Benchmarking the Ann Arbor Region — 2018

an economic competitiveness assessment

Ann Arbor SPARK
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ANN ARBOR
SPARK

Contents

Key Findings
Ann Arbor regional dashboard – updated 2018

Metric	2018 rank	1 Year Trend (rank)	2017 rank	Level/ Previous Level	MI Level	US Level	Top Community
University R&D Expenditure	1st	↔	1st	$1.44 B/ $1.4 B	$2.3 B	$68.8 B	U-M/ Ann Arbor, MI
Venture Capital Activity	4th	↓	2nd	5.1/ 5.8	0.5	1.0	Boulder/ Boulder County, CO
Population Movement	5th	↑	8th	+10,635/ +9,889 net migration	-10,575 net migration	N/A	Berkeley/ Alameda County, CA
Driving Industry Employment	7th	↑	9th	18.4%/ 17.1%	17.9%	13.0%	Boulder/ Boulder County, CO
Housing Affordability	9th	↔	9th	3.6/ 3.6	2.5	3.2	Pittsburgh/ Allegheny County, PA
Income Inequality	13th	↓	9th	0.49/ 0.47	0.46	0.48	Madison/ Dane County, WI
Labor Market							
Unemployment	6th	↓	5th	3.4%/ 3.5%	5.4%	5.3%	Boulder/ Boulder County, CO
Labor Force Participation Rate	11th	↓	10th	63.9%/ 64.6%	61.0%	63.1%	Austin/ Travis County, TX

Objectives
and important takeaways

The goal of this report is to take the pulse of the Ann Arbor region in comparison to a specific competitive set of technology-driven communities and their economies. The purpose is not to market the region — Ann Arbor SPARK identifies, tracks, and compares numerous metrics that confirm and support our marketing message: the Ann Arbor region is a great place to live, work, and play. The purpose of this study is to compare ourselves to peer communities on more *foundational* metrics, and to ask ourselves where and how we can do better.

Ann Arbor SPARK first undertook this research in 2017. This is an update to the original study and includes the same metrics with changes from the year before.

There are eight individual metrics in this report, and important findings for each are discussed in the conclusion. However, there are five central highlights and areas for further research:

Venture Capital Activity

Ann Arbor performs well on this metric, but why is Boulder doing so much better? What sets Boulder apart?

Population Movement

Washtenaw County is a popular destination for movers within Michigan, but has a negative differential for those moving state-to-state.

Housing Affordability

Washtenaw County is expensive for Michigan, but below the nation as a whole and in the middle of the competitive set.

Labor Market

Washtenaw County has enjoyed positive job growth since 2010 and a steady decline in unemployment, coupled with a decline in labor force participation. What can we learn from places like Madison and Minneapolis—what are they doing differently to engage a larger portion of their workforce?

Driving Industry Employment

Washtenaw County performs lower than many of its competitor regions in driving industry employment, though higher than the national average. What lessons can be learned from regions with high levels of driving industry employment?

Takeaways and Major Changes from 2017 Report

The goal of this report is to take the pulse of the Ann Arbor region in comparison to a specific competitive set of technology-driven communities and their economies. The objective is not to make policy recommendations, but to provide clear, unbiased data with regional analysis on a series of metrics that are often applied without context.

Ann Arbor SPARK worked with various groups of stakeholders to produce the initial list of regions and metrics in 2017. This is the **2018 update** to the original report – both aim to develop a comprehensive, accurate picture of the region. The data and analysis for each metric answer some questions, but pose many new ones:

University R&D Expenditure - 1st
- This ranking was expected; the University of Michigan is a world-class institution with a well-funded, nationally recognized research complex.
- The future of its funding is less certain as much of it comes from federal sources, some of which are unpredictable.
- **No change in ranking.**

Venture Capital Activity – 4th
- Ann Arbor has gone down in the rankings to 4th from 2nd, largely due to other regions charging ahead, as our level of venture activity stayed relatively the same between 2016 and 2015. Pittsburgh in particular went from 5th to 2nd in one year.
- Boulder's level of activity is nearly off the charts relative to its size. Why is Boulder doing so well? There is a history of innovation and government laboratories, but there may be lessons we can learn outside of legacy.
- **Dropped to 4th from 2nd.**

Population Movement - 5th
- Washtenaw County moved up from 8th to 5th, a significant jump in ranking.
- While the net total is positive, the split between inter and intrastate migration is surprising.
- Washtenaw County is a popular destination for movers within Michigan, but has a negative differential for those moving state-to-state.
- **Moved up to 5th from 8th.**

Driving Industry Employment - 7th
- Washtenaw County moved up from 9th to 7th between 2015 and 2016. This represents more than a percentage point in real terms.
- This concept is best understood through concrete examples, the most powerful of which involve the loss of a driving industry company. The loss of both Pfizer and Borders in Ann Arbor had wider negative impacts in support industries: services, retail, food service, etc.
- These exporting industries support the local economy and are vital to regional economic growth.
- The current definition of driving industries does not include healthcare or education, which automatically excludes the largest employers in the Ann Arbor region. However, given the performance in one year, it will be interesting to see how this will change in future.
- **Moved up to 7th from 9th.**

takeaways - continued

Housing Affordability - 9th

- This metric underwent a change in data source from 2017 to 2018, due to Zillow's data publication practices. While this represents a drop in rankings (from 5th to 9th) from 2017 to 2018, using the new data the ranking would have remained the same.
- There is a perception of Washtenaw County as an expensive housing market. This is borne out in the data when comparing to midwestern and rust belt cities. However, when comparing to Austin, Berkeley, Boulder, and Portland, Ann Arbor is relatively cheap.
- The trend is toward a more expensive housing market, but this is not unique to Washtenaw County. Still, Washtenaw County is decidedly less affordable within Michigan.
- This analysis emphasizes the importance of relativity in housing discussions. Immediately labeling Washtenaw County as an expensive market is detrimental when attracting talent or companies from our competitive regions.
- **No change in ranking.**

Income Inequality - 13th

- Washtenaw County has become more unequal – dropping to 13th from 9th.
- Income inequality is clearly an issue for all of the competitor regions and the nation.
- In our region there is a heavy focus on Ypsilanti and eastern Washtenaw County with regard to inequality—which is appropriate—but the populations in those areas may not be large enough to notably affect this metric (the eastern part of the county makes up approximately 25% of the total county population).
- **Dropped to 13th from 9th.**

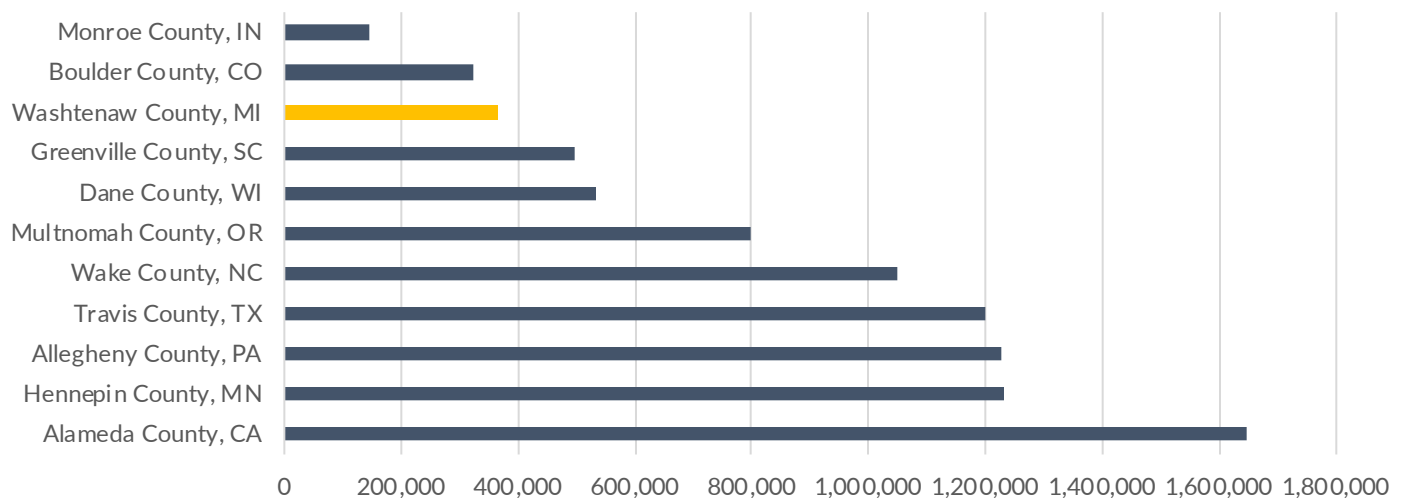### The Labor Market - 11th for Labor Force Participation, 6th for Unemployment

