

TARGETING TRANSFORMATIONAL INNOVATION

# Greater Northwest Arkansas Development Strategy



The 2018 Blueprint

July 10, 2018

NORTHWEST ARKANSAS  
COUNCIL

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# EXECUTIVE SUMMARY

## Key Opportunities and Challenges

Northwest Arkansas has made significant progress since the Northwest Arkansas Council was established, and the region is often listed as one of the best places in the nation to live and work. The region has seen many notable improvements, and there is much to celebrate: the fastest job growth in 25 years, greatly expanded workforce training programs, new recreational and cultural opportunities, expanded infrastructure, and revitalized downtowns. The future appears bright, but incremental progress is insufficient given the rapid changes in business and society.

To successfully compete in the future, this new blueprint encourages the region to reach even higher, to take transformational steps to be, and be thought of as, one of the best regions in the world. And, the blueprint focuses heavily on improvements needed for the region to develop, attract and retain top talent, generate pioneering ideas and grow tomorrow's great companies.

By analyzing strengths and weaknesses compared to high-performing regions, by looking at business competitiveness trends, and by drawing on the expertise of Council members and partners, it's clear that Northwest Arkansas needs to improve its technological capacity and entrepreneurial ecosystem, continue to build its middle-skills workforce, and continue to build robust physical and social infrastructure to support economic growth. The region must ensure that a great quality of life is available for everyone who chooses to live in Northwest Arkansas.

**Regions that are strong in science, technology and entrepreneurship will best compete in the future. In Northwest Arkansas, these efforts will support the continued excellence of enterprise companies, but they also will help grow new companies and diversify the regional economy. Northwest Arkansas has added building blocks over the last two decades, but it lacks the scale and the systems required to compete at the highest levels. To make progress toward this goal, the Northwest Arkansas Council should:**

- Support efforts to increase research expenditures at the University of Arkansas to support more learning, jobs, and startups.
- Support the University of Arkansas' efforts to enhance technology transfer and commercialization to increase start-up activity and growth in STEM-related employment in the region.
- Regionalize a fractured entrepreneurial support system to build more critical mass in industry clusters, talent and capital.
- Build better connectivity among regional employers, the University of Arkansas, and entrepreneurial support organizations to capitalize on the organic growth potential of the region's three Fortune 500 companies and a Class I Carnegie research institution.

## EXECUTIVE SUMMARY, CONTINUED

**Sustaining a robust middle class in the face of technological change and automation requires a nimble, flexible education and training system. The inability to meet employer demand for STEM and middle-skilled job opportunities will jeopardize long-term growth. Northwest Arkansas is making strides in the right direction, but until it builds a world-class training system, full potential cannot be realized. To make progress, the Northwest Arkansas Council should:**

- Build more employer/education partnerships to support program alignment, awareness, curriculum, and experiential learning.
- Establish additional degree programs, faculty positions, enrollments, and graduates in information technology and engineering.
- Coordinate and support additional capacity and streamlined delivery systems for middle-skills training, especially at Northwest Technical Institute.
- Enhance career coaching infrastructure in secondary and post-secondary systems to provide better guidance for the future workforce.

**Access to people, places, products, and services fosters economic and social mobility. Northwest Arkansas risks falling behind if it is unable to provide an infrastructure that supports economic, professional, and personal growth. To make progress toward this goal, the Northwest Arkansas Council should:**

- Help attract daily low-fare air service that will save Northwest Arkansans millions in annual travel costs.
- Support investments for critical highway and road projects to accommodate growth and continue building connectivity between the region's municipalities.
- Coordinate public transit opportunities with large employers, and explore ways to expand on-demand, point-to-point service to ease the cost burden and provide mobility options to residents with limited access to reliable transportation.
- Advance appropriate recommendations identified in the Regional Affordable Housing Assessment to provide additional housing options for the region's low- and moderate-income workers.

## EXECUTIVE SUMMARY, CONTINUED

**Expanding economic, educational, civic, and cultural opportunities will help retain local talent and attract talent from across the globe to Northwest Arkansas. To make progress toward this goal and to ensure that these opportunities are well known and available to all regional residents, the Northwest Arkansas Council should:**

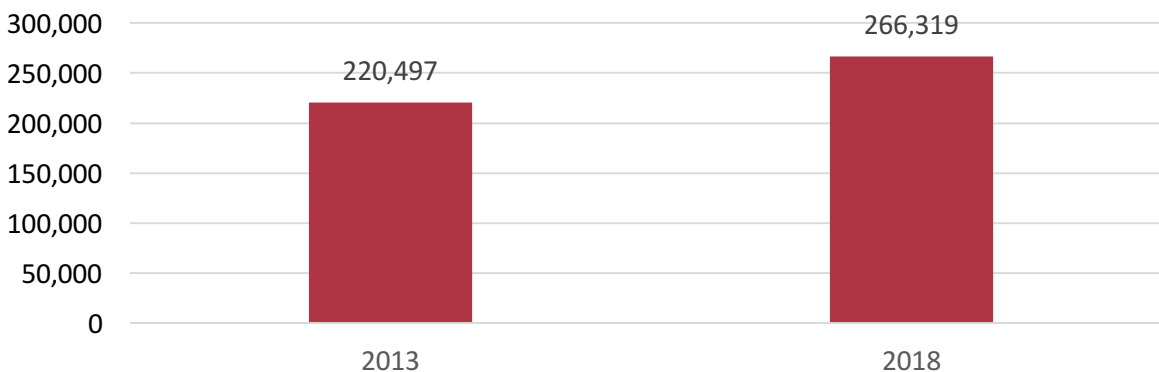
- Implement a new diversity and inclusion strategy through EngageNWA to ensure that all residents have access to everything Northwest Arkansas has to offer.
- Support regional efforts to expand early childhood education to close the achievement gap and create better learners.
- Create a regional arts services organization to support and promote the arts and support local artists.
- Support next steps to advance downtown development, trails, and other quality-of-life enhancements.
- Establish new programs to ensure that regional leaders and residents continue to understand the value of a regional approach to solving problems and work together toward common goals.
- Create and implement a regional branding strategy to tell the Northwest Arkansas story to global audiences.

To excel in this changing world, Northwest Arkansas must embrace transformational changes that build on the region's strengths. More importantly, those transformative projects must address the region's weaknesses in workforce at all levels, expand the pool of science and technology talent in Northwest Arkansas, and continue to build the region's physical and social infrastructure. Northwest Arkansas must continue to work toward regional cohesion and collaboration. The Council's founders understood the importance of regional approaches, and the Council should redouble those efforts.

# CURRENT STATE OF THE REGION

Strong economic performance in Northwest Arkansas is the norm. From March 2013 to March 2018, regional employment grew by 45,822 jobs, an almost 21 percent increase. The region adds over 30 new people to its population every day, drawn to economic opportunities and high quality of life.

Northwest Arkansas Non-Farm Employment  
(Bureau of Labor Statistics, May 2018)



In the 2015 blueprint, Northwest Arkansas began to benchmark itself against other contemporary, high-performing regions: Austin, Des Moines, Madison, Durham-Chapel Hill and Raleigh. The 2017 State of the Northwest Arkansas Region Report found that Northwest Arkansas' gross metropolitan product was growing at more than twice the rate of the U.S. and about the same as the peer regions. Employment growth was faster than the country's and every peer region except Austin. The low unemployment rate, low home ownership costs, and short commuting time were superior to all other peer regions.

The area is not without challenges. Annual wages are higher in all peer regions, and median household income remains below the national average and at only 78 percent of the peer regions. New business establishment growth is higher than Arkansas or the nation, but significantly lower than peer metros. Northwest Arkansas' educational attainment lags its peer regions. In 2016, 30.9 percent of the region's adults age 25 and over held a bachelor's degree or higher. While that was above the 22 percent for Arkansas, it was well behind the selected peers. In four of the five peer regions, attainment exceeded 42 percent. The Northwest Arkansas average cost of domestic airfare is also the highest among the peer group.

A customized multifactor ranking analysis was created for the 2015 peer group and the 2011 peer group plan to better gauge Northwest Arkansas' comparative strength in six indexes: Business Climate, Infrastructure, Talent, Innovation and Entrepreneurship, Overall Economic Strength, and Inertia for the Future Growth. In all, 67 metrics were used. A complete list of the factors and sources is included in Appendix 1. In the 2011 plan, previous peer metros were Kansas City, Omaha, Knoxville, Tulsa and Huntsville.

## CURRENT STATE OF THE REGION, CONTINUED

The data shows Northwest Arkansas is outperforming the 2011 peer communities and ranks either best or second best in each individual index. For the 2015 peers, which were selected specifically because they would be steep competition for Northwest Arkansas, Austin and Raleigh stand out as the strongest regions. Austin ranks the best in Economic Strength, Talent, Innovation and Entrepreneurship, and Inertia for Future Growth, but ranks low in Infrastructure and Business Climate. Raleigh has the best Business Climate and does not rank low in any category. We added Provo, Utah to the comparator group identified in 2015 because of its success in science, technology and innovation.

Northwest Arkansas ranks best among the 2015 peers for Infrastructure, and third best for Business Climate, Economic Strength and Future Inertia, but has lower scores for Talent, Innovation, and Entrepreneurship, suggesting that increased effort in those areas are warranted.

