1,301	0%	33%	33%
Northville	1,310	16%	0%	16%	5,994	16%	0%	16%	3,965	37%	0%	37%
Oxford	801	0%	11%	11%	3,464	0%	17%	17%	857	0%	30%	30%
Pleasant Ridge	364	0%	36%	36%	2,539	0%	42%	42%	555	0%	41%	41%
Plymouth	1,415	12%	46%	58%	9,061	11%	58%	69%	6,858	33%	45%	78%
Pontiac	12,782	2%	4%	6%	59,751	2%	6%	8%	22,967	16%	5%	21%
Port Huron	5,178	3%	9%	12%	29,819	2%	12%	14%	17,067	26%	22%	48%
River Rouge	1,698	0%	6%	6%	7,857	0%	10%	10%	984	0%	48%	48%
Rochester	2,448	7%	0%	7%	12,782	7%	0%	7%	6,914	56%	0%	56%
Romeo	1,291	0%	4%	4%	3,438	0%	7%	7%	3,963	0%	15%	15%
Royal Oak	7,542	6%	24%	30%	58,065	7%	25%	31%	30,354	20%	59%	78%
Saline	2,726	0%	2%	2%	8,913	0%	5%	5%	6,819	0%	17%	17%
South Lyon	2,390	0%	4%	4%	11,423	0%	5%	5%	2,432	0%	25%	25%
South Monroe	1,518	0%	4%	4%	6,649	0%	7%	7%	3,694	0%	2%	2%
Southgate	4,381	0%	17%	17%	29,800	0%	24%	24%	11,014	0%	8%	8%
St. Clair Shores	7,467	0%	6%	6%	59,895	0%	6%	6%	14,086	0%	25%	25%
Trenton	4,648	0%	4%	4%	18,693	0%	7%	7%	3,395	0%	13%	13%
Utica	1,094	0%	14%	14%	4,760	0%	12%	12%	3,651	0%	22%	22%
Walled Lake	1,393	0%	16%	16%	7,053	0%	12%	12%	2,063	0%	9%	9%
Wayne	3,853	4%	6%	10%	17,423	5%	11%	16%	10,271	9%	16%	25%
Westland	13,072	0%	1%	1%	83,476	0%	1%	1%	20,215	0%	1%	1%
Wyandotte	3,403	5%	17%	22%	25,621	5%	23%	28%	13,492	7%	6%	13%
Ypsilanti	2,771	20%	15%	35%	19,647	36%	15%	51%	7,353	68%	5%	73%