- Washtenaw County dropped in the rankings for both Labor Force Participation and Unemployment.
- Measuring unemployment is a double-edged sword. Depending on the audience, it is either too low or too high. Economists argue the definition of "full employment," but ultimately the picture of the labor market is incomplete without also considering the labor force participation rate.
- There are many explanations for the decline in labor participation rate: aging population; retirement; increase in workers taking disability; more people in school; a decline in working women (for a time the decline of working men had been offset by the rapid rise in working women, but since its peak in 1999 it has been declining slowly); unemployed people unable to find work may get discouraged, lose their skills, and drop out of the labor force.
- Policy solutions can work to attract new labor as well as engage labor that is no longer in the workforce. Future research can examine the competitor regions with both low unemployment and higher participation rates as to what makes them different labor markets.
- **Dropped to 11th from 10th for LFPR, dropped to 6th from 5th for unemployment.**
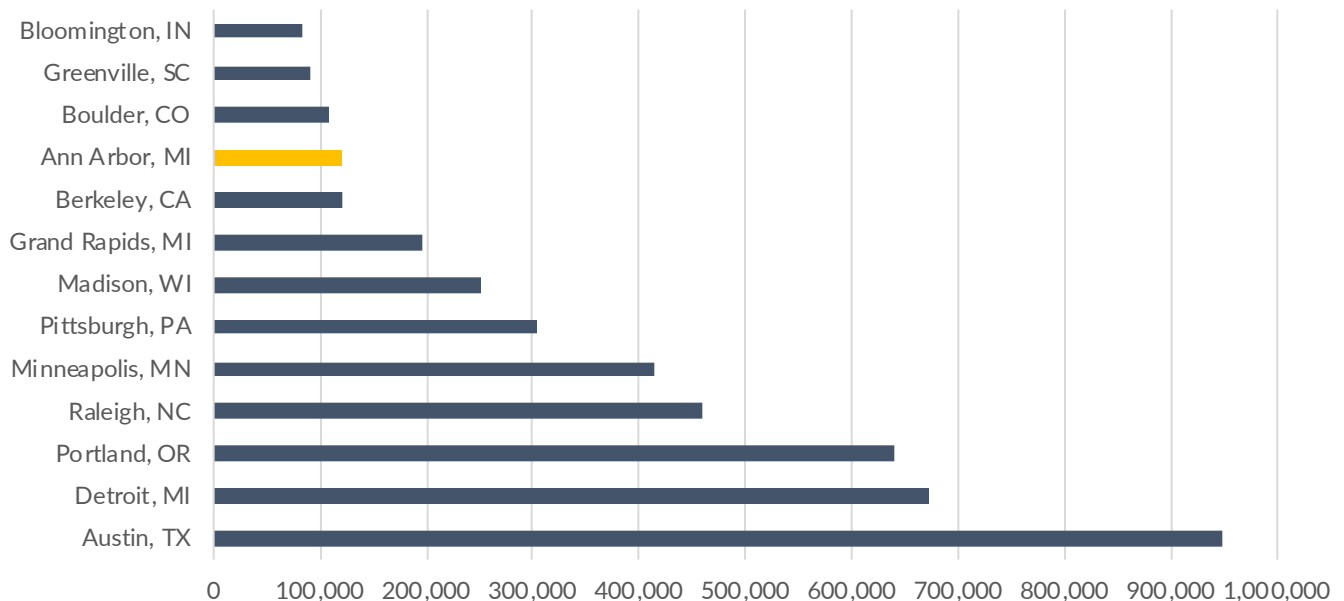
Population
setting the stage: the importance of context

Many of the selected regions were chosen due to their inclusion in anecdotal comparisons to the Ann Arbor region. Austin, TX, is a perfect example. There are many similarities to Ann Arbor, but when comparing available services and city policy, it is helpful to remember that Austin is eight times larger than Ann Arbor. Where possible, the data have been normalized for population. This is not always feasible and the following graphs can be used as contextual reference points.
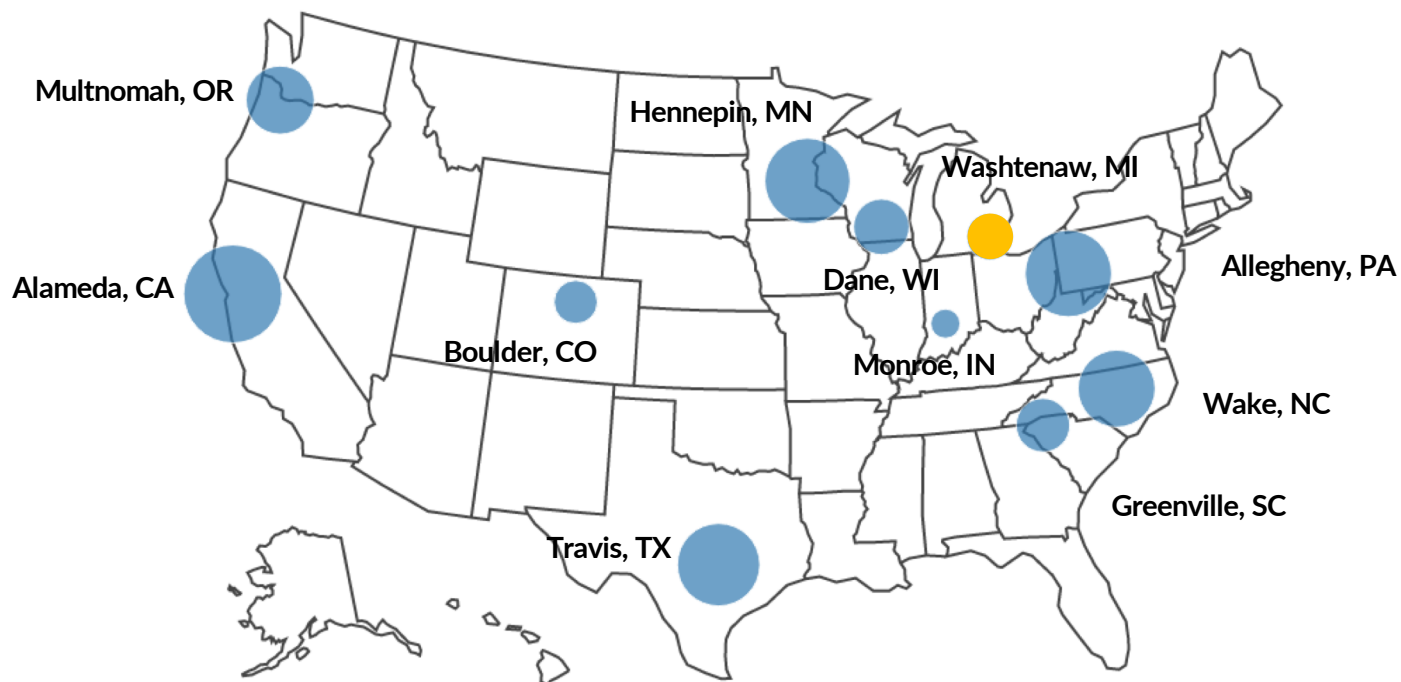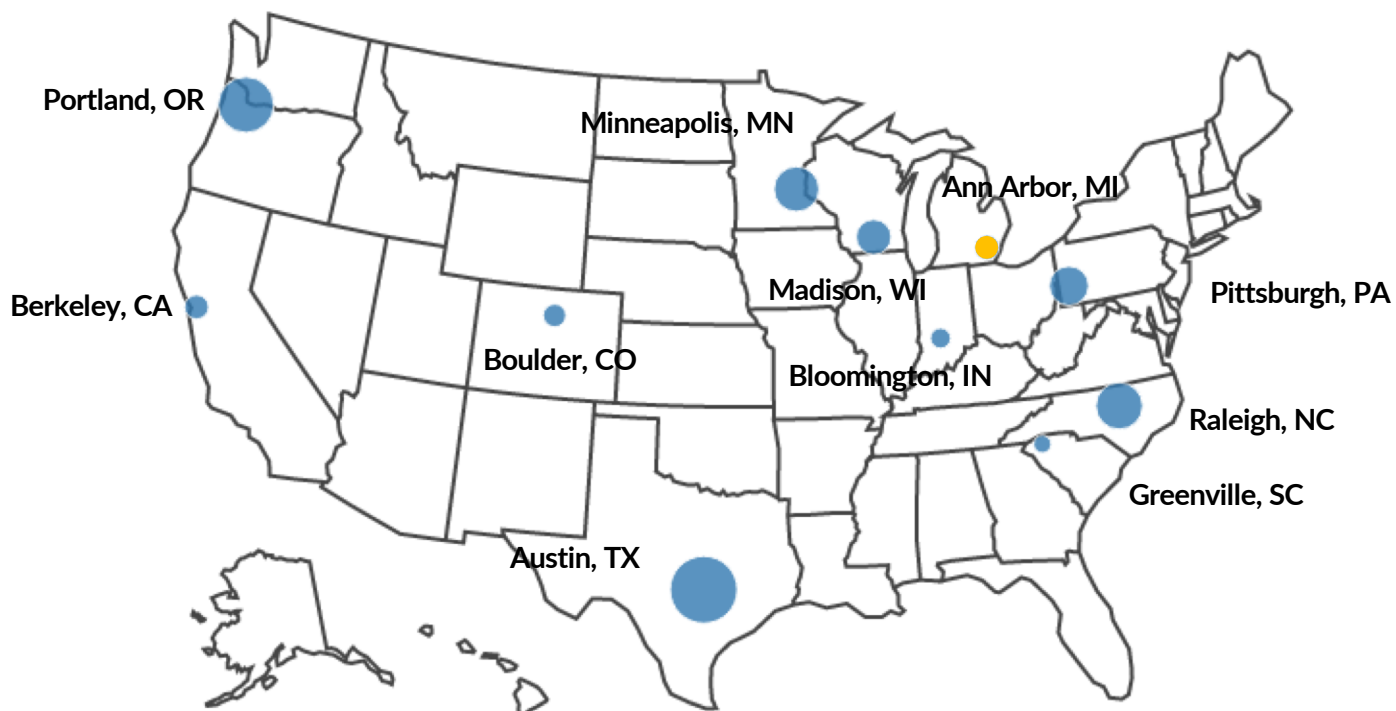
County Population 2016