	Economic Strength	Future Inertia	Talent	Business Climate	Infrastructure	Innovation & Entrepreneurship	OVERALL RANK
<b>CURRENT PEER REGIONS</b>							
Raleigh, NC	2	4	2	1T	3	3	1
Austin, TX	1	2	1	6	4	2	2
Provo, UT	6	1	3	1T	5	1	3
<b>Northwest Arkansas</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>4</b>
Des Moines, IA	4	5	6	4	2	6	5
Madison, WI	5	6	4	5	6	4	6
<b>2011 PEER REGIONS</b>							
<b>Northwest Arkansas</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>1</b>
Kansas City, MO	3	2	2	6	6	1	2
Omaha, NE	2	3	3	5	3	5	3
Knoxville, TN	5	5T	5	1	4	4	4
Tulsa, OK	6	4	6	2	1	6	5T
Huntsville, AL	4	5T	4	4	5	3	5T

The Infrastructure Index includes housing as infrastructure. Northwest Arkansas' relative housing affordability combined with low energy costs and strong state investment in roads countered the region's poor rankings in air service cost and broadband availability, resulting in a top ranking. Housing affordability is a rising concern in Northwest Arkansas as it is in each of the other peer regions and could be lost as a competitive advantage if it isn't addressed.

# ENVISIONING THE NEXT 25 YEARS

On Sept. 8, 1990, Northwest Arkansas Council members Sam Walton, Don Tyson, Jim Blair, Alice Walton and J.B. Hunt told the U.S. House Public Works and Transportation Committee that there were specific infrastructure needs critical to the region's future. The Northwest Arkansas Council was formed, got to work on these important projects, and it changed the region forever.

The critical challenges for growth are different today, but the role of the Council is the same - to identify challenges and champion solutions to enhance the prosperity of its residents. So with this in mind, the Council went through a process to gather input from its membership and a diverse group of stakeholders to identify challenges and potential solutions.

## **Member and Stakeholder Input**

As was the case in the 2015 Blueprint, there were many suggestions for new priorities, and also a clarion call that the Council should focus on fewer priorities.

Council members felt the organization should continue its work in areas such as transportation, infrastructure, workforce, and economic development. They also felt the organization should be future-focused, identifying and advocating investments and ideas that will help the region meet the challenges of improving its competitiveness in the ever-changing evolution of the economy.

There was general agreement among focus groups that the Council should continue to focus on its traditional areas of work as well, but efforts in entrepreneurial ecosystem, leadership development, and diversity should be elevated and become additional Council priorities.

There was a strong consensus that the Council's most valuable quality is its unique capacity to serve as regional connector, convener, and influence aggregator. All agreed that even though it won't appear in any plan, this intangible quality is the Council's biggest strength.

In summary, the input from members and stakeholders made clear that the fundamental work of the Northwest Arkansas Council should remain, but enhancing the region's competitive edge to reach future potential will require changes. This strategy should recommend a mix of the fundamental and ambitious goals, objectives, and action items to help the region realize that vision.

The nature of creating a strategy is making hard choices. Three general themes emerged from the discussion though, and those themes form the basis for the Council's goal areas for regional prioritization in 2018. Those three areas are:

1. Diversifying the Regional Economy
2. Expanding and Enhancing the Supply of Regional Talent
3. Improving and Sustaining the Region's Physical and Social Infrastructure



## ENVISIONING THE NEXT 25 YEARS, CONTINUED

### Diversifying the Regional Economy

Innovation and entrepreneurship are foundations of the Northwest Arkansas region's current success. The combination of three Fortune 500 companies and the University of Arkansas have fueled economic growth and stability over the past 25 years.

Despite this, Northwest Arkansas lags behind the most innovative regions in terms of education, research capacity, commercialization, and support for startups. These are clear deficits facing the region when looking at the annual State of the Northwest Arkansas Region Report. In addition, the latest POLICOM *Economic Strength Rankings* and Milken Institute's *Best-Performing Cities* rankings show Austin and Raleigh in the Top 10. Since the last plan was developed, Northwest Arkansas has moved from 58<sup>th</sup> to 35<sup>th</sup> in POLICOM's rankings and is now No. 25 in Milken's ranking.

To make dramatic improvements in economic and wage growth, it is critical for the region to address these weaknesses, and strengthen its innovation economy. That can be accomplished by increasing the talent pool in the science and engineering disciplines; expanding research and commercialization at the University of Arkansas; creating a culture of collaboration among established businesses, researchers, and entrepreneurs; and strengthening support structures for local entrepreneurs. These are key features of the nation's highest-performing regions, and they are areas of weakness in Northwest Arkansas. This is an achievable goal, even in a smaller, rural state. Utah provides a good example on how a transformation can happen:

#### UTAH – A CASE FOR TRANSFORMATIVE CHANGE

In 2001, Utah made a decision to expand its capacity in science and technology. This was done to enhance economic development in a changing economic landscape. Led by Governor Mike Leavitt, Utah passed Senate Bill 61 for the purpose of increasing the number of engineering and computer science graduates to advance the "well-being of the state and its citizens." The legislature made a commitment to invest in engineering education, increased students, increased faculty, increased federal research for the purpose of economic development. It created the USTAR program, a collaborative effort between the state, the chamber of commerce and other partners to focus economic development efforts around technology and the state research universities' capacities.

The result is remarkable. Utah, a state of just over 3 million people, is currently rated as having the No. 1 economic outlook in the nation and it's the nation's fastest-growing tech state. The state built its ecosystem for economic growth around science and technology, built a business-friendly climate, invested in its research universities, invested in infrastructure, focused on quality of life and developed its workforce. These efforts led to the creation of over 6,500 tech companies and four unicorns (privately held companies with an estimated value of over \$1 billion). The research activities of the state's universities and the resulting spin-off companies have led to the employment of over 28,000 individuals and contributed over \$129 million in state taxes in 2010, which was the last comprehensive study. The state Gross Domestic Product (GDP) has nearly doubled, and Utah is No. 2 nationally in terms of personal income growth. It all began with a concerted effort by state and business leaders to invest in science and technology surrounding research universities.

## ENVISIONING THE NEXT 25 YEARS, CONTINUED

### **Expanding and Enhancing the Supply of Regional Talent**

Northwest Arkansas is fortunate to have quality K-12, post-secondary training, and higher education institutions, and recent investments have improved their ability to produce a quality workforce. Going forward, the region must ensure that it can educate and attract world-class talent. While the foundation is solid, an honest assessment suggests improvements are needed.

The region's growth, worker attrition, and a wave of retirees will create a need that dictates a vigorous, proactive approach. Regional employers hiring middle-skilled workers will need to make over 11,500 hires a year for the next 10 years. Regional employers hiring high-skilled workers will need to make over 6,000 hires each year during that same decade. These robust numbers could consume many local graduates or completers and still leave deficits in trade occupations such as precision production, maintenance, construction, and transportation; and white-collar occupations such as information technology, life science, healthcare, and marketing.

Northwest Arkansas must continue building a best-in-class workforce system to accommodate future growth, but a glaring deficiency exists in the capacity to train more middle-skilled workers. Capacity and delivery of post-secondary technical training will require a systemic overhaul to fulfill the region's needs.

Because of the nature of Information Technology work, which often can be done from any location around the world, Northwest Arkansas' ability to train and attract tech talent will determine whether it keeps moving up the lists or finds itself sliding down the rankings along with its standard of living. The region will significantly limit its future if it cannot transform itself into a "place of choice" for tech talent in the Heartland.

### **Improving and Sustaining the Region's Physical and Social Infrastructure**

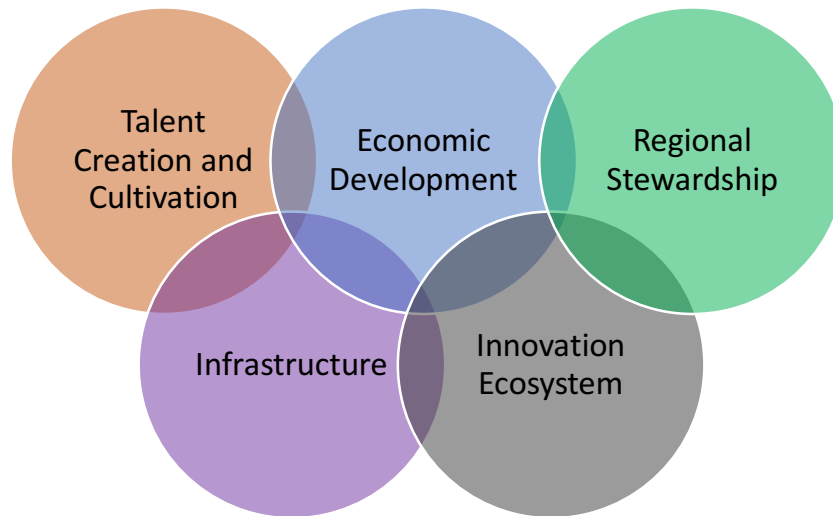
Fast-growing Northwest Arkansas' thirst for better infrastructure once went unquenched, but the Northwest Arkansas Council's leadership in the 1990s and beyond played a significant role in the region's work with federal funders, state leaders and local decision-makers in addressing many of the top infrastructure priorities at the time. Yet, infrastructure work is never complete in a region growing at the pace of Northwest Arkansas.

As it has since its founding, the Council must be the organization leading conversations about infrastructure while also working with partners to identify both unique and traditional ways to pay for the highest priority projects. The region, its companies, and its residents need (1) better highways to commute to work and ship goods, (2) investments in public transportation and the Northwest Arkansas Regional Airport to assure long-term transportation options, and (3) collaborative approaches to addressing water quality, recycling and waste disposal.