Distribution of Land, Population, and Employment by Census Place

	LAND AREA				POPULATION				JOBS[2]			
	Total Acres	% in WalkUP[1]	% in Walkable Neighborhood	Total Walkable	Total	% in WalkUP	% in Walkable Neighborhood	Total % Walkable	Total	% in WalkUP	% in Walkable Neighborhood	Total % Walkable
FLINT												
Fenton	4,274	0%	3%	3%	11,656	0%	5%	5%	6,366	0%	7%	7%
Flint	21,374	1%	4%	5%	101,649	1%	6%	7%	78,382	10%	13%	23%
Grand Blanc	2,313	0%	7%	7%	8,206	0%	6%	6%	8,945	0%	77%	77%
GRAND RAPIDS-MUSKEGON-HOLLAND												
Byron Center	3,253	0%	3%	3%	5,854	0%	3%	3%	2,020	0%	6%	6%
East Grand Rapids	1,877	0%	17%	17%	10,887	0%	18%	18%	3,185	0%	58%	58%
Grand Haven	3,694	7%	8%	15%	10,594	15%	18%	33%	10,483	15%	1%	16%
Grand Rapids	28,422	5%	14%	18%	189,735	4%	26%	30%	125,179	37%	22%	60%
Grandville	4,655	4%	0%	4%	15,530	3%	0%	3%	13,232	13%	0%	13%
Holland	10,663	3%	6%	9%	33,281	8%	24%	33%	26,283	21%	4%	26%
Muskegon	9,095	2%	6%	8%	37,666	4%	12%	16%	17,677	29%	7%	36%
Muskegon Heights	2,039	0%	17%	17%	10,848	0%	19%	19%	2,103	0%	35%	35%
Zeeland	1,919	0%	6%	6%	5,553	0%	6%	6%	10,271	0%	9%	9%
JACKSON												
Jackson	6,940	2%	6%	7%	33,506	1%	11%	12%	33,177	34%	16%	50%
KALAMAZOO-BATTLE CREEK												
Battle Creek	27,263	1%	1%	2%	52,126	0%	7%	7%	30,088	11%	2%	12%
Kalamazoo	15,796	4%	4%	8%	74,812	5%	8%	13%	51,518	19%	4%	22%
LANSING												
Charlotte	4,127	2%	0%	2%	9,064	3%	0%	3%	4,934	10%	0%	10%
East Lansing	8,674	9%	7%	16%	48,556	28%	22%	50%	26,662	7%	6%	13%
Eaton Rapids	2,206	0%	1%	1%	5,212	0%	2%	2%	156	0%	97%	97%
Grand Ledge	2,286	0%	1%	1%	7,790	0%	1%	1%	2,585	0%	7%	7%
Haslett	9,840	0%	1%	1%	19,930	0%	4%	4%	3,075	0%	2%	2%
Holt	10,032	0%	1%	1%	24,204	0%	1%	1%	4,444	0%	16%	16%
Lansing	25,039	5%	11%	15%	114,274	13%	19%	32%	195,224	12%	8%	19%
Mason	3,264	0%	2%	2%	8,233	0%	3%	3%	4,781	0%	34%	34%
Okemos	10,730	0%	7%	7%	21,286	0%	13%	13%	15,246	0%	16%	16%
St. Johns	2,477	0%	4%	4%	7,903	0%	2%	2%	4,393	0%	15%	15%
Williamston	1,565	0%	3%	3%	3,841	0%	5%	5%	1,556	0%	100%	100%
SAGINAW-BAY CITY-MICHIGAN												
Bay City	6,506	3%	11%	14%	34,717	1%	23%	24%	14,826	25%	14%	39%
Frankenmuth	1,946	0%	4%	4%	4,929	0%	3%	3%	5,123	0%	42%	42%
Midland	21,595	1%	1%	2%	42,153	0%	3%	4%	31,647	8%	1%	9%
Saginaw	10,948	3%	4%	7%	51,165	1%	6%	7%	27,827	8%	10%	19%

Note 1: *Established or Emerging WalkUP*

Note 2: *The job information displayed in this table is based on 2011 data by Census block from the U.S. Census.(http://onthemap.ces.census.gov/). It does not include proprietors.*

Endnotes

1. Leinberger, Christopher B., *The Option of Urbanism, Investing in a New Amercian Dream*, Island Press, (Washington, D.C.), 2008, page 8.
2. https://www.rcanalytics.com/Public/rca_cppi.aspx
3. Note that the methodology behind these reports continues to evolve and therefore the percentages on the above graph are not perfectly comparable. Boston and Michigan percentages include both WalkUPs and Walkable Neighborhoods, defined on page X of the report, while Washington, D.C. and Atlanta only include development in WalkUPs. In addition, the Atlanta and Washington, D.C. numbers do not include development in 2014.
4. Nelson, Arthur C., R*eshaping Metropolitan America; Development Trends and Opportunities to 2030* (Island Press, 2013).
5. "A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity." The Milken Institute. Feb. 27, 2013. http://www.milkeninstitute.org/publications/view/564
6. Richard Florida, *The Rise of the Creative Class* (New York, Basic Books, 2012).
7. http://cityobservatory.org/wp-content/uploads/2014/10/YNR-Report-Final.pdf
8. Leinberger, Christopher B. and Lynch, Patrick, *Foot Traffic Ahead: Ranking Walkable Urbanism in America's 30 Largest Metros*, June 2014. http://issuu.com/gwbusiness/docs/foot_traffic_ahead/1.
9. The correlation is statistically significant at a 95, percent confident level.
10. If Jackson were excluded, the R2 for the correlation between walkable urbanism and per capita GDP rises to 0.54 and the correlation between walkable urbanism and educational attainment rises to 0.61. Among the Michigan Metros alone, excluding Jackson, the R2 for the correlation between walkable urbanism and per capita GDP is 0.58, and the R2 for the correlation between walkable urbanism and educational attainment is also 0.58. The inclusion of Jackson significantly reduces the correlations to 0.16. This may suggest that the correlations only apply to metro areas of a certain population. The Jackson metro area, as defined in this report has a population of 78,000. The next smallest, Saginaw-Bay City-Midland, has a population of 232,000.
11. http://www.smartgrowthamerica.org/core-values
12. http://www.washingtonpost.com/blogs/wonkblog/wp/2014/10/14/the-many-reasons-millennials-are-shunning-cars/;

