Creating 21st Century Communities

Making the economic case for place

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Executive Summary

The Michigan Municipal League (MML), through its public policy forums, research, and education, identified eight assets that Michigan's communities need to grow and strengthen in order for our state to prosper in coming years. In 2015, MML hired Public Sector Consultants (PSC) to evaluate the relationship between these eight assets and economic growth indicators like income, employment, property values, educational attainment within the workforce, and new business starts.

PSC found significant research connecting these assets to economic prosperity, and that, given the uniqueness of every community, these asset areas are most effective when combined (in part or in total) to match specific communities' needs. Some of the key findings for each of these asset areas are summarized below.

- Physical design and walkability is positively correlated with property values, income, educational attainment, employment, and new business starts.
- Many businesses are also increasingly making their expansion, relocation, and new business development decisions based on which communities are most walkable.
- Mixed use, walkable downtown developments generate ten times as much tax revenue per acre, save almost 40 percent on up front infrastructure costs, and result in about 10 percent lower costs for service delivery than sprawl development.[1]

- Multimodal transportation systems that accommodate walkers, bikers, bus and rail passengers, and drivers facilitate economic prosperity and growth.
- Residential property values increase based on proximity to bus or transit stops, to as much as 150 percent.[2]
- Transit and bicycle infrastructure are also correlated with increased jobs and wages.

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[1] Mariela Alfonzo, May 8, 2015. "Making the Economic Case for More Walkability." Urban Land. Urban Land Institute. Available at: http://urbanland.uli.org/sustainability/houston-economic-case-walkability/ (accessed 5/30/2015)

[2] Dong Wook Sohn, et al. April 4, 2012. "The economic value of walkable neighborhoods." Urban Design International. 17. 115-128. Available at: http://www.palgrave-journals.com/udi/journal/v17/n2/full/udi20121a.html (accessed 6/6/2015)

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- Parks and trails help attract and retain well-educated professionals and, in turn, influence businesses' decisions on where to locate or expand.
- Seventy (70) percent of communities' green infrastructure assets, such as wetlands, water, or trails, have a positive impact on population, income and employment levels.[3]

- Arts and cultural amenities improve a community's competitive edge, contribute to a sense of place, and attract visitors, talent, and businesses.
- In Michigan, Grand Rapids' ArtPrize is an example of the connection between arts and economic prosperity. The three-week art competition draws almost half a million visitors each year and generates over $20 million in economic impact.[4]

- Entrepreneurial activity, measured through venture capital investment, is positively related to incomes as well as the percentage of adults who are college graduates.[5] It is also positively related to density, biking to work, and employment in the arts, thus reinforcing the relationship between the eight assets.
- Growth-oriented entrepreneurial startups, particularly high-tech companies, are generally responsible for most small business new job creation.

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[3] Soji Adelaja, et al. February 3, 2012. Drivers of Economic Performance in Michigan. Land Policy Institute. Available at: http://landpolicy.msu.edu/uploads/files/Resources/Publications__Presentations/Reports/LPI/LPI_Report_Series/Drivers_of_Econ_Performance/driversofeconperforminmi_fullreport_020312.pdf (accessed 9/2/2015)

[4] Scott Watkins, Lauren Branneman, and Tyler Theile. 2014. Art Prize 2013: Impact and Attendee Profile. Available at: http://www.andersoneconomicgroup.com/portals/0/artprize_2013econimpact_aeg010914.pdf (accessed 10/26/2015)

[5] Richard Florida. "The Connection Between Venture Capital and Diverse, Dense Communities."

- There is generally more venture capital investment in communities with greater diversity and a welcoming culture.
- Studies have shown that the number of foreign-born workers in a given community increases jobs for U.S. natives.[6]
- During the 2014–2015 academic year, for every seven international students enrolled in U.S. colleges and universities, three U.S. jobs were created and supported by international student spending on higher education, lodging, entertainment, retail, transportation, telecommunications, and health insurance.[7]

- Improving school quality and test scores is related to increased home values of as much as 3 percent.[8]
- Education attainment levels have also been associated with higher wages and below-average unemployment.

- Communities that more regularly communicate information to their residents and who invest in technology infrastructure (e.g., public Wifi or mobile applications), are improving community attractiveness and related job and business growth.
- Investments in technology, such as high-speed internet infrastructure, accelerate business development by supporting innovation and entrepreneurialism, expanding existing businesses, and creating e-commerce opportunities.[9]

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A partnership of business and economic development organizations throughout the U.S., have noted that high-speed internet connections accelerate business development by supporting innovation and entrepreneurialism, expanding existing businesses, and creating e-commerce opportunities.

[6] Madeline Zavodny. December 2011. Immigration and American Jobs. American Enterprise Institute for Public Policy Research and Partnership for a New American Economy. Available at: http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf (accessed 7/5/2015)

[7] National Association of International Educators. 2014. The Economic Benefit of International Students. Available at: http://www.nafsa.org/_/File/_/eis2014/USA.pdf (accessed 7/5/2015)

[8] Stephen Gibbons et al. 2013. "Valuing School Quality Using Boundary Discontinuities." Journal of Urban Economics. 75. 15-28.

[9] Speedmatters.og. N.d. "Benefits of Affordable High Speed Internet for Americans." Available at: http://www.speedmatters.org/benefits/ (accessed 10/24/2015).

Background and Overview

The Michigan Municipal League is dedicated to helping local officials identify, develop, and implement strategies that will grow and strengthen Michigan's communities. Through public policy forums, research, and education, the League identified eight assets that Michigan's communities need to grow and strengthen in order for our state to sustain and prosper in coming years: physical design and walkability, multimodal transportation networks, environmental sustainability, cultural economic development, entrepreneurship, a welcoming culture, education, and messaging and technology.

In the spring of 2015, the League contracted Public Sector Consultants (PSC)—a Michigan firm with over 30 years of experience providing independent research on a broad range of issues—to validate these assets using existing data and research. PSC conducted a thorough and objective review of more than 100 academic articles, industry reports, and case studies related to these asset areas, as well as research on community prosperity, economic development, urban renewal, and economic growth to identify common factors or community assets that have been correlated with economic health and prosperity. The purpose was to see whether and to what extent the asset areas identified by the League were included as key elements of successful community development and economic prosperity—specifically, how these asset areas correlate with the following key quantitative indicators of economic prosperity and growth[10]:

- Income
- Employment
- Property values
- Educational attainment
- New business starts

[10]Selected by PSC in consultation with the Michigan Municipal League.

Eight Key Community Assets for Creating 21st Century Communities

PSC's research focused on evaluating the connections between investments in the eight asset areas identified by MML and community growth and prosperity. The primary finding of PSC's analysis was that, given the uniqueness of every community, these asset areas are most effective when combined (in part or in total) and are applied in a nuanced fashion to specific communities. The following sections summarize the evidence connecting the asset areas to economic prosperity, and provide examples of Michigan communities and communities outside of Michigan that have embraced these assets and reaped subsequent economic and quality-of-life benefits. The interrelated nature of the assets and economic growth are discussed, as are the ways in which the assets work together to strengthen the prosperity of a community.

Physical Design and Walkability

Good physical design and walkability is no longer a luxury, but is actually imperative for the economic success of a community. Characteristics of good physical design and walkability include high density development, mixed land use, connectivity, public open space, sidewalk coverage, street density, and personal safety.

Physical design and walkability comprise one of the few assets identified by the League that has a straightforward and commonly used quantitative measure: the Walk Score. In 2007, Front Seat—an incubator for businesses applying high-tech for good[11]—first released Walk Score. Walk Score is a measure between 0 (car-dependent) and 100 (most walkable) related to the number of destinations (grocery stores, restaurants, schools, parks, etc.) located within a short distance of residential addresses.[12] Since then, countless researchers have used Walk Score data to explore how physical design and walkability impact the economic prosperity and growth of a community. The general consensus? While different land uses vary in terms of their relationship to different design characteristics, good design and walkability can be linked directly to stronger property values, incomes, educational attainment, and employment—as well as new business starts.

In a typical market, higher Walk Scores are associated with increased and more resilient property values of many types. A one-point increase in Walk Score correlates with an increase in home values by $700 to $3,000[13], and a ten-point increase in Walk Score correlates with a one to nine percent increase in commercial property value (depending on property type).[14] In the 30 largest metropolitan regions in the U.S., office space located within the more walkable urban parts[15] of the metro commands an average of 74 percent more rent-per-square-foot than elsewhere in the metro.[16]

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[11] *Frequently Asked Questions.* N.d. Front Seat. Available at: frontseat.org (accessed 8/2/2015)

[12] Joe Cortright. August 2009. *Walking the Walk: How Walkability Raises Home Values in U.S. Cities.* CEOs for Cities. Available at: http://documents.scribd.com.s3.amazonaws.com/docs/7a68o5udc01hufcw.pdf?t=1333050587 (accessed 8/3/2015)

[13] Ibid.