No organization is better positioned than the Northwest Arkansas Council to be the bridge that ensures regional collaboration as a way to more effectively pursue big-ticket, infrastructure goals.

## ENVISIONING THE NEXT 25 YEARS, CONTINUED

Just as important as physical infrastructure, Northwest Arkansas must continue to build its social infrastructure to attract and retain key knowledge workers with an entrepreneurial mindset. These efforts will involve growing the region's innovation ecosystem by developing an open-innovation, collaborative business culture; establishing effective partnerships among enterprise businesses and savvy start-up entrepreneurs working to co-create real-world solutions; and developing a cognitive-diverse, inclusive, "cool" business environment that attracts and retains innovators and tech talent to the community.



Efforts in this space will continue to develop quality of life and reputation surrounding outdoor activities, arts, culinary and cultural activities. The region must continue to develop an open, inclusive environment to ensure that anyone, regardless of background or belief, can grow and thrive. These social infrastructure efforts are keys to ensuring quality of life for regional residents and a key enabler of economic prosperity.

Northwest Arkansas is routinely listed as one of the best places in the nation to live and work, and the future appears bright. However, ongoing incremental progress is a risky strategy given the rapid changes in business and society.

To excel in this changing world, this strategy must embrace transformational changes that build on the region's strengths, and more importantly, address the region's weaknesses.

# Greater Northwest Arkansas Development Strategy



## 2018 Strategic Action Agenda

NORTHWEST ARKANSAS  
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# TARGETING TRANSFORMATIONAL INNOVATION: BLUEPRINT 2018

The 2018 blueprint builds from the success of two previous efforts:

1. The *2011 Greater Northwest Arkansas Development Strategy*, with its 56 specific actions, established foundational building blocks for physical infrastructure, community vitality, workforce skills and a regional, more collaborative approach to economic development.
2. The *2015 Building on Success* blueprint narrowed the focus to 15 action items. Those efforts included taking steps to improve regional workforce and infrastructure, supporting business retention and expansion as the priority for economic development and expanding the Northwest Arkansas Council's role as regional stewards, placemaking champions and the nexus for regional information and collaborative efforts.

The *2018 Targeting Transformational Innovation* blueprint envisions new commitments to a world-class innovation ecosystem. It calls for strengthening research capacity, building a robust culture of innovation and collaboration, expanding talent creation and cultivation efforts, to include establishing a world-class youth leadership institute and a new, best-in-class campus for middle-skills training. It also suggests new foundations for future success through an expanded role for the Northwest Arkansas Council as regional stewards, a role that is somewhat new to the Council, but gaining in importance to regional partners.

The potential priorities list is long, and there is an understanding that resource limitations and targeted funding for specific programs will govern the Council's workplan in the future. Nevertheless, if the goals provided in this blueprint are met, they could be a catalyst for transformational change that rival the region's biggest achievements over the past 50 years.

# INNOVATION ECOSYSTEM

Northwest Arkansas will grow its innovation ecosystem by developing an open-innovation, collaborative business culture, establishing effective partnerships among enterprise businesses and savvy startup entrepreneurs working to create real-world solutions.

**GOAL: Be a catalyst for improvements to the region's Innovation Ecosystem by supporting increased business and research collaborations and develop programs to help attract students, faculty and entrepreneurs to the region.**

## OBJECTIVES AND ACTION ITEMS

**Help improve the University of Arkansas' research enterprise and commercialization capacity.**

- **Technology Transfer & Commercialization:** Substantially improve the University of Arkansas' position on the Milken University Technology Transfer and Commercialization index by increasing the technology transfer capacity, expanding services available for UA students and faculty to promote and support research commercialization, and ensuring that UA intellectual property policies align with best practices across the U.S.
- **Research Funding:** Work with regional business, government and university leaders to double the R&D expenditures by the University of Arkansas by increasing federal, state and industry-sponsored research.
- **Federal Grants:** Support efforts to significantly increase the region's use of existing federal innovation grant programs such as Small Business Innovation Research (SBIR) program and the Small Business Technology Transfer (STTR) program.

**Foster collaboration among academic, industry, and other entrepreneurial support organizations within the Northwest Arkansas entrepreneurial ecosystem.**

- **University-Based Economic Development:** Help the economic development team at the University of Arkansas establish a mining and matching program to market sponsored research and collaboration opportunities to potential partners. Utilize the program to reach out to new and existing industry partners to gauge their interest in Northwest Arkansas as a potential business location.
- **Life Science:** Enhance life science-related research through increased collaboration with the University of Arkansas for Medical Sciences (UAMS) and the University of Arkansas either directly or by creating an independent research consortium.
- **Healthcare:** Study impact of increased medical service offerings and health science research collaborations, including the potential impact of establishing a medical school in Northwest Arkansas.

## OBJECTIVES AND ACTION ITEMS, CONTINUED:

# INNOVATION ECOSYSTEM

Enhance the region's entrepreneurial support ecosystems.

- **Entrepreneurship Programs:** Support existing programs and develop new programs for regional business to support local entrepreneurs through increased mentorship and collaboration and establish, as warranted, business partnerships with invited startup leaders that incentivize them and their companies to join the innovation ecosystem.
- **Seed Funding:** Support the availability of access for early stage, high-risk capital funds for regional entrepreneurs, to include support for programs designed to assist in accessing state and federal funding programs.
- **Business Accelerators:** Support efforts to foster industry collaboration and regional business growth through the establishment of business accelerators to invite companies ready to scale in for short-term collaborative sprints to pitch proof-of-concept solutions for regional enterprise businesses.
- **Scale-Up:** Support the recruitment and establishment of organizations to provide additional mentorship and market access support for regional entrepreneurs ready to scale operations.

# TALENT DEVELOPMENT AND ATTRACTION

The availability of skilled talent is the top factor for businesses today as they determine where to invest. With national and regional unemployment rates at or approaching record lows, the ability of a region to train or attract new workers is critical to success. Developing talent begins young and involves parents, educators, businesses, community and state leaders. The Council helped lay an impressive foundation and remained an instigator of change over the past few years. Northwest Arkansas also must build a more resilient workforce because of the rapid pace of technological change and automation.

**GOAL: Develop and attract the talent needed to build and sustain world-class employers in Northwest Arkansas.**

## OBJECTIVES AND ACTION ITEMS

**Continue transforming the region's workforce system into a best-of-class, demand-driven workforce model to increase the supply of appropriately skilled labor.**

- **Research:** Utilize state of the art analytics, secondary, and primary data to align local secondary and post-secondary education and training programs with employer demand.
- **Early Childhood:** Support regional efforts to expand early childhood development opportunities to Northwest Arkansas residents of all socioeconomic backgrounds.
- **Career Education:** Work with school districts to provide every learner with rigorous, uniform, career coaching opportunities in years 10, 11, and 12. Support and develop local schools' efforts to market new programs to learners, parents, and educators to increase enrollments, completions, and certifications.
- **Secondary Training:** Build on successful capacity building efforts of the previous three years by supporting the addition of new and expanded programs where needed.
- **Post-Secondary Training:** Support efforts to transform Northwest Technical Institute into a world-class training institution to increase enrollments and produce more graduates with relevant, in-demand certifications. Help inform programming in non-credit workforce training at the Northwest Arkansas Community College and the University of Arkansas Global Campus.
- **Employer Partnerships:** Identify and connect industry partners with education and training programs to support curriculum development, create awareness, and provide work-based learning opportunities.



## OBJECTIVES AND ACTION ITEMS, CONTINUED:

# TALENT DEVELOPMENT AND ATTRACTION

**Increase the scientific and technical capacity in the region to support local industry and expand innovation ecosystem.**

- **Engineering and Technology Talent:** Expand and enhance the University of Arkansas' information technology and engineering programs by supporting increased enrollment and retention through support for endowed chairs, student scholarships and business partnerships to retain talent to support growth in emerging technologies in ecommerce, data science, artificial intelligence, and robotics.
- **Talent Retention:** Establish a revolving internship program for local corporations to increase attractiveness of local universities and increase post-graduate retention in the region.

**Attract talent to meet employer needs for more immediate, specialized, or tenured positions, and help retain new or incumbent workers to reduce employer onboarding costs.**

- **Regional Brand:** Develop and implement a long-term branding strategy for the region, with a focus on shaping public perception by building an identity and telling Northwest Arkansas stories about signature experiences, cultural amenities, and leading on social issues to the world.
- **Destination Events:** Build on high-profile conferences such as the Northwest Arkansas Tech Summit to create destination events that attract talent from outside the region, similar to SXSW in Austin Texas, C2MTL in Montreal Canada, or the Summit Series in Powder Mountain, Utah.
- **Talent Recruitment:** Enhance talent recruitment and retention resources to include fresh regional promotions, testimonials, data, social feeds, and engagement portals.
- **Regional Marketing:** Disseminate resources and content to human resource teams, associations, and via a targeted, nationwide social media campaign and offsite recruiting events.
- **Higher Ed Retention:** Identify and connect industry partners with UA, JBU, NWACC and NWTI placement offices, college deans, program directors, and key faculty to foster higher regional retention rates from those institutions. Expand internship program with a focus on diversity and inclusion.

# INFRASTRUCTURE

The roots of the Council lay in its work to align goals and influence to build the infrastructure needed to support business growth. With 28 years of success comes the imperative to address the challenges of growth. Highways and air service remain Council priorities. Providing the collaborative capacity for various players in the region to address recycling, water supply, water quality and mobility options to align their work and look for efficiencies remains a need. And the availability of appropriately priced workforce housing is growing concern.