City Population 2016

Population - continued

County Population 2016

Multnomah, OR

Hennepin, MN

Washtenaw, MI

Alameda, CA

Boulder, CO

Dane, WI

Monroe, IN

Allegheny, PA

Wake, NC

Greenville, SC

Travis, TX

City Population 2016

Portland, OR

Minneapolis, MN

Ann Arbor, MI

Berkeley, CA

Boulder, CO

Madison, WI

Bloomington, IN

Pittsburgh, PA

Raleigh, NC

Greenville, SC

Austin, TX

Metrics and Rankings

University R&D Expenditure

Rank: 1st _of 14_

level: $1.44 billion

trend: ⬌

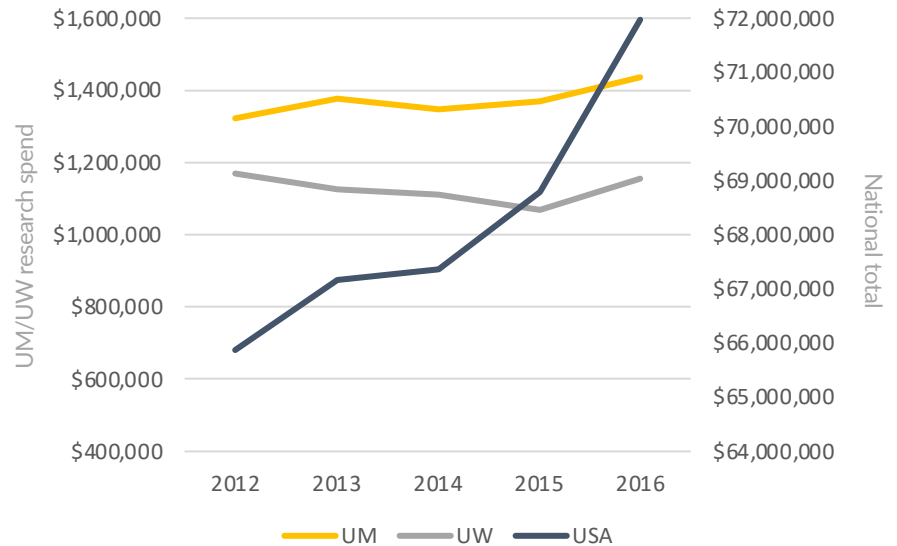top 5 average: $1.04 billion

What it is:

The amount each university spends on research and development. Much of this funding comes directly from the federal government and other grant sources, as well as university sources.

Why it matters:

University R&D expenditures are important because they provide opportunities for risk taking, proving ideas, and add to the innovation pipeline. R&D funding helps to build a conduit of research for future innovations. Nationally, levels of university R&D spending have been growing in the last ten years at a greater pace than U-M.

The University of Michigan is ranked #1 against the competitive set in this metric with R&D expenditures at over $1.4 billion. Nationally, the University of Michigan is ranked #2 for research spending (behind Johns Hopkins).

5 Year Trends – R&D Expenditure

R&D Spend 2016 (millions)
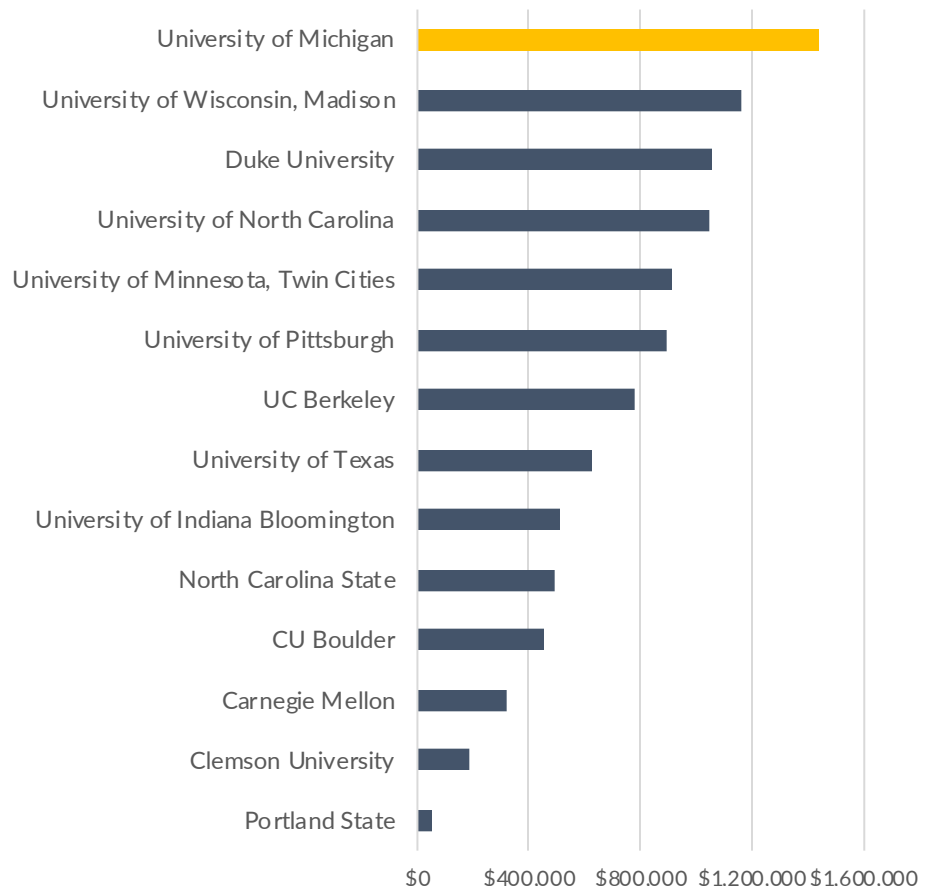
Venture Capital Activity

Rank: 4ᵗʰ of 11

level: 5.1

trend: ⬇

top 5 average: 7.3

What it is:

Regional concentration of venture capital deals, normalized for population. The location quotient measures a region's performance relative to the nation. 1.0 means the region and the nation are equally specialized, anything above 1.0 indicates the region has a higher concentration than the nation. This particular metric measures venture capital deal count concentration (as opposed to value).