[14] Gary Pivo and Jeffrey D. Fisher. 2001. "The Walkability Premium in Commercial Real Estate Investments." *Real Estate Economics* 39.2. 185-219. Available at: http://www.u.arizona.edu/~gpivo/Walkability%20Paper%20February%2010.pdf (accessed 6/6/2015)

[15] Defined as having ≥ 1.4 million square feet of office space and/or ≥ 340,000 square feet of retail space *and* a Walk Score ≥ 70 at its most walkable intersection.

[16] Christopher B. Leinberger and Patrick Lynch. 2014. *Foot Traffic Ahead.* Available at: http://www.smartgrowthamerica.org/documents/foot-traffic-ahead.pdf (accessed 8/6/2015)

Commercial property values in areas with higher Walk Scores better endured the Great Recession, recovered more quickly after the recession, and have since significantly outpaced the growth of commercial property values in less walkable areas.[17]

Good physical design and walkability also benefit communities in terms of incomes, educational attainment, and new business starts, which are all indicators that reinforce one another.[18] Metropolitan regions that are more walkable have higher per capita Gross Domestic Product (GDP) and educational attainment.[19] What's more, in most leading high-tech metros, companies located in urban communities and walkable suburbs (with mixed land use within the region) receive significantly more venture capital investment—an indicator of new business starts—than other communities within the region.[20] Smart Growth America, in partnership with Cushman and Wakefield, surveyed over 500 companies and found a growing trend toward expansion, relocation, and new business development in walkable communities—both big cities and small. The reasons cited by companies included attracting and retaining talent, building brand identity and corporate culture, supporting creative collaboration, being closer to customers and business partners, centralizing business operations, and supporting triple bottom-line business outcomes.[21]

Beyond Walk Score, researchers have developed other measures of good design and walkability to analyze their relationship to economic indicators. For example, a study of property values in King County, WA looked at a number of design and walkability indicators—density, proximity among different land uses, public open space, sidewalk coverage, and street density—to understand how these measures impact the values of different types of properties. As shown in Exhibit 1, the findings were varied; some indicators positively correlated with increased property values, some indicators negatively correlated with property values, and some indicators had no correlation with property values.[22] While good design and walkability can clearly benefit communities economically, a nuanced analysis such as this helps to highlight the fact that the characteristics that will have the most positive impact on a community (or even a given property) may vary.

Demand for good physical design and walkability is strong and

[17] Matthew Yglesias. April 5, 2015. "Neighborhood walkability is good for the commercial real estate bottom line." *Vox.* Available at: http://www.vox.com/2015/4/5/8340783/neighborhood-walkability-commercial-real-estate (accessed 6/6/2015)

[18] Leinberger and Lynch. 2014.

[19] Ibid.

[20] Richard Florida. March 2014, reissued May 2015. *Startup City: The Urban Shift in Venture Capital and High Technology.* Martin Prosperity Institute. Available at: http://martinprosperity.org/media/Startup-City.pdf> (accessed 8/8/2015)

[21] Smart Growth America and Cushman and Wakefield. June 18, 2015. Core Values: Why American Companies are Moving Downtown. Available at: http://www.smartgrowthamerica.org/documents/core-values.pdf (accessed 10/24/2015).

[22] Dong Wook Sohn, et al. April 4, 2012.

EXHIBIT 1. Relationship Between Design Characteristics and Property Values in King County, WA

TYPE OF LAND USE PROPERTY VALUE	GOOD DESIGN CHARACTERISTICS						
	Development density	Mixed land use			Public open space	Sidewalk coverage	Street density
		Proximity to multifamily residential	Proximity to retail	Proximity to office use			
Single-family residential	+	−	/	/	+	/	/
Rental multifamily residential	/	/	+	−	/	+	+
Retail	+	/	/	/	/	+	−
Office	+	/	/	/	/	/	−

\+ Positvely associated − Negatively associated / No statistically significant association

Source: Developed by PSC based on Sohn, Moudon, and Lee, 2012 (data provided in Table 5). Available at: http://www.palgrave-journals.com/udi/journal/v17/n2/fig_tab/udi20121t5.html#figure-title

In 2014, the Resource Systems Group—a research firm founded by three Dartmouth professors—conducted a survey across 46 metropolitan areas and found that, while not all people want to live in urban communities, most people want to live in communities with a better mix of land uses.

expected to grow. In 2014, the Resource Systems Group—a research firm founded by three Dartmouth professors—conducted a survey across 46 metropolitan areas and found that, while not all people want to live in urban communities, most people want to live in communities with a better mix of land uses.[23] Millennials (those aged 18 to 34) and seniors (those aged 50 and older) have a particularly strong opinion on the matter. The Rockefeller Foundation and Transportation for America commissioned a survey in 2014, through which 80 percent of millennials reported that they wanted to live in walkable neighborhoods.[24] Similarly, a 2011 AARP survey found that the vast majority of seniors want to live within a half mile of common daily goods and services such as grocery stores, drug stores, and doctor's offices.[25]

Walkable places also command greater rents and generate more property tax revenue. On average, before the recession, retail and office space in walkable urban places had a 23 percent premium per square foot; during the recession, that premium nearly doubled to 44.3 percent. Design improvements along one corridor, which included patterned sidewalks and traffic signals, "helped attract 44 new businesses and 200 new jobs, along with increases in sales and foot traffic."[26] Studies on several U.S. cities (conducted by Urban 3) found that dense, walkable downtown development not only yields substantially higher yields in per-acre property taxes, but they also cost cities significantly less to maintain and service as well. In Asheville, NC for example, Urban 3 has found that property taxes for downtown mixed-use development projects yield an 800 percent greater return on a per-acre basis than large, single-use projects near city limits.[27]

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[23] Resource Systems Group (RSG). September 18, 2014. *Who's on Board: 2014 Mobility Attitudes Survey.* TransitCenter. Available at: http://transitcenter.org/wp-content/uploads/2014/08/WhosOnBoard2014-ForWeb.pdf (accessed 6/6/2015)

[24] Global Strategy Group. April 2014. *Rockefeller Millennials Survey. Transportation for America.* Available at: http://t4america.org/wp-content/uploads/2014/04/RF-Millennials-Survey-Topline.pdf (accessed 8/8/2015)

[25] AARP. 2011 *Boomer Housing Survey.* July 2012. Available at: http://www.aarp.org/content/dam/aarp/research/surveys_statistics/il/2012/2011-Boomer-Housing-Survey-AARP.pdf (accessed 6/6/2015)

[26] Smart Growth America. July 2015. *Benefits of Complete Streets: Complete Streets Stimulate the Local Economy.* Available at: http://www.smartgrowthamerica.org/documents/cs/factsheets/cs-economic.pdf (accessed 7/12/2015)

[27] Badger, Emily. March 0, 2012. "The Simple Math that can Save Cities from Bankruptcy." The Atlantic: City Lab. Available at: http://www.citylab.com/work/2012/03/simple-math-can-save-cities-bankruptcy/1629/ (accessed 10/24/2015)

Fun Facts

- *"A study for Raleigh, North Carolina concluded that a six-story building downtown produces 50 times as much property tax revenue per acre as an average Walmart store."*[28]
- *Lancaster, California added pedestrian safety features as part of a downtown revitalization effort, including a pedestrian-only plaza, wider sidewalks, landscaping, and traffic calming. The project spurred $125 million in private investment, a 26 percent increase in sales tax revenue, and 800 new jobs, after a public investment of $10.6 million."*[29]
- *In Washington DC ". . . Households in places with fair-to-very-good walkability have higher incomes, education levels, and employment rates than places with poor to very poor walkability."*[30] *A place with good walkability in the city, on average, commands:*
  - *$8.88/sq. ft. per year more in office rents*
  - *$6.92/sq. ft. per year higher retail rents*
  - *$301.76 per month more in residential rents*
  - *$81.54/sq. ft. per for-sale home value*

[28] Smart Growth America. May 2013. *Building Better Budgets: A National Examination of the Fiscal Benefits of Smart Growth Development.* Available at: http://www.smartgrowthamerica.org/documents/building-better-budgets.pdf (accessed 6/8/2015)

[29] Smart Growth America. *Benefits of Complete Streets: Complete Streets Stimulate the Local Economy.*

[30] Christopher B. Leinberger and Mariela Alfonzo. May 2012. Walk this Way: *The Economic Promise of Walkable Places in Metropolitan Washington, D.C. The Brookings Institute.* Available at: http://www.urbanimprint.com/wp-content/uploads/2011/04/Walk-This-Way-2012May25-Release.pdf (accessed 6/6/2015)

Multimodal Transportation Networks

Multimodal transportation networks, (such as bicycle infrastructure and public transit) are also key elements of community preference and economic growth. While the appropriate transportation offerings vary by community—like appropriate physical design and walkability characteristics—research consistently shows that multimodal transportation networks that accommodate many different users, commonly called Complete Streets, can facilitate economic prosperity and growth. A typical Complete Streets approach includes amenities for a mix of walking, biking, bus, rail, and driving. Having previously established the economic benefits of walkability, this section focuses on the economic benefits related to biking and transit infrastructure.