**GOAL: Advance infrastructure priorities to support the economic competitiveness, development, and population growth of Northwest Arkansas.**

## OBJECTIVES AND ACTION ITEMS

**Ensure that Northwest Arkansas has the infrastructure to meet the needs of the community.**

- **Highways:** Work closely with the Arkansas Department of Transportation, the Northwest Arkansas Regional Planning Commission and other government entities to ensure that highway projects providing the most long-term, regional benefit are prioritized and funded.
- **Recycling:** Work with the Boston Mountain Solid Waste District and the Benton County Solid Waste District to bring increased consistency in recycling and use partnerships to create cost-efficient, waste reduction programs across Northwest Arkansas.
- **Water:** Ensure that Northwest Arkansas Council members, companies, and state and local governments work in concert when possible to address the most significant water issues facing Beaver Lake, the Illinois River and other priority watersheds in Northwest Arkansas.
- **Workforce housing:** Work with partners to identify the appropriate affordable housing recommendations to advance from the UA Center for Business and Economic Research regional housing assessment.
- **Air service:** Work with the Northwest Arkansas Regional Airport to ensure that the air service needs of Northwest Arkansas Council members are well known to airlines.
- **Low-cost carrier:** Pursue daily low-cost air service to increase competition and drive down airfares at the Northwest Arkansas Regional Airport.
- **Public transportation:** Ensure that the services and funding of Razorback Transit and Ozark Regional Transit keep up with rapid population growth and the long-term needs of Northwest Arkansas. That includes assisting both systems as they explore ways to provide more trips to key employment centers.

# ECONOMIC DEVELOPMENT

The Council's economic development priorities include Cluster Coordinator and Entrepreneurial champion. Cluster-focused economic development is a bottom-up approach and an integrated model of collaboration that unifies economic development practitioners, policy makers, partners, academicians and allies. This approach maximizes cooperation and productivity, leading to resource efficiency, policy consistency, operational stability, and measurable results.

**GOAL: Lead the regional economic development efforts to foster the growth of investment and job opportunities.**

## OBJECTIVES AND ACTION ITEMS

**Develop and implement programs to help create, expand, or attract new businesses.**

- **Location Advisor Relations:** Continue to cultivate relationships with national site location advisors and real estate brokers through onsite visits and familiarization tours, social media, and direct communication.
- **Regional Marketing:** Revisit and refresh regional targets, develop marketing content, and initiate a social media marketing campaign to generate awareness and interest in Northwest Arkansas as a business location. Use special opportunities and events to push positive news about the region out to national audiences.
- **Entrepreneurial Support:** Develop and expand programs focused on supporting high-impact entrepreneurs residing in and moving to Northwest Arkansas. Continue work with entrepreneurial support organizations to build on Northwest Arkansas' venture capital spectrum, by building funds and/or recruiting them to the region.
- **Policy:** Work with regional stakeholders to ensure that state programs related to business climate and entrepreneurial support are consistent with best practices from across the nation.
- **Employer Outreach:** Conduct biennial Employer Retention and Expansion surveys to inform specific workforce and business climate actions.
- **Real Estate:** Coordinate an evaluation of a regional commerce park at XNA as the possible site for new anchor businesses.

# REGIONAL STEWARDSHIP

Northwest Arkansas must continue to build its social infrastructure to attract and retain key knowledge workers with entrepreneurial mindsets. These efforts will involve developing a cognitive-diverse, inclusive, “cool” business environment that attracts and retains critical innovators and tech talent.

**GOAL: Champion placemaking and provide leadership, collaborative capacity, and resource alignment to ensure the region remains a well-led, vibrant, attractive and diverse community for employers and residents alike.**

## OBJECTIVES AND ACTION ITEMS

**Promote diversity by leading or supporting programs that create an inclusive social and economic environment.** The Northwest Arkansas Council is integrating EngageNWA, the region’s leading diversity and inclusion program, to focus regional goals of diversity and inclusion in the following areas:

- **Economic Development:** harness the full potential of all residents so that everyone has the skills and assets to thrive, and economic development systems are prepared to leverage new and existing talent.
- **Government Leadership & Equitable Access:** Local government is committed to being inclusive and plays a central role in building local capacity while advancing inclusion of diverse communities within its own agencies and bodies. Communities reduce barriers to services and participation so that opportunities of the community are available to all residents.
- **Community Civic Engagement:** ensure that diverse populations fully participate in civic life, including increasing access to leadership, community participation and citizenship.
- **Safe & Connected Communities:** Build relationships among people of all backgrounds, including newcomers and long-term residents. They foster trust and build relationships between community members, local law enforcement and other safety agencies.
- **Education:** ensure everyone has the education that’s necessary to succeed in school and the workforce.

## OBJECTIVES AND ACTION ITEMS, CONTINUED:

# REGIONAL STEWARDSHIP

**Cultivate the next generation of leaders with world-class leadership training.**

- **Training:** Explore the possibility of developing a national world-class youth leadership institute in Northwest Arkansas.
- **Leadership Roles:** Support efforts to place youth leaders on the boards of regional institutions.

**Organize the legislative agenda to advance the business and livability interests of the region.**

- **Advocacy:** promote the regional legislative agenda to elected officials and regional residents.
- **Collaboration:** Maintain the Council's leadership in regional stewardship and placemaking.
- **Metrics:** Maintain the Council's role as transparent scorekeeper.
- **Public Relations:** Continue to look for opportunities to expand the region's brand and share positive attributes of the region.

**Promote the health of region by supporting the growth, as necessary, of health care access and quality and regional residents.**

- **Health Care Workforce:** Continue to work with regional stakeholders to address near term health care workforce shortages in NWA.
- **Regional Health Care Assessment:** Work with regional stakeholders to identify any gaps in regional health care supply and demand and work to determine the economic impact of increasing the quantity and quality of health care available in the region, to include the costs and benefits of increased medical education options in the region.

**Support the growing arts and culture economy by working with the Walton Family Foundation to incubate a regional arts-focused organization.**

- **Assessments:** Conduct needs assessments in arts, music, and other cultural amenities.
- **Arts Organization:** Hire a director to start organization and secure long-term support.
- **Arts Strategy:** Develop and implement a regional arts and culture support strategy.

**Promote successes in trails, culinary, and downtown development as a part of the regional branding strategy, and champion organizations supporting these programs and initiatives throughout the region.**

**APPENDIX**

**Greater Northwest Arkansas  
Development Strategy**



**The 2018 Blueprint**



# APPENDIX

## Part I: Enhancing the Region's Innovation Ecosystem

Despite significant efforts over the last several years, Arkansas ranks near the bottom in research and commercialization. According to the State Technology and Science Index Report, which measures the state performance in the areas of research and development, risk capital, entrepreneur support and human capital investment, Arkansas ranked 49<sup>th</sup> in the nation in 2016. Additionally, Northwest Arkansas' educational attainment does not keep pace with comparator regions. While Northwest Arkansas compares favorably to national averages, it lags behind high-performing regions, and funding for research activities at the University of Arkansas lag significantly behind research activities in peer regions.

For this region to continue to thrive, it must address these weaknesses by expanding research activities, building innovation synergies among existing businesses, and develop new areas of economic activity. At the same time, Northwest Arkansas must develop, attract and retain world-class talent. These activities are keys to the region's future.

### **The Research University as an Economic Driver**

It is widely understood that research universities are a primary driver of innovation and entrepreneurship. Research universities are crucial assets in promoting technology-based and other high-value-added economic development. Given the way science and technology are changing business, it is clear research universities will play a vital role in the future.

Leveraging research by converting it to a private-sector application and developing the talent that industry requires are two main areas where research universities are key components of a thriving economy. The U.S. Department of Commerce has stated that "U.S. universities and colleges will be the vanguard in discovering that innovation and in nurturing the entrepreneurs that can create products, services, economic value, and high-quality jobs."

A primary driver of the economic impact of research universities is the federal government, which invests billions of dollars annually into basic research conducted through American research universities. These research investments cut across a broad range of priorities, to include cancer research, energy efficiency, agriculture and others. This model is effective and countless transformational technologies resulted from this research. In addition, the Bayh-Dole Act of 1980 changed federal law to incentive basic research by allowing universities to own the intellectual property of their work and the right to license it. This has led to a growing focus of research and commercialization by many universities and has increased incentives for students and faculty to become entrepreneurs. Areas like the San Francisco Bay area, Boston, Raleigh, and Austin used synergies between research universities, entrepreneurs and the business community to build dynamic, knowledge-based economies.