Why it matters:

High levels of venture capital activity indicate areas of innovation. Venture capital is important for the growth of startups as venture investors tolerate more risk than conventional investors and lending institutions. Regions like Silicon Valley, New York City, and Boston often get more national attention for large venture capital activity, but smaller regions often have higher than average levels of activity when normalized for population.
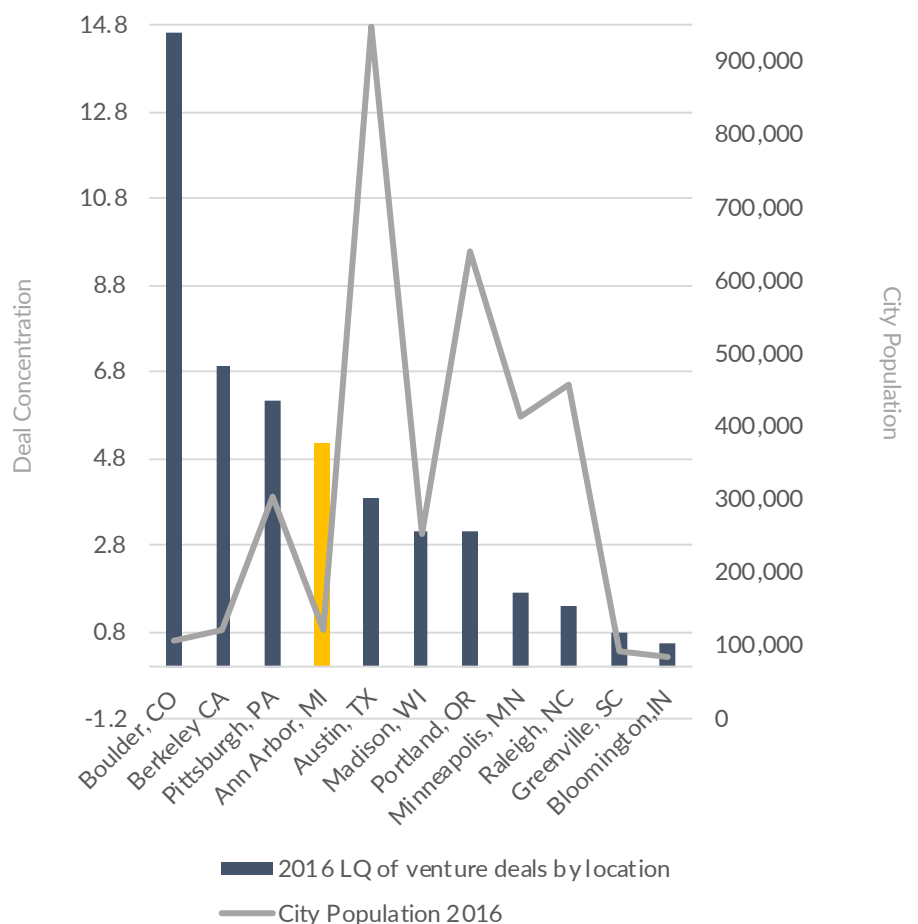
The city of Ann Arbor ranks fourth in this metric, with venture capital activity at 5.1 times the national levels.

3 Year Trends - Ann Arbor
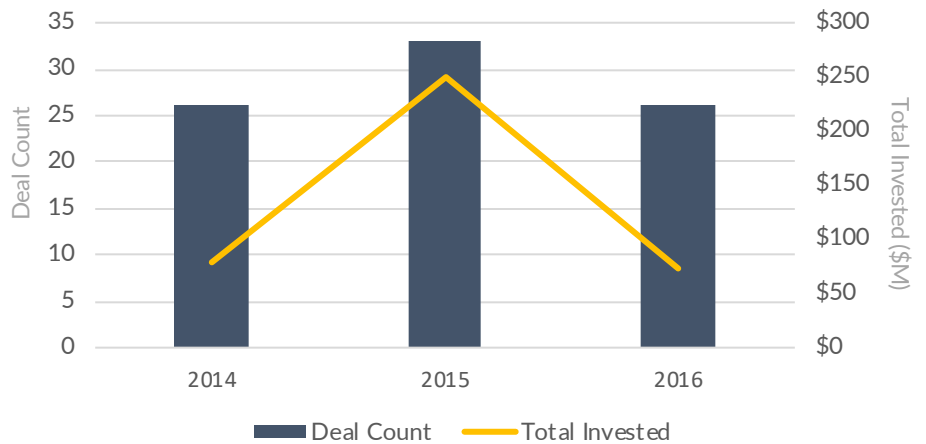
NB: Venture Capital data exists for 2016, population data does not.

Deal Concentration Normalized for Population - 2016

Population Movement

Rank: 5th _{of 11}

level: 10,635 (3% of pop.)

trend: ⬆

top 5 average: 13,494 (<2% of pop.)

What it is:

These are period estimates that measure where people lived when surveyed (current residence) and where they lived one year prior (residence one year ago). The data are collected continuously over a five-year period. The flow estimates resemble the annual number of movers between counties for a five-year period.
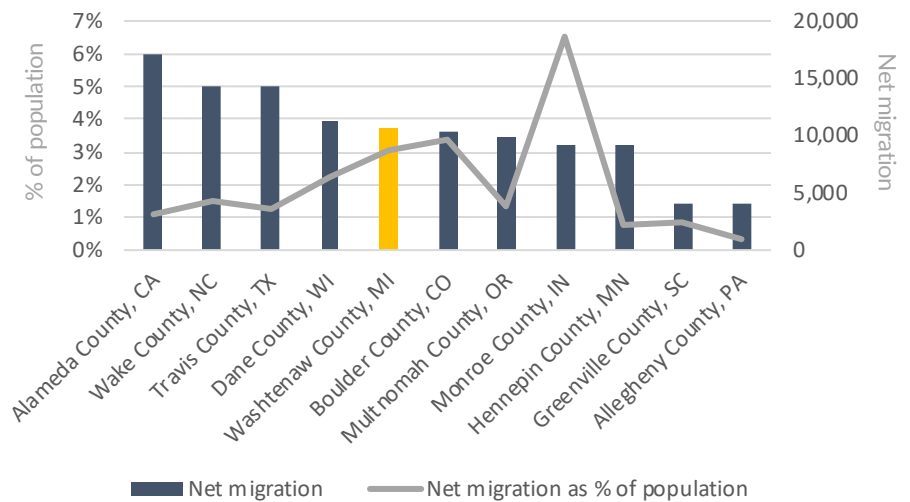
Why it matters:

To be considered an innovation hub, the Ann Arbor region must be attractive to outside talent. Net population movement, both inter and intrastate, can potentially indicate the attractiveness of a region to outside talent, especially when viewed as proportional to population.
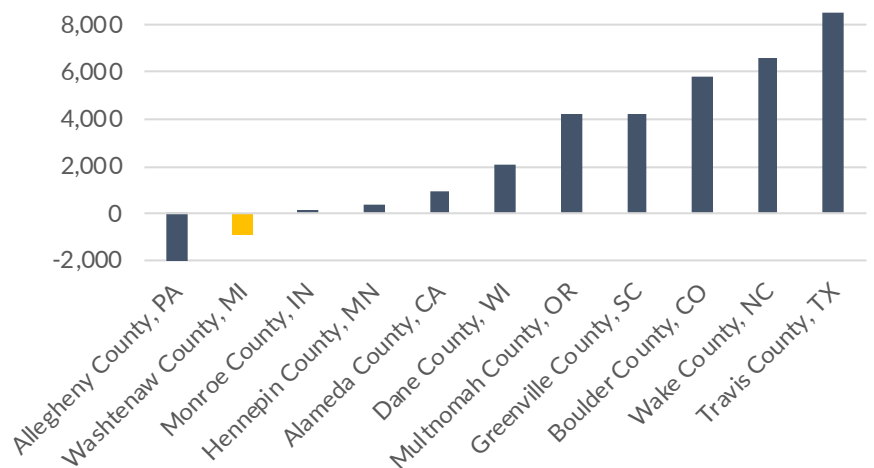
Washtenaw County benefits from significant intrastate movement (movers to a different county, same state). However, among the chosen competitor regions, it loses a lot of people to other states.