Because of the increased development potential and demand for additional transportation options, properties near bike trails and transit stations often see increased property values. Many communities have seen property value increases with the installation of new bike paths, for example. In Indianapolis, homes within a half-mile of the Monon Trail, a trail serving cyclists and pedestrians, sold for an average of over eleven percent more than homes farther away.[31]

In Delaware, properties within fifty meters of a bike path average $8,800 (or about four percent) more than similar homes farther away.

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Similarly, cities from Seattle, WA to Charlotte, NC have seen transit systems spur development, improving—and, at times, protecting—property values. The general consensus among published research is that residential property values and rents benefit from proximity to transit, although researchers often shy away from specifying an average increase for an individual parcel.[33] For example, a study published in 2012 in the *Urban Design International* journal used a hedonic model[34] to conclude that in King County, WA, a multifamily

[31] Greg Lindsey, et al. Fall 2004. "Property Values, Recreation Values, and Urban Greenways." Journal of Park and Recreation Administration. 22.3. 69-90. Available at: http://staff.washington.edu/kwolf/Archive/Classes/ESRM304_SocSci/304%20Soc%20Sci%20Lab%20Articles/Lindsey_2004.pdf (accessed 8/9/2015)

[32] David P. Racca and Amardeep Dhanju. November 2006. Project Report for Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas. Prepared for the Delaware Center for Transportation and the State of Delaware Department of Transportation. Available at: http://128.175.63.72/projects/DOCUMENTS/bikepathfinal.pdf (accessed 8/9/2015)

[33] Keith Wardrip. August 2011. "Public Transit's Impact on Housing Costs: A Review of the Literature." *Insights from Housing Policy Research. Center for Housing Policy.* Available at: http://www.reconnectingamerica.org/assets/Uploads/TransitImpactonHsgCostsfinal-Aug1020111.pdf (accessed 6/7/2015)

[34] Hedonic models are respected tools for analyzing and comparing heterogeneous

residential rental property's proximity to a bus stop is associated with increased property values, but the research did not offer an average dollar amount or percentage increase that is attributable to such a location.[35] The degree to which transit affects property values may vary from a few percent to more than 150 percent[36], depending on a number of variables such as the local housing market, the age and type of nearby residential properties, characteristics of other nearby properties, and the extent and reliability of the transit system.[37]

As with walkability, transit is associated not only with increased property values but also with property value resiliency. An American Public Transportation Association and National Association of Realtors study found that, in the years leading up to and immediately following the Great Recession, residential properties located within half a mile of fixed-guideway transit stations maintained their value nearly 42 percent better than the region as a whole.[38]

Adding transit as part of an overall transportation system can also have a very real and direct impact on income and employment; this impact has been shown to be causal. Because transit facilitates access to and increases the density of jobs, adding ten percent more bus or rail seats or rail miles can increase local wages by $53 to $194 per worker per year.[39] Also, using data from nearly every metropolitan region in the U.S., adding about four bus or rail seats per 1,000 residents results in approximately 320 more employees (or 19 percent) per square mile within the central city.[40]

Increased and improved transit can also spur transit-oriented development (TOD), including housing, commercial, and office uses. For example, Officials in Cleveland estimate that the Healthline Bus Rapid Transit (BRT) Project has contributed to between $4 and $5 billion worth of investment along that corridor since the BRT began operations. In response to the Great Recession, every dollar that the federal government spent on public transportation as part of the stimulus package created twice as many jobs as a dollar spent on

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goods. Study authors decompose the good into characteristics that they analyze separately but that they can combine to draw conclusions.

[35] Dong Wook Sohn, et al. "The Economic Value of Walkable Neighborhoods."

[36] National Association of Realtors. June 16, 2014. Public Transportation Boosts Property Values. Available at: http://www.realtor.org/articles/public-transportation-boosts-property-values (accessed 6/14/2015)

[37] Keith Wardrip. "Public Transit's Impact on Housing Costs: A Review of the Literature."

[38] Between 2006 and 2011, in five regions: Boston, Chicago, Minneapolis-St. Paul, Phoenix, and San Francisco.

[39] Daniel G. Chatman and Robert B. Noland. 2014. "Transit Service, Physical Agglomeration and Productivity in US Metropolitan Areas." *Urban Studies*. 51. 917-937. Available at: http://usj.sagepub.com/content/early/2013/08/01/0042098013494426.abstract?papetoc (accessed 6/7/2015)

[40] Daniel G. Chatman and Robert B. Noland. 2014.

A $1 million investment in biking infrastructure created more jobs than pedestrian infrastructure, which still created more jobs than road infrastructure.

Job Creation
Bicycle 4.69 jobs
Road 4.06 jobs

a highway project.[41] Also, once the transit is available or expanded, individuals can benefit economically from choosing to use transit. The average American can save $9,472 per year (or nearly $800 per month) by avoiding expenses related to fuel, maintenance, insurance, license registration, depreciation, and finance charges if they use public transit to commute rather than a personal vehicle.[42]

Transforming a corridor from a vehicle-only roadway to a corridor representative of Complete Streets can have economic benefits even before the project is finished. Direct and indirect benefits derive from the design, manufacturing, construction, and installation of infrastructure projects.[43] In 2011, the Political Economy Research Institute at the University of Massachusetts, Amherst published research analyzing 58 infrastructure projects from 11 cities across the U.S. It found that, in terms of job creation, a $1 million investment in biking infrastructure created more jobs than pedestrian infrastructure, which still created more jobs than road infrastructure (see Exhibit 2).[44] A 2010 report from researchers at the University of Wisconsin found that the cadre of industries associated with bicycling—from tourism to manufacturing—was responsible for 3,418 jobs in the state.[45]

As with physical design and walkability, there is a strong and growing demand for communities that offer Complete Streets. Three in four millennials report they will likely live in a place where they do not need a car to get around.[46]

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[41] Smart Growth America. Benefits of Complete Streets: Complete Streets Stimulate the Local Economy.

[42] American Public Transportation Association. August 20, 2015. *August Transit Savings Report: Public Transit Is a Great Lesson in Savings As Students Head Back to School.* Available at: http://www.apta.com/mediacenter/pressreleases/2015/Pages/20150820_Transit-Savings.aspx (accessed 8/27/2015)

[43] Heidi Garrett-Peltier. June 2011. Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts. Political Economy Research Institute. Available at: http://www.peri.umass.edu/fileadmin/pdf/published_study/PERI_ABikes_October2011.pdf (accessed 6/7/2015)

[44] Ibid.

[45] Bicycle Federation of Wisconsin. 2005. The Economic Impact of Bicycling in Wisconsin. Available at: http://wisconsindot.gov/Documents/travel/bike/econ-impact.pdf (accessed 8/27/2015)

[46] Global Strategy Group. Rockefeller Millennials Survey.