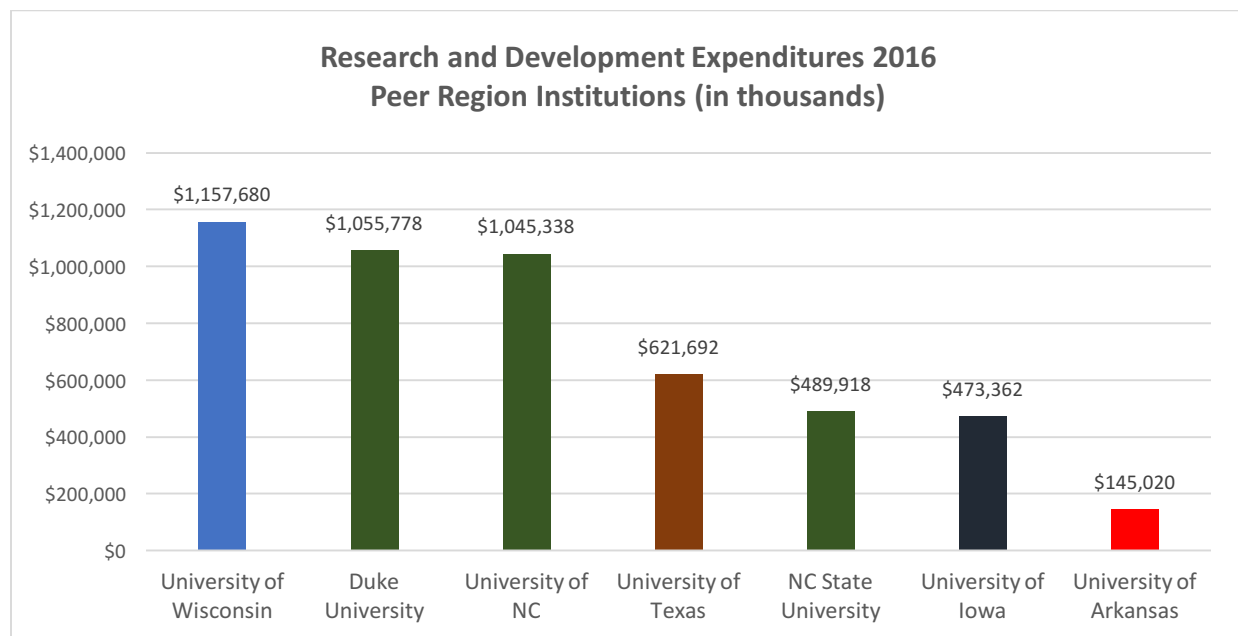
## The Research University as an Economic Driver, continued

In a recent report by the Walton Family Foundation called “Incentive Entrepreneurial Behaviors at Universities – Especially in the Heartland,” Walton Fellow Ross DeVol succinctly outlines why research commercialization should be a key component to economic growth in the Heartland. By increasing the University of Arkansas’ research activities and supporting efforts to commercialize this research, Northwest Arkansas can create new startup to advance the state and regional economy. Studies show young firms drive the majority of job creation with new firms (0-5 years old) accounting for nearly all net job creation. As such, it is clear the region needs to build on its assets to drive further research commercialization and industry collaboration to spur the creation of new firms to increase employment and wage growth.

## The University of Arkansas

The University of Arkansas is a public, land-grant, four-year institution that is the flagship campus of the University of Arkansas system. The university has over 27,500 students enrolled in over 200 programs. For the year 2016, the university funded \$145 million in research and development. R&D funding at the university in the last 25 years has seen steady growth with an average annual increase of \$5 million. In the years following the Great Recession, R&D funding at the university stagnated, but there was an uptick in the past two years.

The National Science Foundation (NSF) ranks 900 universities on annual total R&D expenditures. The University of Arkansas ranked 130 out of 900 universities in 2016. When compared with other flagship, land-grant universities, Arkansas ranked near the bottom. Even at schools in states with similar or smaller populations such as the University of Utah and University of Kansas there’s higher R&D spending.



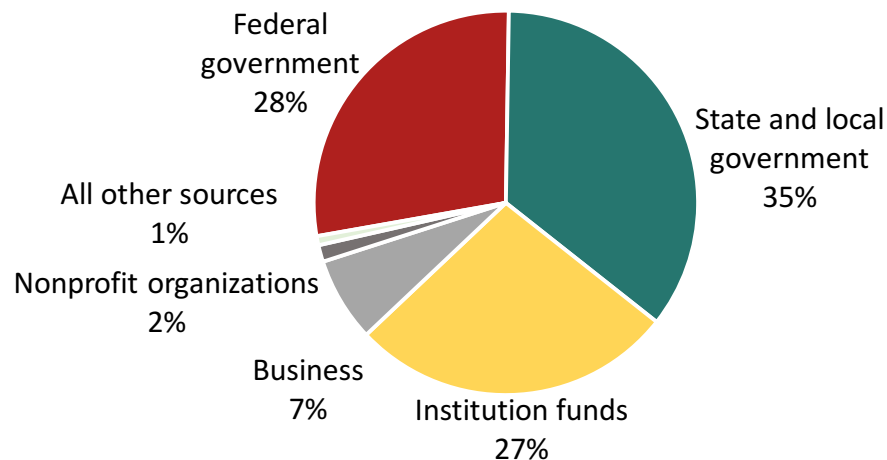
Source: NSF (2018) (Duke, the University of NC, and NC State University are all in the Raleigh-Durham region.)



## The University of Arkansas, continued

The data shows federal funding is a major source of R&D expenditures at top-research universities. For the top ranked universities for R&D expenditures, the federal government is the largest funding source at 17 of the top 20 universities. The primary source of R&D funding at the University of Arkansas was from state and local government (35 percent). Federal government and institution funds were the next major funders, and private industry accounted for 7 percent.

**University of Arkansas R&D Funding Breakdown, 2016 (NSF, 2017)**



In terms of industry-funded R&D, the university ranks in the middle with 150 universities having a higher industry funding percentage than the University of Arkansas. The concentration of Fortune 500 companies in Northwest Arkansas suggests the opportunity for a higher ratio of industry-backed research.

## Technology Transfer

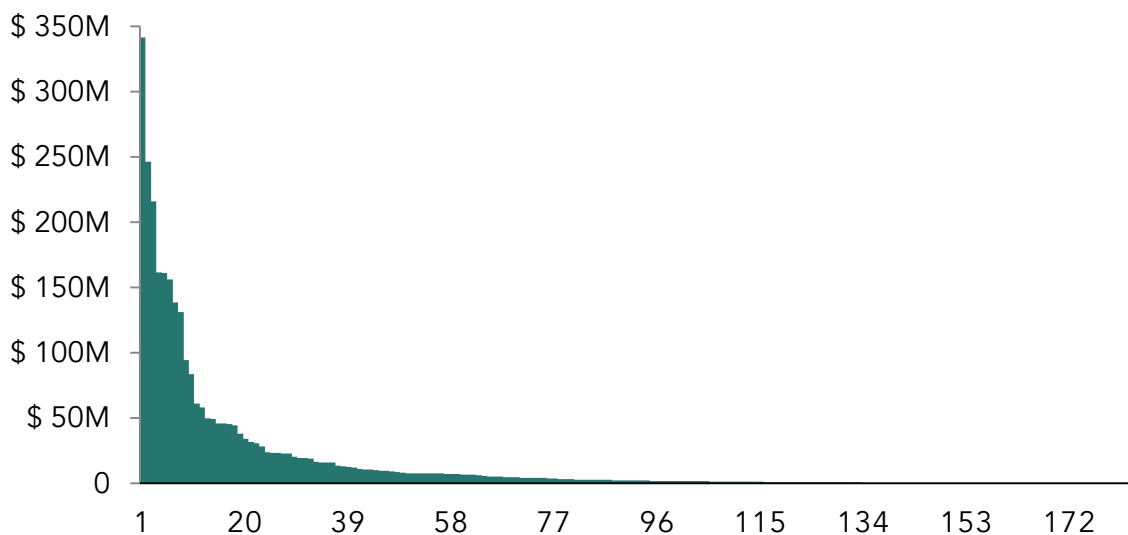
Academic research is important for the advancement of knowledge, but the ability to commercialize research through licensing, patents and to spin off new businesses from R&D conducted at the institution is the key component for a broader regional impact. Many universities have offices dedicated to technology transfer for precisely this purpose, and many household companies, including Google, Facebook, and Genentech, were founded by university-based entrepreneurs and research.

The Association of University Technology Managers (AUTM) collects data from over 190 technology transfer offices in the country. According to AUTM data for 2016, the University of Arkansas licensed or optioned 40 innovations and brought in \$1.1 million in licensing revenue. University members also applied for 26 patents and four start-ups were formed. When comparing the University of Arkansas to other research-minded institutions, the university has mixed scores. In terms of licenses or options executed and start-ups formed, the university ranks in the top half of all institutions. For metrics such as licensing income and new patent applications, the university scores in the bottom half of the rankings.

## Technology Transfer, continued

The study “Concept to Commercialization” found that Arkansas – along with most universities in the middle of the country – rank low with respect to commercialization activities. Technology transfer and R&D is heavily concentrated at the top few universities. The graph below reveals how disparate the revenue from licensing income is across the top 200 universities. At a ranking of 111<sup>th</sup>, the University of Arkansas’ revenue figure is not even visible on the graph below. R&D funding, private and public, is very concentrated. In 2016, the top half of research universities accounted for \$9 of every \$10 in R&D expenditures as well as licensing income. Academia is an entrenched market, and R&D has tended to be conducted at the same top institutions year after year.

**Distribution of Gross Licensing Income by University Ranking, 2016 (AUTM 2017)**



Given the challenges involved, this effort will require collaboration and effort at every level within the region and the state. First and foremost, the University of Arkansas must improve its research and innovation capacity. And, it must align its priorities toward existing research strength and with regional business needs.

The university will also need to change the culture within the organization to reward commercialization to incentive faculty and students to undertake these efforts. The university will need to streamline its patent application and licensing processes to ensure that it has best in the nation process and procedures. The university will need to make key investments in the Office of Technology Transfer to ensure adequate staff and expertise to promote commercialization of university research.

A critical component of this effort will be the hiring of the Vice Provost for Research and Innovation, who will need to have research stature and experience with collaboration and commercialization. At the same time, the regional business community should work closely with the newly appointed Vice Provost for Research and Development to build synergies with the university and business community to maximum regional benefit.