    http://www.theatlantic.com/magazine/archive/2012/09/the-cheapest-generation/309060/
13. https://www.michigan.gov/documents/mdot/MDOT_MichiganGasTaxRevenueBrochure_481298_7.pdf
14. Leinberger, Christopher B. and Alfonzo, Mariela, *Walk this Way: The Economic Promise of Walkable Places in Metropolitan Washington, D.C.*, May, 2012, The Brookings Institution, Washington, D.C.
15. The distinction between regionally significant and local-serving is certainly a matter of judgment. For purposes of this research, the judgment is informed by the original research in Washington, D.C. cited in the previous endnote, which found that average rents were noticeably higher in places that met these thresholds. To facilitate comparisons among places, we have maintained these standards in subsequent reports in Atlanta and Boston.
16. "The Rise of Innovation Districts: A New Geography of Innovation in America," May 2014. http://www.brookings.edu/~/media/Programs/metro/Images/Innovation/InnovationDistricts1.pdf
17. Downtown GDP estimates are based on 2011 Census Local Employment Dynamics Data by 2-Digit NAICS code and the average "Value Added" per employee estimates by NAICS sector furnished by IMPLAN, a widely used economic impact modeling tool. Note that the 2011 job data does not include the self-employed/proprietors. GW has estimated the quantity of proprietors in each location by NAICS sector based on a comparison of data from the Bureau of Labor Statistics, which is more comparable to the Census data, and the Bureau of Economic Analysis, which includes proprietors.
18. http://www.detroitnews.com/story/news/local/detroit-city/2015/05/06/brush-park/70876706/

Endnotes

19. http://www.mlive.com/business/detroit/index.ssf/2013/08/another_company_moves_its_head.html

20. http://detroitsevenpointtwo.com/

21. http://www.mlive.com/news/ann-arbor/index.ssf/2014/06/12_new_developments_to_watch_i.html

22. Note that the statistics on square footage in this report are best estimates based on available data. The square footage of office, retail, hotel, industrial, and rental apartments is based on data compiled by CoStar. The estimates of for-sale residential space are based on the number of residential units by type within each area, derived from US Census data, multiplied by an estimated square footage for each unit type. For purposes of this report, we have assumed that each single-family detached unit has an average size of 1,800 square feet, each single-family attached unit, 1,200 square feet, and each owner-occupied multifamily unit, 1,000 feet. Parcel data, which would have allowed for more precise estimates, was not available. As described in the report text, some of these "for-sale" homes are actually occupied by renters.

23. The Floor-Area-Ratio is a measure of density. If, on one acre of land, there are 10 acres of floor-space, e.g. a 10-story building covering the entire area, the FAR is 10. The numbers we are presenting here are gross FARs. Roads, parks, and vacant land, which are not built on, are counted in the land area. In addition, owner-user space is generally not accounted for except in WalkUPs.

24. http://mibiz.com/news/design-build/item/22230-pair-of-proposed-new-projects-drives-development-activity-in-grand-rapids

25. http://www.mlive.com/news/muskegon/index.ssf/2014/01/jon_rooks_and_parkland_propert.html

26. See note 22 describing methodology for inventory estimates.

27. http://www.mlive.com/news/flint/index.ssf/2014/09/look_inside_downtown_flints_tr.html

28. http://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html

29. See note 22 describing methodology for inventory estimates.

30. See note 23 describing FAR.

31. http://www.lansingstatejournal.com/story/money/business/2015/05/18/apartment-building-boom-tied-jobs-economy/27529189/

32. See note 22 describing methodology for inventory estimates.

33. See note 23 describing FAR.

34. The CoStar data was not rich enough to permit comparisons within product type, particularly in the smaller metro areas.