EXHIBIT 2. National Average Employment Impacts by Project Type

Project Type	Road	Bicycle	Pedestrian	Off-street Trail	Number of Projects	Direct jobs per $1 million	Indirect jobs per $1 million	Induced jobs per $1 million	Total jobs per $1 million
Total, all projects					58	4.69	2.12	2.15	8.96
Bicycle infrastructure only		●			4	6.00	2.40	3.01	11.41
Off-street multi-use trails				●	9	5.09	2.21	2.27	9.57
On-street bicycle and pedestrian facilities (without road construction		●	●		2	4.20	2.20	2.02	8.42
Pedestrian infrastructure only			●		10	5.18	2.33	2.40	9.91
Road infrastructure with bicycle and pedestrian facilities	●	●	●		13	4.32	2.21	2.00	8.53
Road infrastructure with pedestrian facilities	●		●		9	4.58	1.82	2.01	8.42
Road infrastructure only (no bike or pedestrian components)	●				11	4.06	1.86	1.83	7.75

Source: Reprinted with permission from Garrett Peltier, p. 11

Case Study: State of Michigan[47]

In June of 2014, BBC Research & Consulting released a report prepared for the Michigan Department of Transportation that calculated total economic benefits of bicycling throughout the state. The study found that bicycling provides an estimated $668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, improved health, and increased productivity. Some key findings include:

- *Household retail spending on bicycling totals $175 million*
- *Bicycle-related manufacturing totals $11 million*
- *Avoided health care costs equal $256 million*
- *Reduced absenteeism related to cycling equals $187 million*
- *Bicycle event and tourism spending total $38 million*

The study also looked at the economic impacts of bicycling on several communities in Michigan including Detroit, Grand Rapids, Holland, Ann Arbor, and Traverse City. The benefits to individual local economies were similarly significant. In Detroit, for example, the economic impact of bicycling was estimated at over $20 million a year.

Fun Facts

When New York City created the first dedicated bicycle lane on Eighth and Ninth Avenues in Manhattan, retail sales for locally-based businesses on Ninth Avenue increased by 49 percent. By adding a pedestrian plaza, simplified intersections and a protected bicycle path at Union Square North, commercial vacancies in the area dropped 49%.[48]

[47] BBC Research & Consulting. June 2014. Community and Economic Benefits of Bicycling in Michigan. Michigan Department of Transportation. Available at: http://www.michigan.gov/documents/mdot/MDOT_CommAndEconBenefitsOfBicyclingIn-MI_465392_7.pdf (accessed 8/23/2015)

[48] New York City Department of Transportation. 2012. *Measuring the Street: New Metrics for 21st Century Streets.* Available at: http://www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf (accessed 9/9/2015)

Environmental Sustainability

Environmental sustainability encompasses a wide variety of "green" initiatives and infrastructure including smart growth, renewable energy investments, local food movements, and access to natural resources (street trees, lakes and other natural areas). The research indicates that environmental sustainability initiatives can have a positive effect on a community's image and attractiveness (to people and businesses), and that green infrastructure in particular is linked to increased property values, incomes, and employment levels.

There are dozens of studies that have evaluated and identified connections between green infrastructure and increased property values. For example, the city of Portland, Oregon is known for its green image and the city benefits economically from many of its green infrastructure investments, including planting and maintaining street trees. Research published in the journal *Landscape and Urban Planning* in 2010 quantified the average benefit to a homeowner in Portland. It found that street trees added $8,870 to the sale price of a home, and the neighboring homes benefit as well.[49] Closer to home, the City of Grand Rapids evaluated the economic benefits of street trees in the city. Monetizing benefits such as energy reduction, stormwater management, air quality protection, increased property values, and climate protection, the city's study estimated that the average value per tree is $76.14, with a net annual benefit to the city of 4,694,139.[50]

Other types of green infrastructure (such as parks, trails, and outdoor recreation spaces) have also been shown to improve property values for adjacent residents. More than 30 studies have validated that which seems intuitive: homeowners will pay a premium for property near a quality park.[51] Typically, the closer to the park, the larger the increase in property value; yet, if there are issues of noise, light, or parking related to a park, the premium may be optimized a block or two away.[52] Parks often impact property

[49] Geoffrey H. Donovan and David T. Butry. August 29, 2009. "Trees in the city: Valuing street trees in Portland, Oregon." *Landscape and Urban Planning.* 94. 77-83. Available at: http://www.fs.fed.us/pnw/ruwit/papers/donovan/donovan_and_butry_lup.pdf (accessed 7/12/2015)

[50] Davey Resource Group. September 2010. *Calculated Public Tree Values and Benefits for the City of Grand Rapids.* Available at: http://grcity.us/parks/Documents/14400_Grand%20Rapids%20i-Tree%20Streets%20Report_FINAL_.pdf) (accessed 9/2/2015)

[51] Peter Harnik and John L. Crompton. 2014. "Measuring the total economic value of a park system to a community." *Managing Leisure.* 19.3. 188-211. Available at: http://agrilifecdn.tamu.edu/cromptonrpts/files/2011/06/Measuring-the-total-economic-value-of-a-park-system-to-a-community.pdf (accessed 7/12/2015)

[52] Peter Harnik and Ben Welle. 2009. *Measuring the Economic Value of a City Park System.* The Trust for Public Land. Available at: http://cloud.tpl.org/pubs/ccpe-econ-valueparks-rpt.pdf (accessed 7/12/2015)

values as far as 2,000 feet away.[53] What constitutes "quality" can be a bit more difficult to parse. Beautiful, well-maintained parks spawn significant value, while poorly-maintained or dangerous parks command only marginal value and may even reduce values.[54] Other factors—including a park's size, the amount of parkland in the community, and the level and types of use—impact the magnitude of the premium.[55] Because of the extensive variety of factors among parks, it is difficult to generalize parks' economic impact. Many researchers are more specific and measure the impact of a specific park or a group of parks on local property values. In 2000 (and again in 2014), John Crompton, a distinguished professor at Texas A&M University, established a conservative (and subsequently oft-used) estimate of five percent as the property value premium attributable to a park within 500 feet.[56]

Green initiatives, such as Leadership in Energy and Environmental Design (LEED) policies or incentives, help contribute to a growing green building industry and have been shown to correlate with job creation. A study by Booz Allen Hamilton found that the green building industry supported over 2 million workers in 2014, and is projected to contribute $75.6 billion in wages by 2018.

Green initiatives and infrastructure have also been shown to positively correlate with other measures of economic prosperity, including population growth, income, and employment. The Land Policy Institute (LPI) at Michigan State University conducted two studies looking at the relationship between green infrastructure and these measures of economic prosperity. In 2009, they evaluated the role of green infrastructure assets in economic growth using five indexed measures: developed infrastructure, land, water, winter, and climate amenities. Universally, these measures were found to be potent drivers of economic growth, particularly in metro areas.[57] LPI's 2012 study, *Drivers of Economic Performance in Michigan: Natural Features, Green Infrastructure, and Social/ Cultural Amenities*, looked at 27 categories of green infrastructure types (such as basic land, water, wetlands, trails). The researchers found that 70 percent of those asset types had a positive impact on population, income, and employment levels.[58]

Green initiatives, such as Leadership in Energy and Environmental Design (LEED) policies or incentives, help contribute to a growing green building industry and have been shown to correlate with job creation. A study by Booz Allen Hamilton found that the green

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[53] Ibid.

[54] Ibid.

[55] Peter Harnik and John L. Crompton. "Measuring the total economic value of a park system to a community."

[56] John L. Crompton. 2004. *The Proximate Principle: The Impact of Parks, Open Space and Water Features on Residential Property Values and the Property Tax Base*. National Recreation and Park Association. Available at: http://www.carolinamountain.org/sites/default/files/files/Nature%20and%20Commerce/2%20Compton_ProximatePrinciple.pdf (accessed 7/27/2015)

[57] Soji Adelaja, et al. May 20, 2009. *Chasing the Past or Investing in Our Future*. Land Policy Institute. Available at: http://landpolicy.msu.edu/uploads/files/Resources/Publications__Presentations/Reports/LPI/Chasing_the_Past/chasingthepast_lpifullreport_052009.pdf (accessed 9/2/2015)

[58] Soji Adelaja, et al. February 3, 2012. *Drivers of Economic Performance in Michigan*. Land Policy Institute. Available at: http://landpolicy.msu.edu/uploads/files/Resources/Publications__Presentations/Reports/LPI/LPI_Report_Series/Drivers_of_Econ_Performance/driversofeconperforminmi_fullreport_020312.pdf (accessed 9/2/2015)

building industry supported over 2 million workers in 2014, and is projected to contribute $75.6 billion in wages by 2018.[59]

As a component of quality of life, parks and trails help attract and retain well-educated professional employees and consequentially influence many businesses' location decisions. *Area Development* magazine, the leading magazine covering business location decisions, conducts an annual survey of corporate executives. In its most recent survey, half of businesses reported the availability of skilled labor as a factor in their location decision,[60] and labor wants to live in communities with a good quality of life. A 2014 survey—conducted by the market research firm Harris Interactive on behalf of the American Planning Association—found that adults aged 21 to 65 with at least two years of college identified quality of life factors (such as transportation options, affordability, parks, and entertainment) to be the determinants in choosing where to live, even before they considered the economic health of the community and local job prospects.[61] This finding is consistent with some of the quality of life factors that Money Magazine uses to identify its annual "best places to live." In addition to traditional criteria such as home prices, safety, and schools, the magazine also considers ease of living, traffic, parks, gathering places, and other intangibles like community spirit.[62]

Adults aged 21 to 65 with at least two years of college identified quality of life factors (such as transportation options, affordability, parks, and entertainment) to be the determinants in choosing where to live, even before they considered the economic health of the community and local job prospects.