In terms of net migration, Washtenaw county sees a higher net inflow proportional to its population than most competitor regions.
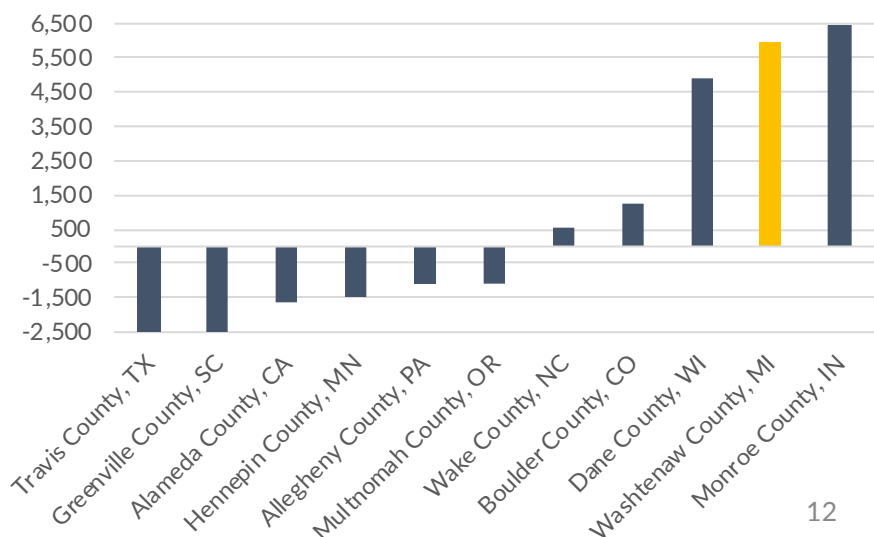
Not included in data (county level only):
Detroit-Warren-Dearborn, MI Metro Area
Grand Rapids-Wyoming, MI Metro Area
Michigan
United States

Net Migration 2011-2015

Legend: Net migration | Net migration as % of population

Interstate differential 2011-2015

Intrastate differential 2011-2015

Driving Industry Employment

Rank: 7th of 14

level: 18.4%

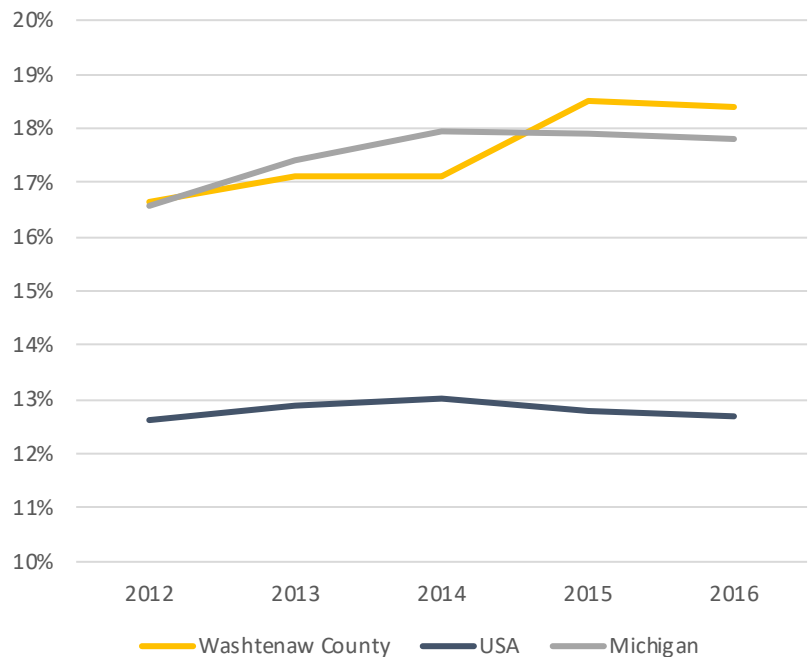trend: ⬆

top 5 average: 22.7%

What it is:

The percentage of the total employed population of a region employed in driving industries *(see page 23 for NAICS codes defining driving industries).*
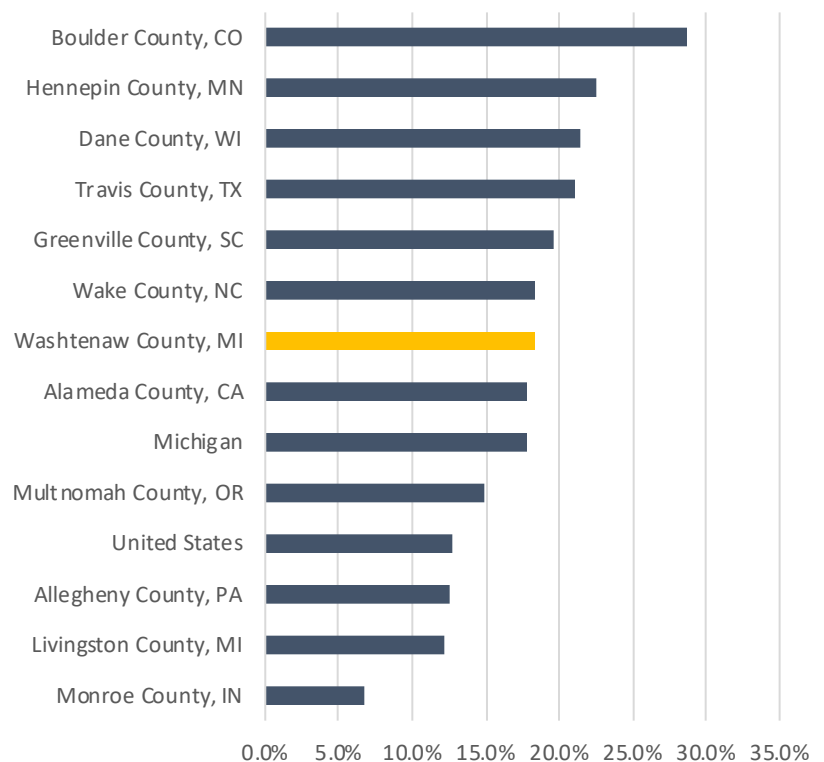
Why it matters:

Economies grow and prosper by their ability to make products and deliver services to people and businesses outside their geographic regions, i.e., by exporting. Driving industry jobs create and support jobs in other local industries, and propel economic growth. It is clear that within this competitive set, driving industry employment is much higher than the national average, indicating a potential area for policy focus.

Washtenaw County performs lower than many of its competitor regions in driving industry employment, though higher than the national average.

5-year Trends - Driving Industry Employment

Legend: Washtenaw County, USA, Michigan

% Driving Industry Employment - 2016

Boulder County, CO
Hennepin County, MN
Dane County, WI
Travis County, TX
Greenville County, SC
Wake County, NC
Washtenaw County, MI
Alameda County, CA
Michigan
Multnomah County, OR
United States
Allegheny County, PA
Livingston County, MI
Monroe County, IN

Housing Affordability

Rank: 9th of 13

level: 3.6

trend: ⬌

top 5 average: 2.8

What it is:

This ratio measures affordability by dividing the median home price by the median income. A ratio of 3.6 means that median home prices are 3.6 times the median income.

Why it matters:

Housing cost is a key factor influencing quality of life, which affects a region's ability to attract and retain talent. Housing affordability is also a measure of inequality and access to opportunity; if the ratio is high it can indicate a highly segregated real estate market, and a high level of income inequality. Conversely, it is also an indicator of attractiveness of a housing market.