35. http://www.mlive.com/news/kalamazoo/index.ssf/2013/10/plans_for_the_exchange_buildin.html

36. See note 22 describing methodology for inventory estimates.

37. See note 23 describing FAR.

38. http://www.mlive.com/business/mid-michigan/index.ssf/2014/02/five-story_development_with_re.html

39. http://www.mlive.com/news/bay-city/index.ssf/2015/02/developers_interested_in_resto.html

40. See note 22 describing methodology for inventory estimates.

41. See note 23 describing FAR.

42. U.S. Census Bureau. 2013. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. http://onthemap.ces.census.gov/. Note that the Downtown Development Authority in Jackson estimates a smaller quantity of employment in Downtown Jackson—in the range of 6,000 to 7,000.

43. Communication from Allan Hooper of the Jackson Anchor Initiative.

44. http://jaxanchor.org/wp-content/uploads/2015/02/Jackson-TMA-Market-Strategy.pdf

45. See note 22 describing methodology for inventory estimates.

46. This research defines critical mass being achieved when a WalkUP requires no extraordinary public investment or subsidy to stimulate the next real estate project. That said, the line is not always clear. Even in Gold WalkUPs, some public subsidy may be necessary for certain sites and/or product types to be developed. Silver and Copper WalkUPs may require public sector involvement to get a new project underway.

47. The unemployment statistics are based on the 2009-2013 American Community Survey data.

These estimates diverge from the commonly understood employment numbers due to the time period covered, when unemployment was high, and because it is a different data source than that used by the Bureau of Labor Statistics, which is the typical source of unemployment rates.

48. Though perhaps not too small. Jackson, the smallest of the Michigan Metros, was certainly an outlier and did not fit the pattern.

49. http://www2.epa.gov/sites/production/files/2015-05/documents/fresno_final_report_042215_508_final.pdf

50. Leinberger, Christopher B. and Alfonzo, Mariela, http://www.brookings.edu/research/papers/2012/05/25-walkable-places-leinberger

51. Leinberger, Christopher B., *DC: The WalkUP Wake-UP Call, The Nation's Capital As a National Model for Walkable Urban Places*, September 2012. http://issuu.com/gwbusiness/docs/dc_walkup/1

52. Leinberger, Christopher and Austin, Mason, *The WalkUP Wake-UP Call: Atlanta, The Poster Child of Sprawl Builds a Walkable Urban Future*, October 2013. http://issuu.com/gwbusiness/docs/gw_walkup_atlanta2013_ae49ee3092da4e/0

53. Leinberger, Christopher and Lynch, Patrick, *The WalkUP Wake-UP Call: Boston*, March 2015. http://www.smartgrowthamerica.org/documents/walkup-wake-up-call-boston.pdf

54. CoStar data is available at www.costar.com but requires a license to use. Census local employment dynamics data can be found at http://lehd.ces.census.gov/

55. For the Lansing and Jackson metropolitan areas, we were not able to obtain this point data. Instead, we relied on walkability heat maps visible on walkscore.com.

56. Street intersection densities are an indicator of the walkability of a street network. A higher number of intersections per square mile is at

57. http://www.corelogic.com/solutions/configurable-real-estate-data-reports.aspx/

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- **Detroit-Ann Arbor:** The Hudson-Webber Foundation and The Kresge Foundation
- **Flint:** Charles Stewart Mott Foundation
- **Saginaw-Midland-Bay City:** Midland Area Community Foundation
- **Lansing-Jackson:** Great Lakes Capital Fund and Consumers Energy
- **Jackson:** City of Jackson and Jackson Downtown Development Authority
- **Kalamazoo-Battle Creek:** Battle Creek Unlimited, Kalamazoo Community Foundation and The Jim Gilmore Jr. Foundation

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A series of "ground-truthing" meetings with local experts were held in each of the Michigan Metros. Grand Valley Metropolitan Council, The Charles Stewart Mott Foundation, Saginaw County Metropolitan Planning Commission, Southeast Michigan Council of Governments, Southwest Michigan First, The Right Place, and Downtown Grand Rapids, Inc. hosted these meetings. Well over a hundred state and local experts came to these meeting to assist us in making sure we understood the land use types in the Michigan Metros.

This research was completed in conjunction with **LOCUS: Responsible Real Estate Developers and Investors**, a project of **Smart Growth America**. The leadership of LOCUS who provided support and coordination of the research include Christopher Coes, Director; Zack Smith, Program Associate; and Megan Piece, Associate. The research was released at the **LOCUS Michigan Leadership Summit** on June 23, 2015.

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