## Technology Transfer, continued

The business community and the state should work closely with the university to form partnerships and collaborations towards these efforts. One idea that should be vigorously pursued is the establishment of a supply chain accelerator in the Sam M. Walton College of Business, a center that will bring together partners to expand the region's entrepreneurial ecosystem an area where the region is a national leader. Another approach would be to create an innovation institute that would include activities of the supply chain accelerator combined with other core competencies. It could house faculty researchers, be a center of cross-disciplinary collaborations and cross-regional hub supporting research fields and innovation areas where it excels, and create new and stronger partnerships between University of Arkansas researchers and businesses. A critical focus of an innovation institution should be to increase the rate of start-ups.

Similarly, the region should pursue initiatives to better utilize the Arkansas Research and Technology Park, ensure that intellectual property best practices are followed, and promote programs to build a culture of innovation. These steps should include incentivizing commercialization by faculty and students and promoting student-led venture funds to begin to move the needle in the right direction.

## Increasing Life Science Research in Northwest Arkansas

One reason the University of Arkansas may struggle to dramatically increase research expenditures and commercialization activities is the lack of robust life sciences research affiliated with the university. Universities with affiliated medical schools consistently spend more on R&D than those that do not have a medical school.

In the top 25 ranked research universities, only two do not have a medical school, and those two are heavily supported by research related to the Department of Defense. The chart below shows the differences between technology transfer metrics for universities with and without med schools.

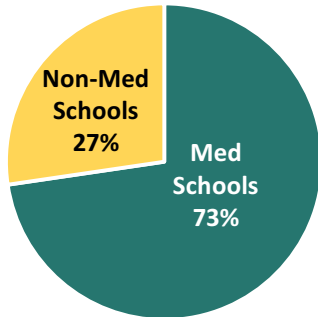
**Technology Transfer Metrics Based on Presence of Medical School, 2016 (AUTM 2017)**

School Type	Count	R&D Expenditures (millions\$)	Total Licenses/ Options Executed	Licensing Income (millions\$)	New Patents	Start-Ups
Med Schools	95	\$47,873	5,174	\$1,817	10,282	736
Non-Med Schools	96	\$17,998	2,470	\$1,136	6,120	272

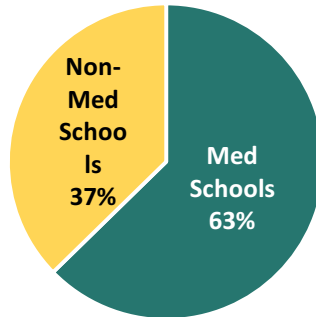
Universities with medical schools account for half of the schools that report technology transfer metrics to the Association of University Technology Managers (AUTM). However, these universities accounted for almost three-fourths of all the R&D expenditures, new patent applications, and start-ups in 2016.

## Increasing Life Science Research in Northwest Arkansas, continued

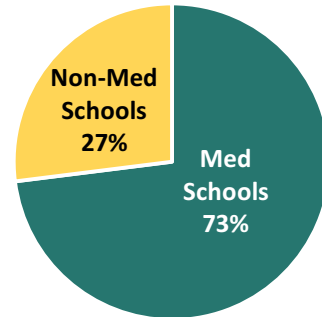
R&D Expenditures



Patents



Start Ups



If the University of Arkansas wants to become a top 50 research institution, it must expand life science research. There has been discussion about the establishment of a medical school among Northwest Arkansas community leaders for many years. While it is clear that the establishment of a medical school would be transformative, the cost-benefit is not well understood at this point.

To better understand the health and economic implications of the health care economy going forward, the Northwest Arkansas Council has commissioned an independent analysis to provide a regional assessment of the health care industry and the costs and benefits on additional investments into the health care ecosystem.

While a medical school in Northwest Arkansas may not be feasible in the near future, the region should do more to attract life science research. For example, the University of Arkansas and the University of Arkansas for Medical Sciences (UAMS) should build research partnership that leverages the expertise of both institutions in areas such as biomedical engineering, health care logistics, food science, and nursing that could benefit from greater integration.

UAMS Northwest should also increase collaboration with the University of Arkansas. And, regional partners should consider the establishment of a research institute that will leverage regional strengths similar to the Arkansas Children's Hospital Research Center approved by the University of Arkansas Board of Trustees in the early 1990s. These options are not mutually exclusive and more than one option could be pursued simultaneously.

## Supporting the Entrepreneurial Ecosystem

For the region to continue to advance, regional leaders should do more to support the entrepreneurial ecosystem. While advancements have been made in recent years, to include the great work of Startup Junkie, Grit Studios and others, much more needs to be done for the region to take the next step in developing the economy and establishing Northwest Arkansas as a magnet for talented entrepreneurs.

While the University of Arkansas is a key component of this effort, additional work needs to be done to establish a culture of collaboration and cooperation with respect to local entrepreneurs and the existing business community. While much work goes into ensuring that the region works collaboratively, it has been noted by outside experts that the geographic makeup is a factor that limits Northwest Arkansas' entrepreneurial ecosystem.

Many individuals live most of their lives in one Northwest Arkansas city and collaboration is not sufficient across the region due to this fact. Innovation takes place when there are the right relationships between the right people at the right time, and this can happen within a large company, a fast-growing startup, a joint venture with a large corporation, a license agreement for intellectual property or a nonprofit foundation.

It is difficult for entrepreneurs, potential entrepreneurs, and mentors to get together in routine ways across the different cities in the region. While there are activities in each city and there are regional-level events, more collaboration and cooperation is necessary to facilitate a robust entrepreneurial ecosystem.

Northwest Arkansas world-class talent, particularly in the areas of global supply chain, data analytics, consumer technology, and ecommerce. To truly unlock their potential, we must challenge them further, creating more scenarios that invite them to invest their lives here in NWA rather than staying only for a brief season.

Examples might include added immersive leadership development programs, community hackathons, enterprise solutions events and intentionally-designed professional networking sessions, during which the goal is to fast-track matchmaking for partnerships beyond enjoying a typical social gathering.

Northwest Arkansas must better leverage our existing assets to ensure that it can capitalize on the strengths in our region together. The bottom line is Northwest Arkansas must do a better job promoting access and connections to people with ideas, talent, knowledge, capital and opportunities by breaking down traditional hierarchies and by reaching across social boundaries.

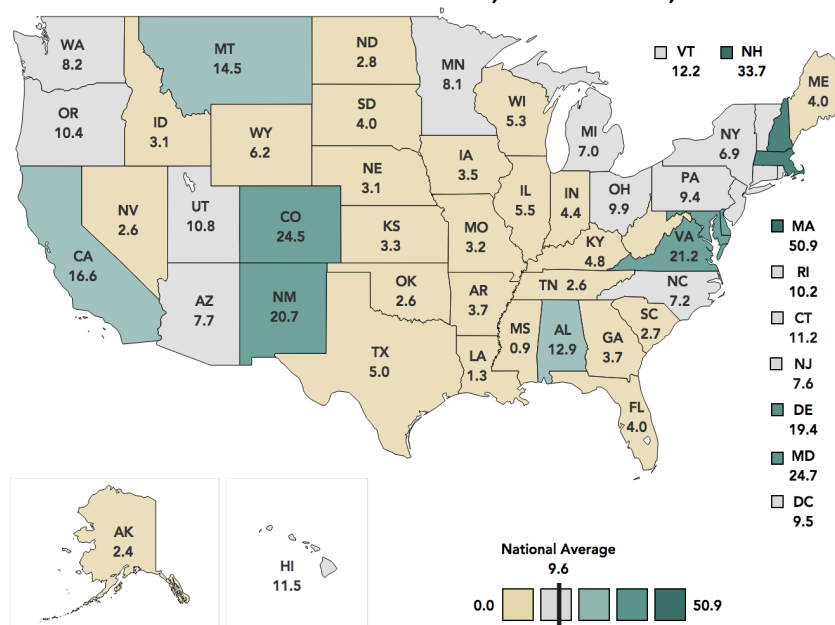
This is how we will succeed.

## Access to Funding

It is clear that the region could use better access to early-stage capital. There are numerous examples of entrepreneurs forced to move out of the region due to capital issues. In many instances, entrepreneurs need capital to test business ideas or to get to a point where they are earning revenue. Early-stage capital is the hardest to attract because it often carries the most risk. The region could use increased access to this type of funding from the private sector, but a good first step will be to make better use of federal resources that are currently available.

The Small Business Innovation Research (SBIR) program is operated by the Small Business Administration, but innovations are funded through 11 federal agencies. Another type of funding associated with SBIR is the Small Business Technology Transfer (STTR) program. STTR funds companies that collaborate with a university or federal laboratory. Currently, there are five agencies that help the STTR program. Since the SBIR program was enacted in 1982, it has resulted in 70,000 patents, 700 public companies, and 41 venture capital investments. The program has \$2.2 billion allocated annually.

**SBIR & STTR Awards Granted Per 100,000 Residents, 2012-2017**



One local organization is working to identify ways to support local entrepreneurs as they work through the SBIR/STTR process by establishing a group to assist entrepreneurs in grant writing, coaching, connections to the entrepreneurial ecosystem, and support in obtaining private seed funding.