[59] Booz Allen Hamilton. Sept. 2015. Green Building Economic Impact Study. Available at: https://kapost-files-prod.s3.amazonaws.com/uploads/direct/1442372448-6108-2394/USGBC_Green_Building_Economic_Impact_Study.pdf (accessed 10/21/2015).

[60] Area Development. 2015. *29th Annual Survey of Corporate Executives: A Realignment of Location Priorities.* Available at: http://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2015/annual-corporate-executive-business-expansion-survey-287775.shtml?Page=2 (accessed 9/3/2015)

[61] American Planning Association. May 2014. *Investing in Place.* Available at: https://www.planning.org/policy/polls/investing/pdf/pollinvestingreport.pdf (accessed 8/28/2015)

[62] "Best Places to Live 2015." Money Magazine. Web. 16 Aug. 2015. http://time.com/money/3985631/best-places-2015-methodology/.

Case Study: Oakland County, Michigan

While lakes are not necessarily obtainable community assets, communities that have them reap economic benefits by offering accessibility to those lakes. Research that the LPI conducted for Oakland County found that property owners within fifteen meters of a lake experienced an average increase in property value of $55,082.[63] *Moreover, via a survey that PSC conducted in 2008, a significant portion of Oakland County businesses—New Economy and small businesses*[64] *in particular—reported that access to water-based recreation amenities and proximity to natural areas informed their decisions of where to locate in the county, and thereby influenced employee recruitment.*[65]

[63] Soji Adelaja et. al. December 3, 2007. *Economic Valuation of Natural Resource Amenities: a Hedonic Analysis of Hillsdale and Oakland County. Land Policy Institute.* Available at: http://www.planningmi.org/downloads/quantifying_the_economic_impact_of_oakland_countys_green_infrastructure_1.pdf (accessed 9/10/15).

[64] The survey defined New Economy businesses as those within the financial, health, information, and professional services sectors and small businesses as those with 20 or fewer employees.

[65] Public Sector Consultants. 2009. *Economic Impact of Oakland County's Water Resources.* Available at: http://www.planningmi.org/downloads/quantifying_the_economic_impact_of_oakland_countys_green_infrastructure_1.pdf - (accessed 12/15/15)

Cultural Economic Development

Arts and cultural amenities—such as art and music institutions, museums, festivals, and libraries—"improve a community's competitive edge, create a foundation for defining a sense of place, attract new and visiting populations, integrate the visions of community and business leaders, and contribute the development of a skilled workforce."[66]

Several studies have evaluated the economic impact of arts and cultural amenities and their related industries. Americans for the Arts has conducted four studies of the nonprofit arts and culture industry's impact on the economy, looking at 182 study regions that represent all 50 states and the District of Columbia. The most recent of these reports, a report on Connecticut's nonprofit arts and cultural industries, found that these industries generated $653 million in total economic activity, supported 18,314 jobs, generated $462.5 million in household income to local residents, and provided state and local governments with almost $60 million in tax revenue.[67]

Communities of all shapes and sizes have had success in leveraging arts and cultural amenities for economic health and prosperity, and many have developed cultural economic development plans to guide investments and projects. The local cultural economic development examples below represent real economic impacts in terms of employment and new business starts:

- Philadelphia's 30-year old Mural Arts Program transforms public spaces in the city with arts education and mural painting. The program has increased local property values and educational attainment, and has provided direct employment and wages to nearby residents.[68] Touted as the country's largest public art program, the Mural Arts Program hosts 12,000 visitors annually to tour its outdoor art gallery and has earned Philadelphia international recognition as the "City of Murals."[69]

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[66]American Planning Association. 2011. "How the Arts and Culture Sector Catalyzes Economic Vitality." Arts and Culture Briefing Papers. Available at: https://www.planning.org/research/arts/briefingpapers/pdf/vitality.pdf (accessed 10/24/2015).

[67]Americans for the Arts. 2012. Arts and Economic Prosperity IV in the State of Connecticut. Available at: http://www.cultureandtourism.org/cct/lib/cct/CT_AEP4_Impact_Study_Final_Report.pdf (accessed 10/26/2015).

[68] City of Philadelphia. 2014. Mural Arts Program Press Kit. Available at: http://www.muralarts.org/sites/default/files/Mural%20Arts%20Press%20Kit%20-%202014_0.pdf (accessed 9/5/2015)

[69] Ibid.

- Grand Rapids' annual Art Prize has been a major economic boon for the city. The three-week city-wide art show draws almost 400,000 visitors to Grand Rapids and had an economic impact on the city of $22 million in 2013. [70]
- The Woodward Dream Cruise in southeast Michigan is the world's largest one-day automotive event. The Dream Cruise draws 1.5 million people and 40,000 classic cars each year from all over the world.[71]
- Ashland, Oregon founded the Tony Award-winning Oregon Shakespeare Festival of Ashland in 1935. The festival is among the country's oldest and largest professional nonprofit theaters.[72] Over its nine-month season in 2014, the festival had ticket sales of nearly 400,000 and an estimated economic impact of $261 million.[73]
- In Asheville, NC, a group of local residents founded HandMade in America in 1993 with the goal of making Western North Carolina the national center of handmade crafts. Today the craft industry is responsible for an annual bump of more than $206 million to the local economy.[74]
- Branson, Missouri boasts more theater seats than Broadway and attracts seven million visitors annually to hear local country music.[75]

According to the National Endowment of the Arts, for every job created from new demand for the arts, nearly two additional jobs are also created.[76] Moreover, research from Michigan State University finds that those who receive formal and/or informal education in arts, and especially those who have lifelong participation in and exposure to the arts, are more likely to start a business.[77] Analyses from the Martin

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[70] Scott Watkins, Lauren Branneman, and Tyler Theile. 2014.

[71] Woodward Dream Cruise website. Available at: http://www.woodwarddreamcruise.com/?page_id=79 (accessed 10/23/2015).

[72]Oregon Shakespeare Festival. N.d. Our History. Available at: https://www.osfashland.org/about/our-history.aspx (accessed 9/9/2015)

[73] Oregon Shakespeare Festival. April 6, 2015. State and Local Economic Impact – 2014. Available at: https://www.osfashland.org/~/media/Files/PDF/About%20OSF/Impact2014_logo.ashx (accessed 9/9/2015)

[74] HandMade in America. N.d. History and Milestones. Available at: http://s3.amazonaws.com/hia_user_files/files/36/original.pdf?1302011833 (accessed 9/9/2015)

[75] University of North Carolina School of Government. N.d. Branson, Missouri. Available at: http://www.iog.unc.edu/programs/cednc/stbi/cases/pdf/branson.pdf (accessed 9/9/2015)

[76]National Endowment for the Arts. January 2015. The Impact of New Demand for Arts and Culture. http://arts.gov/sites/default/files/ADP6-6_Impact_New_Demand_Arts.pdf (accessed 7/12/2015)

[77] Rex LaMore et al. March 29, 2011. ArtsSmarts Among Innovators in Science, Technology, Engineering, and Mathematics (STEM). Michigan State University Center for Community and Economic Development. Available at: http://ippsr.msu.edu/publica-

Prosperity Institute regarding venture capital investment, a measure of new business starts, further supports this; the analyses show a correlation between venture capital investment and clusters of the arts workers[78] and between net migration of college grads and "the share of artists, designers, and cultural creative."[79]

tions/ARArtSmarts.pdf (accessed 7/12/2015)

[78] Richard Florida. "The Connection Between Venture Capital and Diverse, Dense Communities." July 9, 2013. CityLab. Available at: http://www.citylab.com/work/2013/07/connection-between-venture-capital-and-diverse-dense-communities/5444/ (accessed 6/21/2015).