Washtenaw County's home prices have risen over the past five years, and median income has not kept pace. Washtenaw County is expensive within the competitive set (apart from the tech-centers like Austin and Berkeley), and within Michigan, where it is the least affordable housing market.
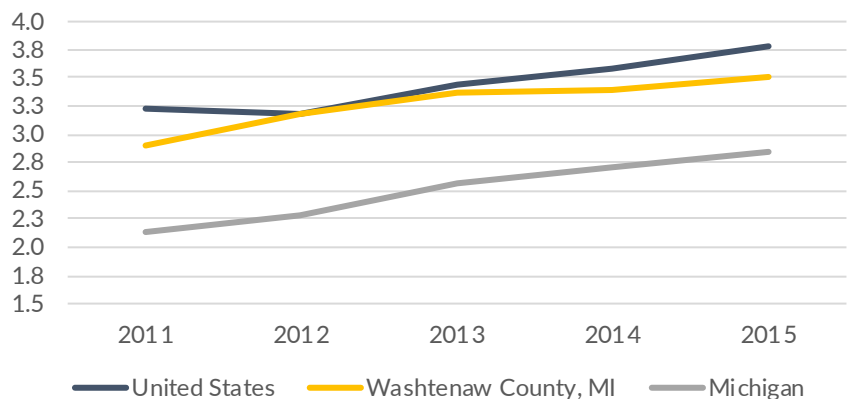
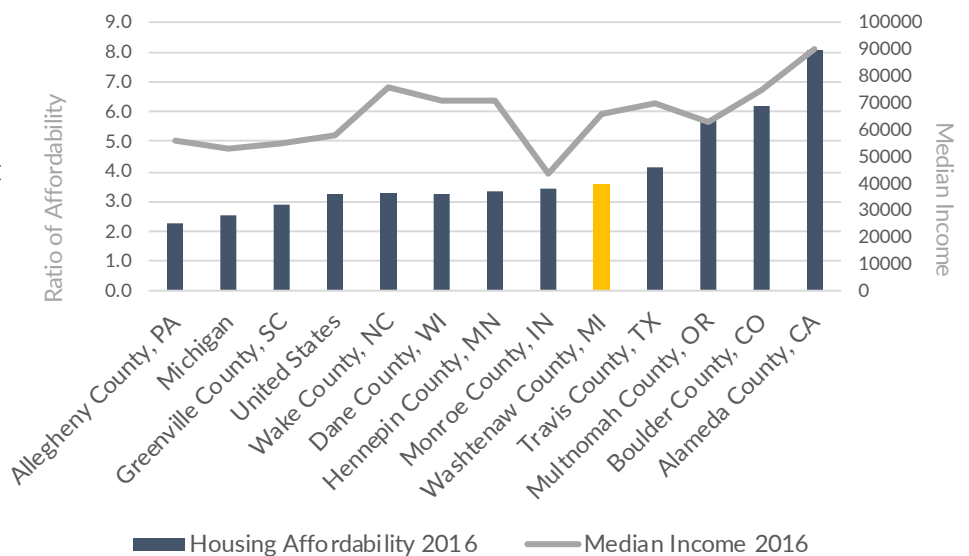*Not included in data:*
Detroit-Warren-Dearborn, MI Metro Area
Grand Rapids-Wyoming, MI Metro Area

Note: the 2017 study used a different data source - see conclusions for more analysis.
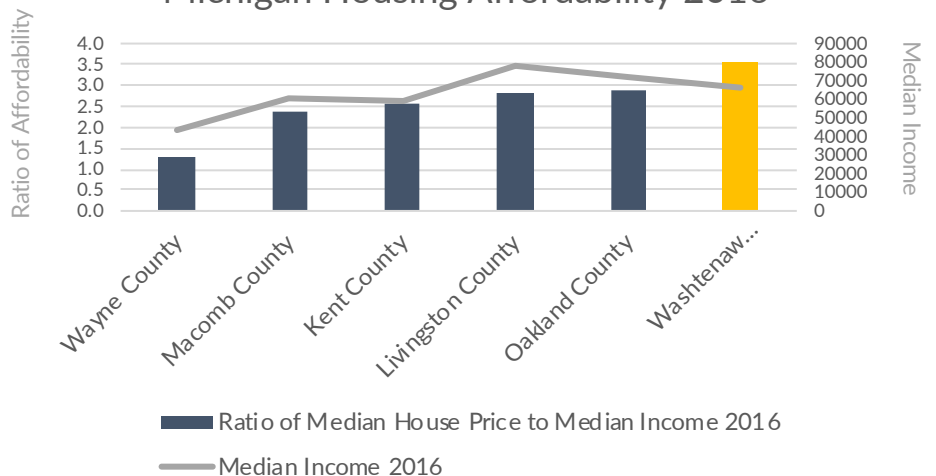
5 Year Trends - Housing Affordability

Legend: United States — Washtenaw County, MI — Michigan

Housing Affordability - 2016

Legend: Housing Affordability 2016 — Median Income 2016

Michigan Housing Affordability 2016

Legend: Ratio of Median House Price to Median Income 2016 — Median Income 2016

Income Inequality

Rank: 13th of 15

level: 0.49

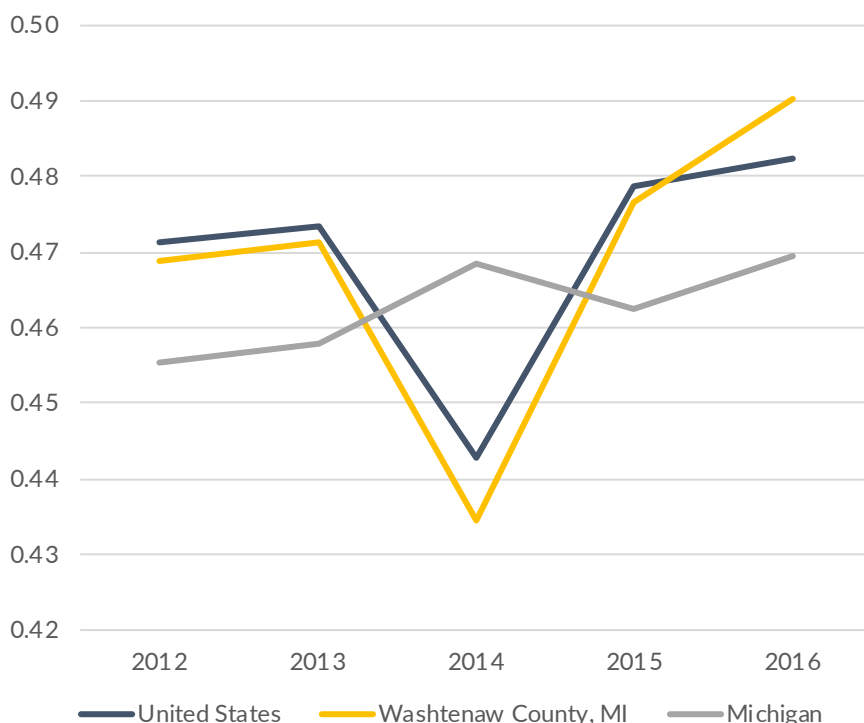trend: ⬇

top 5 average: 0.45

What it is:

This number, which ranges between 0 and 1 and is based on residents' net income, helps define the gap between the rich and the poor, with 0 representing perfect equality (everyone has equal wealth) and 1 representing perfect inequality (only one person possesses all the wealth).
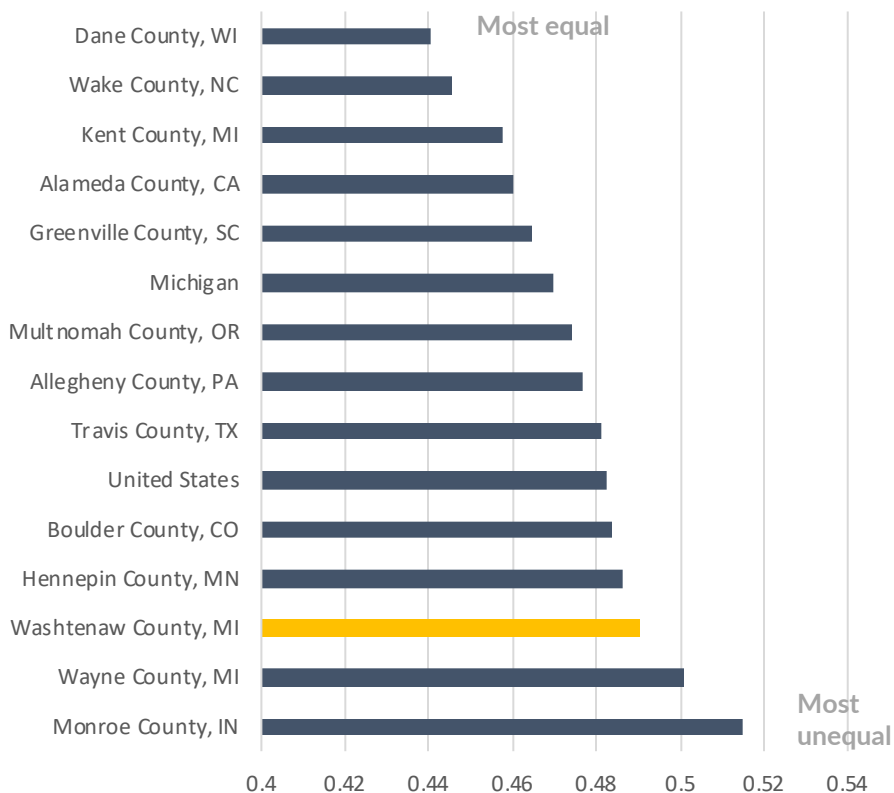
Why it matters:

A growing body of research shows strong links among inequality, poverty, and opportunity. For example, of the factors most commonly cited as driving poverty in America—education, family structure, race, and more—the number-one factor by far is the growth in inequality. There is a significant negative relationship between living in an area with greater income inequality and a child's expected upward mobility. Therefore, it can be an illuminating metric to track the accessibility of economic opportunity in a particular region.