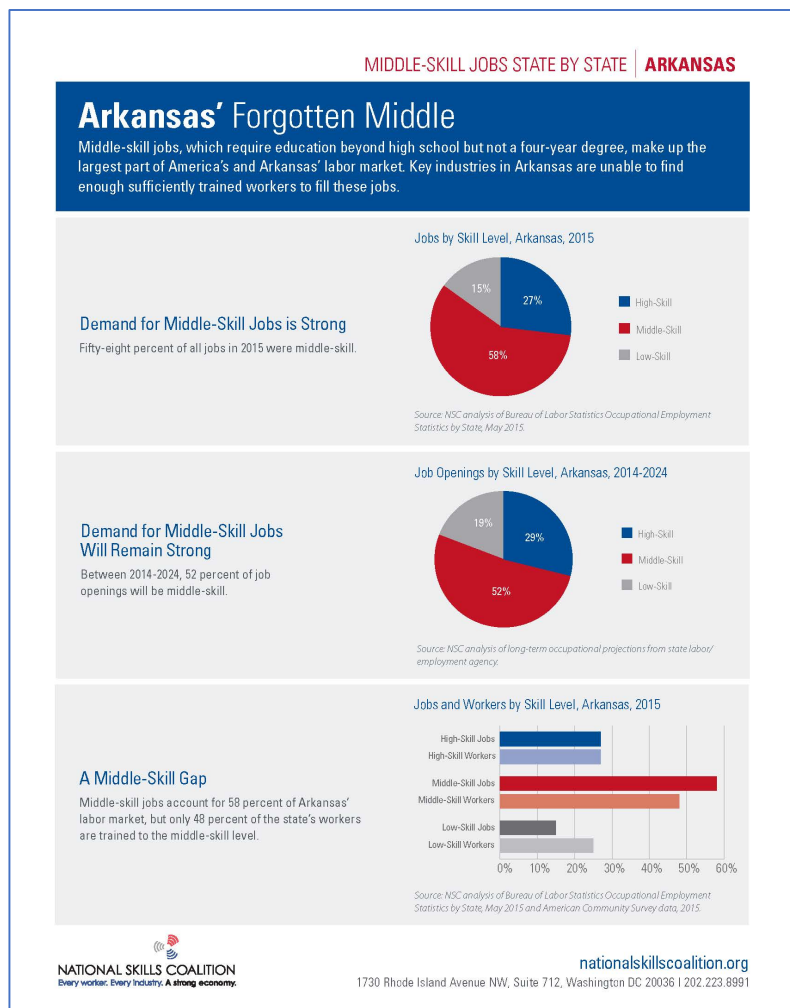
Supporting ideas that encourage local start-ups and university researchers to apply for SBIR/STTR funding could strengthen the local ecosystem and help get more home-grown ventures off the ground. Federal entrepreneurial funding remains a crucial part of university-led innovation, and both the state of Arkansas and the region can do more to access this funding.

## Part II: Building a Robust Middle Skills Training System

Northwest Arkansas must expand and improve the region’s training infrastructure by building new state-of-the-art facilities and simultaneously integrate business participation and leadership into the curriculum design, program operations and evaluation, and institutional governance. An initial step would be to evaluate the return-on-investment of constructing a new NWTI campus that reflects the quality of the region to prospective students and is a national best-practice for regional business engagement.

Nationally the lack of qualified labor is a restrictive throttle to business growth. The biggest problem is the lack of available workers with credentialed middle skills. Eight-two percent of company executives say that the skills gap in America will impact their firms’ ability to meet customer demand. This is a critical issue for Arkansas where the education attainment of nearly half of the adult population (976,000 people) is a high school diploma or less, and another 446,000 adults (23 percent of the population) have some college, but no degree. The skills gap is significant for middle-skill occupations, which the National Skills Coalition estimates account for 58 percent of all jobs in Arkansas, but only 48 percent of the workforce has middle-level skills.

With both the United States and the Arkansas unemployment rate now below 4 percent, ever closer to full employment, the struggle to find qualified talent has broadened and intensified. In Northwest Arkansas, the unemployment rate is among the nation’s lowest, currently between 2 and 3 percent. An increasing number of well-paying jobs, especially in the middle skill and trade occupations are unfilled. Productivity is suffering and the ability of regional businesses to grow is curtailed. Both the quantity of available workers and the quality, or the skills mismatch between the skills available workers have, and the needs of employers contribute to the problem. The solution is to train more local residents for the in-demand jobs and to attract more skilled labor to the region.



## Part II: Building a Robust Middle Skills Training System, continued

Graduation rates have steadily increased, and more young people are attending and graduating from college than ever before, but Northwest Arkansas' talent development outcomes have not kept up with the advanced skills needed in manufacturing, health care and other less-than-four-year degree occupations. Although some progress has been made in the past few years in the region's high schools, interest from students is muted due to a lack of understanding of in-demand career pathways coupled with a persistent belief that a degree from a university is the sole track to meaningful work and a livable wage.

The image of middle skill jobs as less desirable and more threatened by automation and robotics contributes to the lack of a sufficient supply pipeline. But an honest assessment of regional facilities, specifically the Northwest Technical Institute, shows that despite an earnest effort and solid graduation rates, the capacity has not kept up with employer demand. The region benefits greatly from the "Big 3" Fortune 500 companies Wal-Mart, Tyson Foods, and J.B. Hunt Transport. The region also has strong location quotients, a measure of concentration compared to national levels, for the transportation and warehousing and manufacturing sectors, and, as one of the nation's fastest expanding economies, generates thousands of jobs each year.

### 2017 NWTI Graduation Numbers

Ammonia Refrigeration	13
Automotive Service Technology	17
Business Office Assistance	10
Diesel and Truck Technology	19
Electronics Technology	17
Industrial Maintenance Technology	13
Computer Information Systems	22
Practical Nursing	54
Surgical Technology	15
<u>Welding Technology</u>	<u>10</u>
Total Graduates	190
<b>Graduation Rate</b>	<b>87%</b>

Across Arkansas and the region frustration exists from many stakeholders. The percentage of the adult population working lags the national average while Northwest Arkansas employers postpone growth or move jobs outside the state. Identifying new strategies to close the skills mismatch is a top priority. The Legislative Task Force on Workforce Education Excellence recently published the results of its 2017 study. It shows that the issues do not stem from a lack of programs. The seven-page summary concludes that over 100,000 students in grades 9-12 are enrolled in Career and Technical Education programs each year, that 89 programs provide education and structured, on-the-job training to almost 4,000 apprentices, and that thousands of Arkansans are served through the Workforce Innovation and Opportunity Act, Trade Adjustment Act, Transition Employment Assistance and dozens of other programs.

The Northwest Arkansas Council, in concert with its regional partners, is committed to be a national leader in business engagement to improve workforce development outcomes. National best practices are focusing on expanding industry sector strategies and middle skills career awareness. Industry sector strategies, also called sector partnerships, are defined by the National Skills Coalition (NSC) as activities that "bring together multiple employers within an industry to collaborate with colleges, schools, labor, workforce agencies, community organizations and other community stakeholders to align training with the skills needed for that industry to grow and compete." The national Workforce Innovation and Opportunity Act (WIOA) requires sector strategies as a local activity to be supported at the state level.



## **Part II: Building a Robust Middle Skills Training System, continued**

Interest in technical careers, including manufacturing, among students has waned over the years, and awareness of career opportunities in these fields is low among parents, teachers, and school counselors. Surveys by Deloitte and the Manufacturing Institute revealed only 37 percent of parents would encourage their children to pursue a manufacturing career, and Generation Y respondents ranked it last as a career option.

A number of studies call on industry to communicate the possibilities for interesting, well-paying technical careers, with work atmospheres that are usually far from the dirty, unpleasant stereotype. Students and parents need useful data on in-demand jobs and wages, as well as the skills and training needed. Teachers and counselors need exposure to the world of technical and manufacturing work and simple ways to bring this knowledge alive for students.

In addition to obvious capacity limitations, the look and feel at Northwest Technical Institute does not positively reflect the work and working conditions of middle income jobs. It also does not reflect the world-class image the region wishes to project. To reach the ultimate goal of being a Heartland leader for middle skills technical training, a place where students are attracted from a multi-state area due to the quality of the training, modern, best-in-class, facilities are needed.

## Part III: Recycling and Waste Disposal

Northwest Arkansas faces a challenge that's not unique to such a fast-growing region. It's adding to its population at a rapid rate and businesses are expanding, and it's natural for those to increase waste production. Yet, the region needs to reduce how much waste it creates because preserving its limited landfill capacity for as long as possible is critical to the region's future.

While many Northwest Arkansas communities are advancing recycling as a way to protect the environment and reduce waste, it's necessary to be more aggressive on both fronts. Working with the Boston Mountain Solid Waste District and the Benton County Solid Waste District, the Northwest Arkansas Council can be a partner in bringing more consistency in recycling and use its relationships to create cost-efficient, waste reduction programs across Northwest Arkansas.

### Regional Waste Disposal

Waste Management, the owner of the Eco-Vista Landfill near Tontitown, indicated at a public meeting on April 18 that it buried 526,000 tons of waste in the landfill in 2017. Only four years early, the annual buried waste was 428,000 tons. The waste comes primarily from five Arkansas counties.

Additionally, research by the Northwest Arkansas Council in 2016 estimated 300,000 tons of waste produced in Northwest Arkansas is being taken to more distant landfills, primarily the Cherokee Nation Landfill in Stilwell, Okla. Some Benton County trash is trucked to Missouri landfills, too, so it's clear the region's production of waste far exceeds what's buried at Eco-Vista.

Waste Management indicated at the public meeting that the Class 1 landfill has about 5.5 years of capacity left, and the company wants to expand in three phases. Two phases would be for the primary Class 1 landfill that receives municipal waste; the third phase would be a 12-acre expansion to the construction and demolition debris (Class 4) landfill.