[79] Richard Florida. June 16, 2014. "High-School Dropouts and College Grads Are Moving to Very Different Places." CityLab. Available at: Available at: http://www.citylab.com/work/2014/06/high-school-dropouts-and-college-grads-are-moving-to-very-different-places/372065/ (accessed 8/27/2015)

Entrepreneurship

Entrepreneurs contribute to local economies through the wealth they create from their entrepreneurial ventures; they create jobs and help to create conditions for economic prosperity and cultural change.

While established businesses are responsible for the bulk of U.S. employment, nascent business are responsible for the majority of job creation. Fast-growing young firms, comprising less than one percent of all companies, generate roughly 10 percent of new jobs in any given year."[80] Nascent businesses are small by nature, and so policymakers often mistakenly ascribe job creation to small businesses. However, it is growth-oriented entrepreneurial startups—particularly high-tech companies[81]—that are generally responsible for job creation. From 1980 to 2011, new businesses were 48 percent more likely to be in the high-tech field of information and communication technology than the general private sector.[82] Not only are there more new business starts in high-tech, but high-tech startups also have a higher net job creation rate in the first ten years than new businesses in the private sector as a whole.[83] Nascent businesses initially have relatively few employees and create unemployment if they fail—which they do at a rate of about 50 percent within the first five years[84] —but, uniquely, high-tech startups' early exponential growth outpaces their employment losses, resulting in net employment gains even in the first few years.[85] Thus, to achieve economic benefits by investing in entrepreneurship, communities should focus on recruiting and supporting high-tech startups.

Using venture capital investment as a measure of the kind of entrepreneurship that creates jobs, research shows that the benefits to a community comprise every economic indicator of prosperity and growth considered in this report. Venture capital investment

[80] Dane Stangler. March 2010. High-Growth Firms and the Future of the American Economy. Ewing Marion Kauffman Foundation. Available at: Available at: http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2010/04/highgrowthfirmsstudy.pdf (accessed 7/3/2015)

[81] In this context, businesses are considered high-tech if they have significant portions of employees within the science, technology, engineering, and math (STEM) fields.

[82] Ian Hathaway. August 2013. Tech Starts: High-Technology Business Formation and Job Creation in the United States. Ewing Marion Kauffman Foundation. Available at: http://www.kauffman.org/~/media/kauffman_org/research%20reports%20and%20covers/2013/08/bdstechstartsreport.pdf (accessed 6/21/2015)

[83] Ibid.

[84] John Haltiwanger, et al. March 2009. Business Dynamics Statistics Briefing: High Growth and Failure of Your Firms. U.S. Census Bureau. Available at: https://www.census.gov/ces/pdf/BDS_StatBrief3_High_Growth_Failure.pdf (accessed 8/28/2015)

[85] Ian Hathaway. Tech Starts: High-Technology Business Formation and Job Creation in the United States.

is positively related to incomes as well as the percentage of adults who are college graduates.[86] Venture capital investment also reinforces many of the aforementioned assets, expanding their economic impact. Venture capital investment is positively related to density, biking to work, and employment in the arts, and correlates negatively with the percentage of commuters who drive alone to work.[87] Cities who have recognized the importance of these relationships and have invested in "place-making" efforts and entrepreneur support programs have reaped the economic benefits.

Case Study: Innovation Districts and Entrepreneurialism

Innovation Districts—places that cluster anchor institutions, established small and medium-sized companies, and start-ups in small geographic areas of central cities—are on the rise across the United States, Europe, and other global-trading regions. Innovation Districts, like the ones in Boston, Barcelona and (more recently) Detroit, bring together a mix of "economic, physical, and networking assets" that, when combined "with a supportive, risk-taking culture... create an innovation ecosystem—a synergistic relationship between people, firms and place (the physical geography of the district) that facilitates idea generation and accelerates commercialization." Innovation Districts can support entrepreneurialism, and, if nurtured, can create jobs and increase property values in core cities. Along the Woodward corridor (part of the emerging Detroit Innovation District) in Detroit, for example, home sale prices nearly doubled between 2006 and 2015.[88]

[86] Richard Florida. "The Connection Between Venture Capital and Diverse, Dense Communities."

[87] Ibid.

[88] Pinho, Kirk. August 23, 2015. "Home sale prices double along Woodward, river-front, but plummet in other parts of Detroit." Crain's Detroit. Available at: http://www.crainsdetroit.com/article/20150823/NEWS/308239982/home-sale-prices-double-along-woodward-riverfront-but-plummet-in (accessed 10/22/2015).

A Welcoming Culture

High-tech startups are more likely in communities that are welcoming to new and different ideas and people. This is both intuitive and also supported by data: the level of venture capital investment is related to communities' diversity and welcoming culture. In other words, venture capital investment is greater in places where there is a higher portion of foreign-born and gays and lesbians in the community.[89] Also, the number of foreign-born workers—whether permanent or temporary, with an advanced degree or less skilled—has a positive effect on jobs for U.S. natives.[90] The impact on local employment is especially strong if the foreign-born workers have advanced degrees from U.S. universities and in science, technology, engineering, and math (STEM) fields (i.e. the type of employees that high-tech startups demand); then, for every 100 workers, there are an additional 262 jobs among U.S. natives.[91] This employment boost is likely, at least in part, because foreign-born workers are more likely to start businesses than natives with similar education.[92]

It is not just foreign-born workers who economically benefit U.S. communities but also foreign-born students who positively impact local employment, levels of educational attainment, populations, and incomes. During the 2013-2014 academic year, the spending related to every seven international students created or supported three U.S. jobs; in Michigan alone, that meant 12,763 additional jobs.[93] Upon graduation, more than 80 percent of international students who attended Michigan universities and use their student visas to work have advanced degrees, and nearly 60 percent have degrees in STEM fields—more than four times the national average.[94] These students then spur additional job creation as described in the previous paragraph and attract high-tech startups and other businesses demanding advanced skills. In the long run, these students out-perform natives in terms of wages and a

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[89] Richard Florida. "The Connection Between Venture Capital and Diverse, Dense Communities."

[90] Madeline Zavodny. December 2011.

[91] Ibid.

[92] Jennifer Hunt. April 2009. Which Immigrants Are Most Innovative and Entrepreneurial? Distinctions by Entry Visa. National Bureau of Economic Research. Available at: http://www.nber.org/papers/w14920.pdf (accessed 7/3/2015)

[93] National Association of International Educators. 2014. *The Economic Benefit of International Students.* Available at: http://www.nafsa.org/_/File/_/eis2014/USA.pdf (accessed 7/5/2015)

[94] Global Talent Retention Initiative of Michigan. 2013. *International Talent Retention in Michigan: A Pathway to National Competitiveness.* Available at: http://www.migtri.org/wordpress/wp-content/uploads/2013/01/Pathway-to-National-Competitiveness-FINAL.pdf (accessed 7/3/2015)

number of indicators of new business starts, including patenting and commercializing or licensing patents.[95] Importantly, these international students are choosing to stay in Michigan after graduation at rates nearly three times that of out-of-state students and almost as often as in-state students,[96] and so these post-graduation benefits accrue to the Michigan communities in which the students locate.

Fun Facts

- *"Highly educated immigrants pay far more in taxes than they receive in benefits."*[97]
- *International students and their families contributed $926.9 million to the Michigan economy during the 2013-2014 academic year.*[98]

[95] Jennifer Hunt. *Which Immigrants Are Most Innovative and Entrepreneurial? Distinctions by Entry Visa.*

[96] Global Talent Retention Initiative of Michigan. *International Talent Retention in Michigan: A Pathway to National Competitiveness.*

[97] Madeline Zavodny. *Immigration and American Jobs.*

[98] National Association of International Educators. *The Economic Benefit of International Students.*

Recent research in the Journal of Urban Economics confirms what appears to be a general consensus among researchers: that improved school quality, as measured by a one standard deviation increase in school average test scores, results in approximately a 3 percent increase in home value.

Education

It is generally accepted that education and community economic success go hand in hand, and academic research provides evidence of this link, specifically to home values, educational attainment, GDP per capita, employment, and new business starts. Recent research in the *Journal of Urban Economics* confirms what appears to be a general consensus among researchers: that improved school quality, as measured by a one standard deviation increase in school average test scores, results in approximately a 3 percent increase in home value.[99] A paper that the National Bureau of Economic Research released in 2011 demonstrates that school quality correlates with improved educational attainment as measured by high school graduation, attendance at a four-year college, and degree attainment.[100] A 2013 report released by the Milken Institute finds that higher educational attainment explains more than 70 percent of the variation in GDP per capita across the 261 U.S. metros.[101] 2014 data from the U.S. Bureau of Labor Statistics illustrates the wage and employment benefits for workers with at least a bachelor's degree have above-average earnings and below-average unemployment (Exhibit 3).[102]

Well-educated individuals are most likely to be entrepreneurs, and high-tech startups disproportionally congregate in well-known tech centers with highly-educated workforces and college towns. In Michigan, 19 percent of Michigan State University, University of Michigan, and Wayne State University alumni have started a business.[103] A recent report from Richard Florida at The Martin Prosperity Institute (housed at the University of Toronto) demonstrated that, when considering venture capital investment on a per capita basis, both known tech giants like Silicon Valley and college towns like Ann Arbor top the charts.[104] It is not just startups

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[99] Stephen Gibbons et al. 2013.