Washtenaw County is following the trend of the nation and the globe in terms of income inequality. Inequality seems to be an issue for the entire competitive set.

5 year trends - Income Inequality

Legend: United States — Washtenaw County, MI — Michigan

Income Inequality 2016

Most equal

- Dane County, WI
- Wake County, NC
- Kent County, MI
- Alameda County, CA
- Greenville County, SC
- Michigan
- Multnomah County, OR
- Allegheny County, PA
- Travis County, TX
- United States
- Boulder County, CO
- Hennepin County, MN
- Washtenaw County, MI
- Wayne County, MI
- Monroe County, IN

Most unequal

0.4   0.42   0.44   0.46   0.48   0.5   0.52   0.54

The Labor Market

unemployment rate and labor force participation rate

Rank: 11th of 15 - Labor Force
6th of 15 - Unemployment

level: 63.9%, 3.4%
trend: Labor Force ⬇ Unemployment ⬇
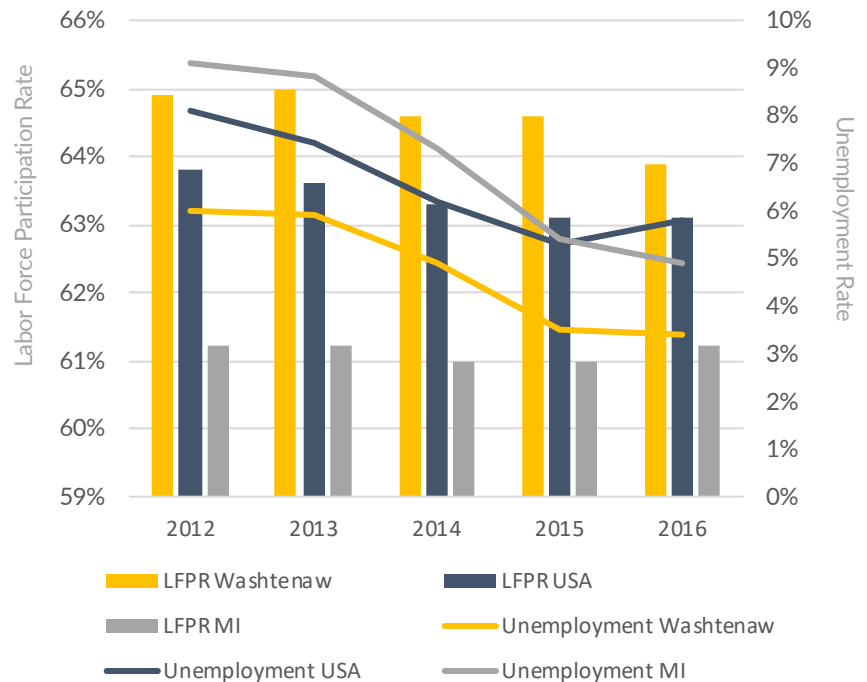top 5 average: 71.3%, 4.5%

What it is:

The national unemployment rate reflects the number of unemployed people as a percentage of the labor force. The labor force participation rate measures the number of people in the labor force as a percentage of the civilian noninstitutionalized population 16 years old and over. In other words, it is the percentage of the population either working or actively seeking work. The picture of the labor market is incomplete without both metrics.

Why it matters:

The unemployment rate has been steadily decreasing, as has the labor force participation rate *(see page 5 for possible explanations)*. Usually these two statistics are inversely proportional, just as they are in some of the chosen competitor regions. Policy solutions can work to attract new labor and/or engage labor that has self-selected out of the workforce.

Washtenaw County has enjoyed positive job growth and a steady decline in unemployment, bizarrely coupled with a decline in labor force participation.

5 Year Trends - Labor

LFPR Washtenaw   LFPR USA
LFPR MI   Unemployment Washtenaw
Unemployment USA   Unemployment MI

Labor Force Participation and Unemployment - 2016

Labor Force Participation Rate 2016   Unemployment Rate 2016
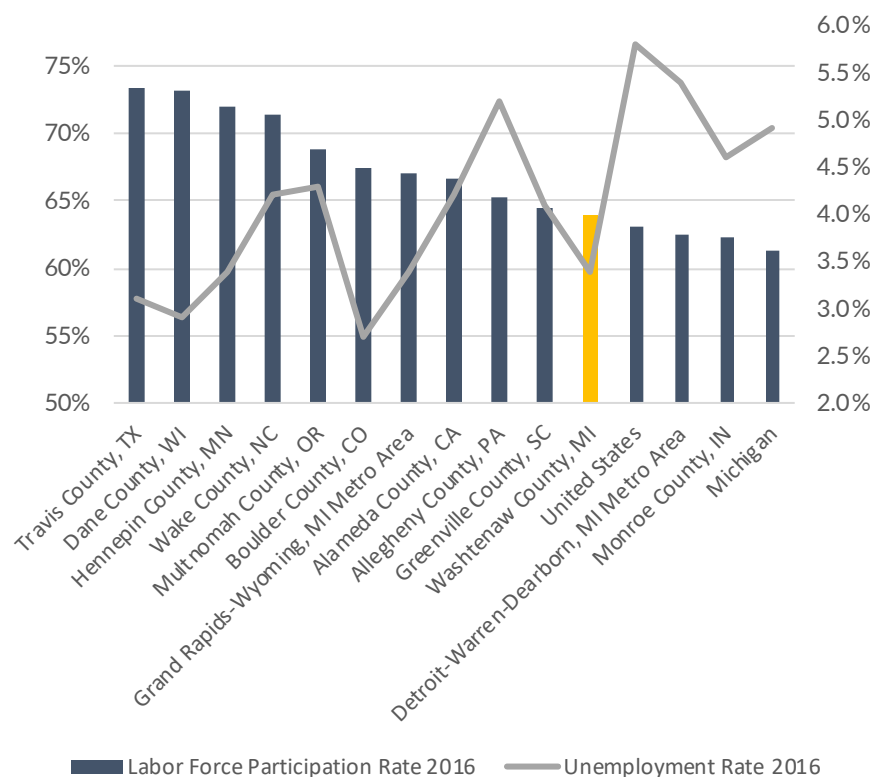
Key Findings
full dashboard – updated 2018

Region (alpha order by city)	University R&D Expenditure Rank	Venture Capital Activity Rank	Population Movement Rank	Driving Industry Employment Rank	Housing Affordability Rank	Income Inequality Rank	Unemployment Rate Rank	Labor Force Participation Rate Rank
Ann Arbor, MI/Washtenaw County, MI	1st	4th	5th	7th	9th	13th	6th	11th
Austin, TX/Travis County, TX	8th	5th	3rd	4th	10th	9th	3rd	1st
Berkeley, CA/Alameda County, CA	7th	2nd	1st	8th	13th	4th	9th	8th
Bloomington, IN/Monroe County, IN	9th	11th	8th	13th	8th	15th	11th	14th
Boulder, CO/Boulder County, CO	11th	1st	6th	1st	12th	11th	1st	6th
Greenville, SC/Greenville County, SC	13th	10th	10th	5th	3rd	5th	7th	10th
Madison, WI/Dane County, WI	2nd	6th	4th	3rd	6th	1st	2nd	2nd
Minneapolis, MN/Hennepin County, MN	5th	8th	9th	2nd	7th	12th	4th	3rd
Pittsburgh, PA/Allegheny County, PA	6th, 12th	3rd	11th	12th	1st	8th	13th	9th
Portland, OR/Multnomah County, OR	14th	7th	7th	10th	11th	7th	10th	5th
Raleigh, NC/Wake County, NC	3rd, 4th, 10th	9th	2nd	6th	5th	2nd	8th	4th
Michigan	NA	NA (city data only)	NA (county data only)	9th	2nd	6th	12th	15th
United States	NA	NA (city data only)	NA (county data only)	11th	4th	10th	15th	12th
Grand Rapids-Wyoming Metro Area	NA	NA (city data only)	NA (county data only)	NA (county data only)	NA (data unavailable)	3rd	5th	7th
Detroit-Warren-Dearborn Metro Area	NA	NA (city data only)	NA (county data only)	NA (county data only)	NA (data unavailable)	14th	14th	13th

Final Thought

None of these metrics operates in a vacuum. The eight metrics chosen for this particular study all influence one another.