Waste Management this year requested permission from the Arkansas Department of Environmental Quality to make those expansions. It's already received a certificate of need from the Boston Mountain Solid Waste District for Phase 1 of the Class 1 and Class 4 landfills, but it still needs the state's approval to expand.

It's widely believed that the Eco-Vista Landfill is the region's last acceptable site for long-term waste disposal, and it's beneficial to extend the landfill's life as much as possible. By reducing the amount of waste going in, the landfill's life would be extended.

That's a primary reason why it makes sense for the Northwest Arkansas Council to work with partners to pursue goals centered on more successful recycling.

## **Part III: Recycling and Waste Disposal, continued**

### **Recycling to Match Public Interest**

Feedback received from individuals who participated in focus group meetings in the spring to guide the Council's creation of its new strategic plan showed people want more opportunities to recycle. Moreover, they want recycling programs to be simple and consistent. They view recycling programs as one of a community's core functions rather than an "extra" provided only by the most conscientious cities and private trash haulers. Additionally, they felt communities should collect the same recycled products, and they suggested there is value in having every community collect the exact same items. That consistency in Northwest Arkansas doesn't exist.

There are opportunities to explore how far recycling can be advanced in Northwest Arkansas, and it makes sense for the Northwest Arkansas Council to be a significant part of that discussion. One of this organization's leading members — Walmart — is recognized nationally as a company recycling more and effectively diverting waste from landfills. It makes sense for Walmart's home region to be outstanding at recycling and waste reduction.

### **Regional Partnership Worthy of Exploration**

There are already significant discussions about what's possible when it comes to waste reduction and recycling. Fayetteville studied and has expressed an interest in the past in working with other cities to develop a regional recycling facility.

What's challenging is that Fayetteville on its own does not produce enough recyclable material to justify a regional materials recovery facility (MRF); the city needs multiple partners to make such an \$18 million facility possible. If that regional facility were to become viable, the Northwest Arkansas Council could play a role in bringing private industry and other cities to the discussions. It's worth exploring whether the Northwest Arkansas business community could benefit from being involved with regional recycling and waste reduction programs.

The extensive research already conducted by the city of Fayetteville on recycling collection systems and waste characterization is beneficial to other municipalities interested in understanding how their own residents are likely to benefit from a regional mixed recycling facility. Fayetteville's research, for example, showed that almost 35 percent of the waste produced in the city is comprised of compostable items and construction and demolition debris that could be recycled. From an overall perspective, Fayetteville's research demonstrated that a larger regional facility would be successful in reducing the overall cost of recycling, in expanding the variety of items included in recycling programs and in reducing the amount of waste that's buried.

Finally, a regional approach makes sense as operational efficiencies could be achieved by a group of partners that can't be found individually. A regional approach aligns with the long-term goals of the Northwest Arkansas Council and with the region's most prominent past successes. Those past partnerships that continue to this day include two regional drinking water suppliers utilizing Beaver Lake, a regional airport, a regional tourism association and regional solid waste districts. Each of those is widely accepted as an excellent example of how to best address shared needs.

## Part IV: Multifactor Metro Indices Ranking Factors

METRIC	Data Level	Source
<b>Economic Strength</b>		
Real GDP Per Capita (2016)	METRO	Bureau of Economic Analysis (BEA)
Personal Income Per Capita (2015)	METRO	Bureau of Economic Analysis (BEA)
Ranking - Current GDP (2016)	METRO	Bureau of Economic Analysis (BEA)
Policom Economic Strength Rankings (2018)	METRO	Policom Corporation
Average Weekly Wage - All Occupations (2016)	METRO	Bureau of Labor Statistics (BLS)
Ranking - Milken Overall Best Performing Cities (2017)	METRO	Milken Institute
Projected Job Growth (2017)	METRO	US Conference of Mayors
Unemployment Rate (2017)	METRO	Bureau of Labor Statistics (BLS)
Small Business Churn - Average (2010-2014)	METRO	US Census Bureau
Change in Real Median Household Income (2011-2016)	STATE	US Census Bureau
New Economy Index Score (2017)	STATE	Information Technology & Innovation Foundation
<b>Future Inertia</b>		
Total Employment Growth Rate (2006 - 2016)	METRO	Bureau of Labor Statistics (BLS)
Total Employment Growth Rate (2006 - 2016)	METRO	Bureau of Labor Statistics (BLS)
Projected Annual Average GDP Growth Rate (2015 - 2021)	METRO	US Conference of Mayors
Population Change (2012-2017)	METRO	US Census Bureau
Labor Force Participation Rate Change (2011-2016)	METRO	US Census Bureau
Expected IT Employment Change (2018-2023)	STATE	Economic Modeling Specialists International (EMSI)
Percent Change in STEM Education Program Completions (2011-2016)	STATE	Economic Modeling Specialists International (EMSI)
Percent Change in State Spending Per Student for Higher Education, Inflated Adjusted, (2008-2017)	STATE	Center on Budget and Policy Priorities
Change in Enplanements (2011-2016)	STATE	Federal Aviation Administration
Capital Infrastructure Spending Change (2002-2014)	STATE	Center on Budget and Policy Priorities
Percent Change of Employment of U.S. Affiliates (2015-2017)	STATE	Bureau of Economic Analysis (BEA)
<b>Talent</b>		
Labor Force Participation Rate (2016) B23025	METRO	US Census Bureau
Projected Population Growth (2016 - 2046)	METRO	US Conference of Mayors
Percent of Population That Was Born in Different State (2016)	METRO	US Census Bureau
Percent of Population That Was Foreign Born (2016)	METRO	US Census Bureau
Millennial Population Percentage (2016)	METRO	US Census Bureau
Millennials Change in Share of Total Population (2010-2016)	METRO	US Census Bureau
Net Migration Rate (2010-2017)	METRO	US Census Bureau
Cost of Living Index (2017)	METRO	Council for Community & Economic Research
Percent of Population without Health Insurance Coverage (2016)	METRO	US Census Bureau
Population Over Age 25 With AA, BA or higher (2016)	METRO	US Census Bureau
Percentage of People Working From Home (2016)	METRO	US Census Bureau
Share of Total State Spending on Education (2016)	STATE	US Census Bureau
Completed STEM Education Programs (2016)	STATE	Economic Modeling Specialists International (EMSI)
<b>Business Climate</b>		
Median Sales Price of Existing Home (Q1, 2018)	METRO	National Association of Realtors; Zillow
Square Foot Cost 40K sf office building construction (2018)	METRO	BuildingJournal.com
Cost-of-Living Adjusted Hourly Wage For Private Sector Jobs (2016)	METRO	Bureau of Labor Statistics (BLS)
Violent Crime per 100,000 population (2016)	METRO	Federal Bureau of Investigation
State & Local Debt Per Capita (2015)	STATE	US Census Bureau
Regulatory Policy Freedom Ranking (2014)	STATE	CATO Institute
Legal Climate Rankings (2017)	STATE	Institute For Legal Reform
State and Local Taxes Per Capita (2015)	STATE	US Census Bureau
Corporate Tax Rankings (2018)	STATE	Tax Foundation

## Part IV: Multifactor Metro Indices Ranking Factors, continued

METRIC	Data Level	Source
<b>Infrastructure</b>		
Nonstop Passenger Flights - Typical weekday March 2018	METRO	RDU Airport Authority; XNA Airport
Median Rent (March 2018)	METRO	Zillow
Percentage of Renters Paying More Than 35% of Income Towards Rent (2016)	METRO	US Census Bureau
Mean Travel Time to Work (2016)	METRO	US Census Bureau
Median Sales Price of Existing Home (Q1, 2018)	METRO	National Association of Realtors; Zillow
Households With Broadband Internet (2015)	METRO	US Census Bureau
Renewable Energy Production Per Capita (2015)	STATE	Energy Information Administration (EIA)
Average Retail Electricity Price for Industrial Customers, Cents Per kWh (Nov 2017 YTD)	STATE	Energy Information Administration (EIA)
Average Retail Electricity Price for Commercial Customers, Cents Per kWh (Nov 2017 YTD)	STATE	Energy Information Administration (EIA)
Percentage of Roads in Poor Condition (2016)	STATE	Federal Highway Administration
Total State Spending on Highways Per Capita (2016)	STATE	US Census Bureau
Enplanements Per 1,000 People (2016)	STATE	Federal Aviation Administration
% of Bridges Deemed Structurally Deficient (2017)	STATE	Federal Highway Administration
<b>Innovation &amp; Entrepreneurship</b>		
Patents Issued (2015)	METRO	US Patent & Trademark Office
Patents Issued 5-Year Growth Rate (2010-2015)	METRO	US Patent & Trademark Office
Ranking - Milken High Tech GDP Growth (2015-2016)	METRO	Milken Institute
Advanced Industry Employment Annual Growth (2015-2017)	METRO	Economic Modeling Specialists International (EMSI)
Number of Venture Capital Deals (2016)	METRO	National Venture Capital Association
Percent Change in Profess & Business Services Jobs (2006 - 2016)	METRO	Bureau of Labor Statistics (BLS)
Percent Change in Education & Health Jobs (2006 - 2016)	METRO	Bureau of Labor Statistics (BLS)
IT Job Growth (2012-2017)	STATE	Economic Modeling Specialists International (EMSI)
Start-Ups From Universities (2016)	STATE	Association of University Technology Managers (AUTM)
SBIR and STTR Awards (2011-2016)	STATE	Small Business Innovation Research (SBIR)