[100] David J. Deming et al. September 2011. *School Choice, School Quality and Post-secondary Attainment.* National Bureau of Economic Research. Available at: http://thinkprogress.org/wp-content/uploads/2011/09/charters.pdf (accessed 9/3/2015)

[101] Ross C. DeVol et al. February 2013. *A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity.* Milken Institute. Available at: http://assets1c.milkeninstitute.org/assets/Publication/ResearchReport/PDF/Matter-of-Degrees-FR.pdf (accessed 9/3/2015)

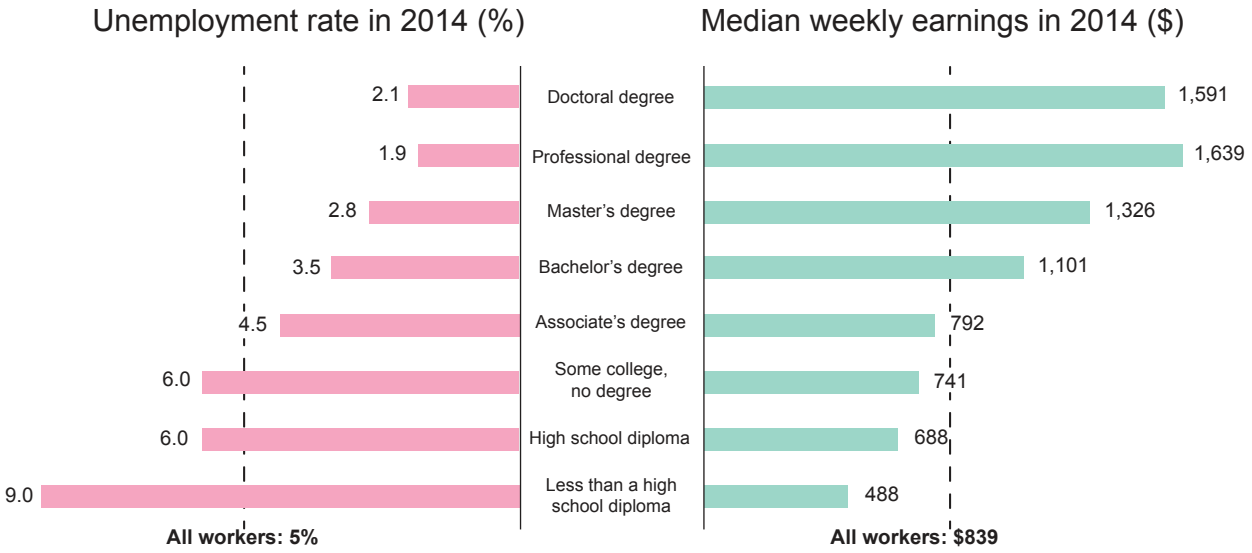
[102] Bureau of Labor Statistics. April 2, 2015. *Employment Projections.* Available at: http://www.bls.gov/emp/ep_chart_001.htm (accessed 9/3/2015)

[103] Erin Agemy Grover, et al. May 16, 2013. *Embracing Entrepreneurship: The URC's Growing Support for Entrepreneurs in Michigan and Throughout the World.* Anderson Economic Group, LLC. Available at: http://urcmich.org/wp-content/uploads/2015/03/URC-Embracing-Entrepreneurship-2013.pdf (accessed 5/16/2013)

[104] Richard Florida. *Startup City: The Urban Shift in Venture Capital and High Technology.*

that increasingly value locations with well-educated workforces. Survey responses of corporate executives on the top-ten quality of life factors influencing location decision reported the largest annual increase to be related to the presence of colleges and universities in the area; public schools also moved up two spots among the quality-of-life factors to number two.[105]

EXHIBIT 3. Earnings and Unemployment Rates by Educational Attainment



Note: Data are for persons age 25 and over. Earnings are for full-time and salary workers.
Source: Current Population Survey, U.S. Bureau of Labor Statistics, U.S. Department of Labor

[105] Area Development. *29th Annual Survey of Corporate Executives: A Realignment of Location Priorities.*

Messaging & Technology

The convergence of physical design and walkability, transit and other alternative transportation options, and messaging and technology enhances the appeal of communities to potential residents and businesses. As previously discussed, millennials and seniors seek walkable, mixed-use communities in which they do not need a car to get around. And yet, in order to get around by foot, bike or transit, people are increasingly using mobile apps that offer real-time information.[106] For those who do not have a smartphone or choose not to use it in relation to their transportation needs, communities will need to offer other tools like digital kiosks and wayfinding signage.[107] When offered in a language in addition to English, such publically accessible tools demonstrate a community's welcoming environment and appeal to potential residents, businesses, and visitors that share the same values.

As multimodal travel and shared-use transportation options (including carsharing, bikesharing, and on-demand ride services such as Uber, Lyft, and Sidecar) become more popular, seamless transition among transportation options will increase in importance. This will require that public and private transportation providers leverage technology to offer integrated platforms where travelers can compare options, plan routes, and pay for services quickly and easily.[108]

Investments in other technology which residents and businesses have increasingly come to expect, such as high-speed Internet infrastructure and public Wi-Fi, have also been identified as contributing factors to communities' economic well-being. SpeedMatters, a partnership of business, economic development, and labor organizations throughout the U.S., notes that high-speed Internet connections accelerate business development by supporting innovation and entrepreneurialism, expanding existing businesses, and creating e-commerce opportunities. Connected communities contribute to wealth creation by attracting businesses and talent that want to be in areas with strong and reliable Internet access.[109]

While the data—which demonstrates the connection between

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[106] Michael Scott. March 25, 2014. Smart Cities and the Technology of Walking. Center for Digital Government. Available at: http://www.govtech.com/local/Smart-Cities-and-the-Technology-of-Walking.html (accessed 9/4/2015)

[107] Susan Shaheen and Matt Christensen. April 25, 2014. "The True Future of Transportation Has Two Big Barriers to Entry." CityLab. Available at: http://www.citylab.com/commute/2014/04/true-future-transportation-has-two-big-barriers-entry/8933/ (accessed 9/4/2015)

[108] Ibid.

[109] Speedmatters.og. N.d.

a community's messaging or technology and our indicators of economic prosperity and growth—is limited, there is significant anecdotal agreement in the literature that these assets are part of a community's ability to attract talent and business, and this indicates that these assets support business development and expansion.

Case Study: Boston[110]

In 2013, the Center for Digital Governance recognized the City of Boston for its use of technology as part of a comprehensive strategy to engage with and deliver services to residents and businesses. Some of Boston's notable accomplishments:

- *Maintains 41 Twitter feeds and 37 Facebook pages*
- *The Citizens Connect mobile app enables community members to report non-emergency concerns like damaged signs and graffiti*
- *the Street Bump mobile app collects real-time data about local roads to inform improvements and long-term investment planning*
- *Crowdsourced the design of its mobile apps and transit map as well as its 24-hour hotline hold music*
- *The Boston Business Hub website offers a one-stop-shop for those starting or expanding a business in the city*
- *A 1,000-acre waterfront innovation district to attract technology businesses and entrepreneurs with the amenities they demand—housing, restaurants, bars, co-working spaces, public open space, easy access to transit, and internet connections*

[110] Caroline Brown. 2014. Next-Generation Government. Center for Digital Government. 2014. Available at: http://images.erepublic.com/documents/CDG14+PCIOS-R+Q1_V.pdf (accessed 9/4/2015)

Community Spotlight

Ann Arbor

Ann Arbor vs. Michigan Performance

Population Growth
Ann Arbor 3.4%
Michigan 0.3%

Bachelor's Degrees
Ann Arbor 70.6%
Michigan 25.9%

Home Values
Ann Arbor $230,700
Michigan $121,700

Residents Employed
Ann Arbor 57.1%
Michigan 53.9%

Median income in the city during this period was $55,003 (compared to $60,793 for the state as a whole).