Envision an idea which originates in the University of Michigan as a result of R&D funding, and makes its way into the community by way of venture-funded startup. The fledgling company does well in its first few years, growing quickly and hiring a diverse group of people. Due to the complex nature of its product, new recruits are often brought in from other regions—and have to grapple with a unique housing market. The company may encounter difficulties in hiring people from out of state, and must raise awareness of the region and its attributes. At a certain point, local economic development will take notice of the company and its growth, marking its impact on the ecosystem. As the company continues to grow, it encounters scarcity of labor—the drawback of a low unemployment rate. It therefore utilizes more creative tactics to recruit new hires. Underpinning the community's response to meeting the needs of such a growing company to stay and flourish here will be its efforts to reduce income disparities that hold back a portion of the region's population from fully participating in an expanding economy.

It seems like a lot has changed in just one year, while many things have remained the same. The region is still experiencing a drop in unemployment rate accompanied by a drop in labor force participation rate, housing prices for the region as a whole have kept steady with median income, and the University continues to invest heavily in research and development. On the flip side, venture capital activity in our competitor regions is ramping up while we remain steady, more people are moving here, there's a greater portion of the population working in driving industries, and the region is becoming more unequal. Trends in the rankings will become visible after three years of data; next year should be an interesting update.

Methodology
how to read this report

In this report, we use a series of common measures to determine the strength of the Ann Arbor region in comparison to select competitor regions in the United States.

Each region and metric was chosen with input from community members, local CEOs, and a review of the existing benchmarking literature from local economic development agencies, think tanks, and academics. Depending on the metric, county data or city data may be used.

The regions:

Ann Arbor, MI / Washtenaw County, MI
- The Ann Arbor region, home of the University of Michigan and Eastern Michigan University, recognized for expertise in research and development, automotive and mobility innovation, and a growing technology sector.

Berkeley CA / Alameda County, CA
- Home of UC Berkeley, nationally recognized as a center for innovation (producing a large portion of Silicon Valley founders) and has a high concentration of venture capital investment.

Pittsburgh, PA / Allegheny County, PA
- Home of Carnegie Mellon and the University of Pittsburgh, a rising eastern innovation hub, and well-known specifically for mobility research.

Boulder, CO / Boulder County, CO
- Home of CU Boulder, an established and nationally recognized startup ecosystem and venture capital landscape, and an historic R&D base originating from national laboratories.

Madison, WI / Dane County, WI
- Home of the University of Wisconsin, a state capital known for its college town atmosphere, proactive science park development, and frequent Ann Arbor comparison.

Greenville, SC / Greenville County, SC
- An up-and-coming cluster of automotive and aerospace R&D and mobility technology, not far from Clemson University.

Minneapolis, MN / Hennepin County, MN
- Home of the University of Minnesota, a Great Lakes neighbor with an innovation hub and active entrepreneurial ecosystem.

Bloomington, IN / Monroe County, IN
- Home of the University of Indiana, Bloomington, and a state competitor for incentives and manufacturing talent.

Portland, OR / Multnomah County, OR
- A vibrant city with an established entrepreneurial ecosystem, home to several high caliber educational institutions, and competes with Ann Arbor for lifestyle rankings.

Austin, TX / Travis County, TX
- A common anecdotal comparison, Austin is home to the University of Texas and also a dynamic and internationally recognized entrepreneurial hub of startups and venture capital activity, as well as the capital of Texas.

Methodology - continued

Raleigh, NC / Wake County, NC
- The Raleigh/Durham region in North Carolina is a nationally recognized innovation nucleus on the east coast that includes the seminal Research Triangle Park, with multiple research universities and competitive incentives.

The following regions are included (if data is available) to set context and benchmark the Ann Arbor Region against Southeast Michigan (Detroit metro area), Western Michigan, the state of Michigan, and national averages:
- **Detroit-Warren-Dearborn Metropolitan Statistical Area**
- **Grand Rapids-Wyoming Metropolitan Statistical Area**
- **Michigan**
- **United States**

The metrics:

University R&D Expenditures
- Measured using the National Science Foundation rankings by total R&D expenditures.

Venture Capital Activity
- Measured using a location quotient analysis, which normalizes the number of venture capital deals by population. The quotient represents the level of venture capital activity as a multiplier of the national average. A region with a venture capital quotient of 1.0 has a level of activity for its population equivalent to the national average; a region with a quotient of 2.0 is twice as concentrated as the US average.

Housing Affordability
- Measured using a ratio of median income to median home sale price. The higher the ratio, the less likely someone earning the median income is able to afford a house.

Population Movement
- Measured using the US Census Flowmapper. These are period estimates that measure where people lived when surveyed (current residence) and where they lived one year prior (residence one year ago). The data are collected continuously over a five-year period. The flow estimates resemble the annual number of movers between counties for a five-year period.

Driving Industry Employment
- SPARK defines driving industries as those represented by NAICS codes in exporting industries with economic multipliers. In other words, a job in a driving industry will support (multiply) jobs in other industries by selling goods and services outside our home region.

Income Inequality
- Measured using the Gini coefficient. This number, which ranges between 0 and 1 and is based on residents' net income, helps define the gap between the rich and the poor, with 0 representing perfect equality and 1 representing perfect inequality.

The Labor Market
- Measured using both the unemployment rate and the labor force participation rate.

Methodology - continued

What Year?
Each metric is evaluated using the data available at the time of collection. Most often the data available is from no later than 2016. It is dependent upon the data source and whether the metric has been normalized for population (new Census population data for 2017 will not be available until later in 2018).

Each page represents a single metric or a family of metrics.

Each page also contains a quick reference box spotlighting the Ann Arbor region's performance:

The Ann Arbor region's rank among the chosen competitor regions, with #1 being top performance and #15 being worst performance in the category. Some metrics do not include data for all regions, so the lowest rank may change accordingly.

Rank: 9th
of 15

level: 17.1%
trend: ⬌
top 5 average: 21.8%

The Ann Arbor region's level of performance for the most recent year.

One-year trend for the Ann Arbor region:

⬆ ⬇ ⬌
Positive Negative Holding

The average performance of the top five regions for this metric.

Sources

Raw Population
Source: US Census American Community Survey
Notes:
- Technically, Austin TX has population in 3 counties in Texas but the bulk of its population is located in Travis County.

University R&D Expenditure
Source: National Science Foundation

Venture Capital Activity
Sources: Brookings, Pitchbook, US Census (for population), author's calculations
Notes:
- Location quotient of venture capital deals calculated using the following equation:

LQ = (e$_i$/ e) / (E$_i$/E)
Where   e$_i$ = # of local deals
           e = local population
           E$_i$ = # of national deals
           E = national population

Housing Affordability
Sources: Zillow, US Census American Community Survey

Population Movement
Source: US Census Flows Mapper
Notes:
- Net migration is the inbound migration to the reference county from the second county minus the outbound migration from the reference county to the second county. If net migration is negative, then the reference county is losing people to the second county. If net migration is positive, then the reference county is gaining people from the second county.

Driving Industry Employment
Sources: University of Michigan RSQE, US Census American Community Survey

NAICS codes used for Driving Industries:
e323 Printing and Related Support Activities
e325 Chemical Manufacturing
e326 Plastics and Rubber Products
         Manufacturing
e332 Fabricated Metal Product Manufacturing
e333 Machinery Manufacturing
e334 Computer and Electronic Product
         Manufacturing
e336 Transportation Equipment
         Manufacturing
e339 Miscellaneous Manufacturing
e484 Truck Transportation
e511 Publishing Industries (except Internet)
e517 Telecommunications
e518 Data Processing, Hosting, and Related
         Services
e51o Other Information Services
e54133 Engineering Services
e54138 Testing Laboratories
e5415 Computer Systems Design and Related
         Services
e5416 Consulting
e54171 R&D in Biotech, Physical, Engineering,
         and Life Sciences
e55 Management of Companies and
         Enterprises

Income Inequality
Source: US Census American Community Survey

The Labor Market
Sources: US Census American Community Survey and Bureau of Labor Statistics

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