Ann Arbor is a community of almost 120,000 people in southeast Michigan. Home to the world-class University of Michigan, Ann Arbor outpaced the state on every prosperity indicator except median income between 2010 and 2014. The city boasts a relatively diverse population and has invested in most of the eight asset areas for 21st century communities.

While its downtown and the University of Michigan campus have strong physical design and walkability elements, Ann Arbor is still rated overall as "car dependent" with an average citywide walk score of 49. Downtown locations, however, are rated as a "walker's paradise" with scores as high as 95. The city also offers numerous transit/alternative transportation options, with over 1,500 bus stops in and around the Ann Arbor municipal area and a citywide transit score of 49 (downtown, that number jumps to 75). The city also has dozens of bike trails and over 70 miles of on-road bike lanes. It has been rated a silver-level Bicycle Friendly City by the League of American Bicyclists for the last decade.[111]

The city has also been a leader on green initiatives, including:

- Robust city recycling that diverts an estimated 50 percent of the city's waste
- A city-sponsored energy efficiency and renewable energy outreach program called a2energy
- A climate action plan that calls for a 25 percent reduction in greenhouse gases by 2025
- Provision of 21 electric vehicle charging stations at seven locations throughout the city
- A Property Assessed Clean Energy (PACE) program, which allows property owners to save energy using a special property assessment

These and other efforts have helped the city save money, engage the community, and attract talent and businesses that are looking for a sustainably minded community.

The city is also rich with cultural assets that provide jobs and attract residents and visitors. The city hosts numerous art fairs and music festivals, and is home to several music and theater venues including the Mendelssohn Theater, Hill Auditorium, Power Center for the Performing Arts, Rackham Auditorium, Michigan Theatre, Wild Swan Theater, and the Ark. There are also dozens of galleries and museums in the city, including the Ann Arbor Art Center and the

[111]League of American Bicyclists. 2015. Bicycle Friendly Communities. Online, accessed 9/8/15. Available at: http://www.bikeleague.org/sites/default/files/BFC_Master_Spring_2015.pdf

Children's Hands-On Museum. The assets have been invested in by public and private organizations, and the Arts Alliance has developed an Ann Arbor work plan as part of its broader Washtenaw County Cultural Master Plan.

Not surprisingly, as a college town the city is also a hub of entrepreneurial activity. The city is home to almost 100 angel investors, venture capital firms, and entrepreneurial support organizations, and was ranked 7th for number of patents per million residents by the Brookings Institution.[112]

Ann Arbor is also a welcoming community, for people of different nationalities, cultures, races, religions, sexual orientations, and gender identities. The city is home to a large percentage of the state's foreign-born population.[113] In parts of Ann Arbor, foreign-born residents make up more than 20 percent of the population. The city has numerous organizations that support foreign-born residents and visitors, including the Ann Arbor International Group, the University of Michigan's International Center, and International Neighbors. Ann Arbor also ranks second most lesbian, gay, bisexual, and transgender (LGBT)-friendly city in Michigan, behind only East Lansing, with numerous community support organizations, businesses that cater to the LGBT community, and a nondiscrimination ordinance, which dates back to 1972, that includes sexual orientation in the list of protections.

Education is also a central part of Ann Arbor's prosperity and success. The University of Michigan campus is a central part of the city's community, quality of life, and economy. The university educates and employs more than 85,000 people. Over 70 percent of Ann Arbor residents possess a bachelor's degree or higher as well. The university is ranked 29th among national universities in U.S. News and World Report's college rankings, and second in research and development among public research universities in the U.S. by the National Science Foundation.

[114]Finally, Ann Arbor is has invested in ensuring that messaging and technology are used as key tools for engaging the community, and connecting residents and businesses. The city has a full-time information technology director and communications director, an engaging and up to date website that provides residents and businesses with not only government-related information but also important community resources and happenings, and an active presence on social media.

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[112]Jonathon Rothwell, Jose Lobo, Deborah Strumsky and Mark Muro. February 1, 2013. Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas. Brookings Institution: Washington, DC. Online, accessed 9/7/15. Available at: http://www.brookings.edu/research/reports/2013/02/patenting-prosperity-rothwell

[113]Courtney Flynn. February 16, 2015. Percentage of Foreign Born by Census Tract in Washtenaw County in 2012. Wayne State University Center for Urban Studies. Online, accessed 9/6/15. Available at: http://www.drawingdetroit.com/washtenaw-county-has-highest-percentage-of-foreign-born-residents/

[114]National Science Foundation. N.d. Rankings of Public Universities by Total R&D Expenditures. Available at: https://ncsesdata.nsf.gov/profiles/site?method=rankingBySource&ds=herd (accessed 9/6/15)

Community Spotlight

Traverse City

Traverse City vs. Michigan Performance

Population Growth
Traverse City 2.5%
Michigan 0.3%

Bachelor's Degrees
Traverse City 40.3%
Michigan 25.9%

Home Values
Traverse City $168,900
Michigan $121,700

Residents Employed
Traverse City 64%
Michigan 53.9%

Median income in the city during this period was $45,497—about $15,000 less than the state's median income level.

Traverse City is a community of just over 15,000 people in northern Michigan. It is a major Michigan tourist destination, particularly in the summer months, and the city possesses several of the eight assets for growth and prosperity. The city has a strong physical design and walkability and offers numerous transit/alternative transportation options. Traverse City has a Walk Score of 98 (out of 100), and Walk Score rates the city a "Walker's Paradise" (CMU Public Radio 2014). The city has a Complete Streets policy and established an Active Transportation Committee to address sustainable, multimodal transportation solutions—such as walking, biking, and public transportation—that connect people to where they need to go. The Bay Area Transit Authority provides five routes throughout the city, as well as downtown loops and some regional connections. In addition, the city is home to TART Trails, a regional network of over 60 miles of trails and bike routes. Several of the trails run through or connect in Traverse City.

The city is blessed with (and has been increasingly leveraging) its diverse green initiative and assets as a key part of their quality of life and economy. The city sits on the shores of Grand Traverse Bay, and several beach run along the downtown, providing recreation opportunities and supporting related businesses. Additionally, the Boardman River zigzags through downtown Traverse City, and there are several other small inland lakes in or near the city. The city is also home to a state park, the Keith J. Charters Traverse City State Park and the Boardman River Nature Center, as well as dozens of other local parks and greenspaces. There are numerous environmental and conservation organizations based in and around Traverse City that have been strong advocates for smart growth, environmental stewardship, and fostering an "eco" economy. Groups like the Grand Traverse Conservation District have undertaken a significant amount of outreach and education within the city and surrounding communities, and offer a variety of environmental programs.

Traverse City also has a strong set of cultural economic assets, including art, theater, museums, music venues, libraries, and eateries. Downtown boasts the City Opera House, which was restored in the mid-1980s and offers a variety of performing arts programming, and the restored State Theater, which is home to the annual Traverse City Film Festival. There are also dozens of art galleries, small museums, and libraries throughout the city. Additionally, the city hosts numerous music, art, and food festivals throughout the year that attract both residents and visitors. Finally, Traverse City also has a strong entrepreneurial culture. Nerdwallet.com recently ranked Traverse City as the second best place in Michigan to start a business (Nerdwallet 2015). The

Traverse City community has been supportive of entrepreneurial activity, and has put in place the resources to foster new business opportunities. For example, the Traverse City Chamber of Commerce—in partnership with more than a dozen other organizations—created the SCORE program that matches new and existing entrepreneurs with seasoned business mentors who provide advice and guidance on successful business strategies (SCORE Nd).

The Traverse City Film Festival was founded by Academy Award-winning director Michael Moore. The festival screens over 120 films each year, and attracts over 160 industry guests. The development of the film festival was instrumental in the restoration of the downtown State Theater, which now provides year-round showings of art house movies to Traverse City residents and visitors.

Conclusions

It is clear from the research that the eight assets identified by the League are related to community economic growth and prosperity. While the literature is more robust for some of the assets than others, all eight have been shown to contribute, sometimes quite strongly, to the economic prosperity indicators identified.

Communities can see benefits from investing in any of these assets, but—given the inter-relationship among many of them—strategically coordinating investments in many or all of these asset areas will likely pay greater dividends. The community spotlights above, as well as the numerous examples from other states provided in the individual asset discussions, provide evidence of this relationship and examples of projects, programs, and infrastructure investments that cities throughout can adopt to help grow their economic strength and prosperity.