Communities of Innovation

A State of the Practice
2018

Creating Communities of Innovation
ASSOCIATION OF UNIVERSITY RESEARCH PARKS

TECONOMY PARTNERS

Perkins&Will

You can't really know where you are going until you know where you have been.

Maya Angelou

What is this study?

This study, A State of the Practice of University Research Parks, is intended to provide a current look at parks today, acting as an extension to similar surveys conducted in 2002, 2005, 2007 and 2012. This is intended as a snapshot of where we stand as a community. Its purpose is to allow us to see how we've changed as we embark on the future.

Starting in 2017 and concluding in 2018, this study used two means of research: (1) both member and non-member research parks of AURP were polled with 62 survey responses across a broad geographic spectrum and (2) through data collection, economic information was gathered for 103 parks.

What will I be reading?

This report includes the following:

02 Defining a University Research Park

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Who made this happen?

Association of University Reseearch Parks

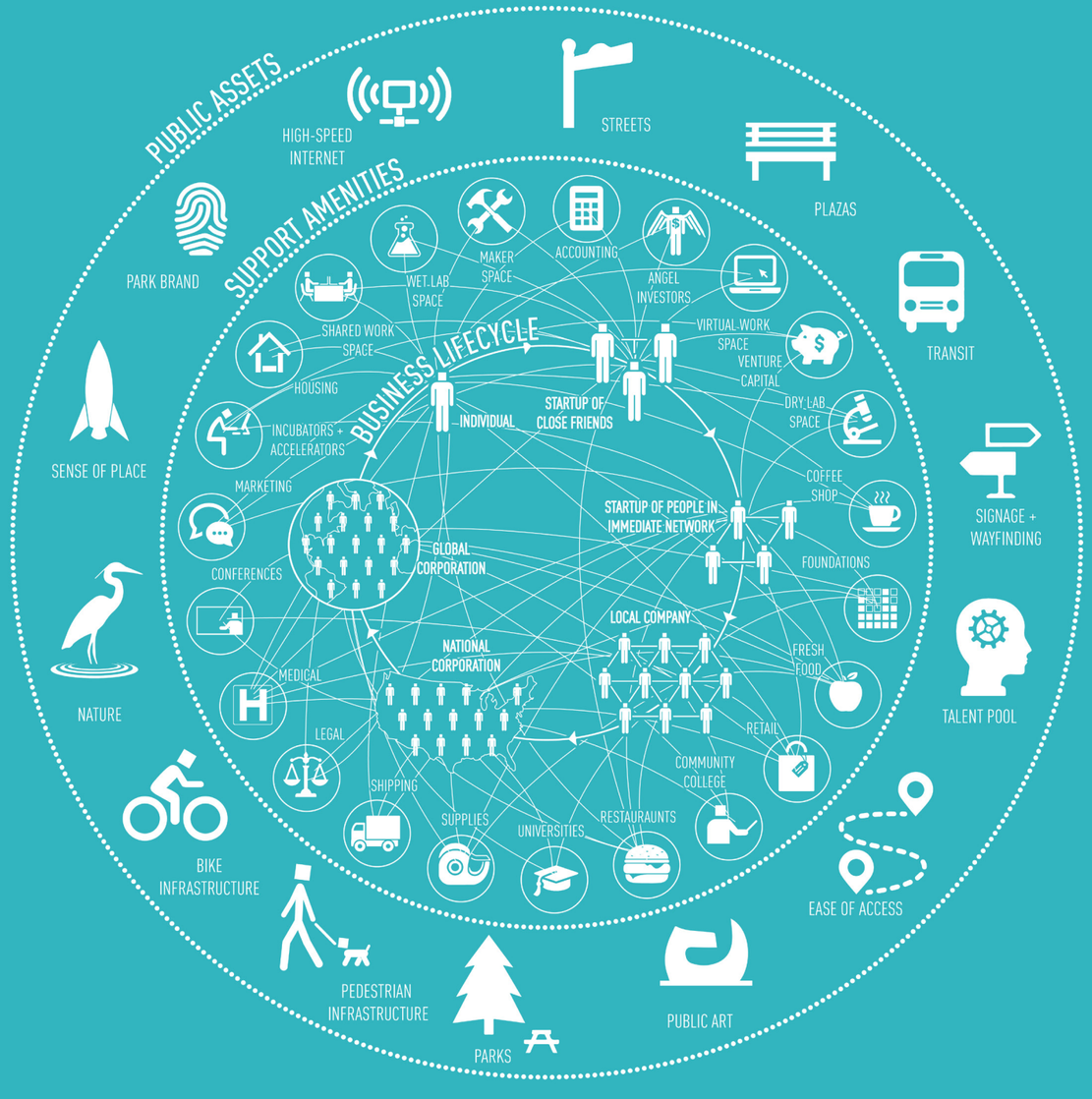
Since 1986, AURP has been the pioneer guiding leaders to cultivate communities of innovation at global anchor institutions such as universities, municipalities, federal labs, and corporations. AURP is a non-profit organization that promotes the development and operations of research parks that foster innovation, commercialization and economic competitiveness in a global economy through collaboration among universities, industry and government.

TEConomy Partners, LLC.

TEConomy is a global leader in research, analysis and strategy for innovation-driven economic development. Today we're helping nations, states, regions, universities, institutions and industries blueprint their future and translate knowledge into prosperity. They are diverse, but they all share a common need to understand and navigate the innovation economy.

Perkins and Will

Perkins and Will is an interdisciplinary, research-based design firm established in 1935. Founded on the belief that design has the power to transform lives and enhance communities, we collaborate with clients all over the world to create healthy, sustainable places. Approaching design holistically from all scales and perspectives, we are urban designers, landscape architects, architects, interior designers and identity/storytelling experts with 2,500 designers across 24 studios.



Defining a University Research Park

University research parks are physical environments that can generate, attract and retain science and technology companies and talent in alignment with sponsoring research institutions such as universities as well as public, private and federal research laboratories.

Research parks enable the flow of ideas between innovation generators such as, universities, federal labs, and non-profit research and development institutions and companies located in both the research park and the surrounding region. These environments are complex ecosystems of businesses, support assets and physical assets that link together. The exact linkages vary from park to park, making each environment distinct.

Today, there is an estimated 1,000 research parks across the globe making impacts in their local, region, national economies while advancing research for us all.

What Others Are Saying

Research parks are seen increasingly around the world as a means to create dynamic clusters that accelerate economic growth and international competitiveness. They are widely considered to be a proven tool to encourage the formation of innovative high technology companies. They are also seen as an effective means to generate employment and to make existing companies more competitive.

National Research Council
Understanding Research,
Science and Technology Parks:
Global Best Practices
2009

Measuring Success

Economy. Place. Culture. Three Lenses for Understanding Parks.

In studying, benchmarking and developing university research parks, this team believes there are three dimensions of research parks. Each critical and interrelated in planning, development and operations.

(1) Economy
A vision for research and industry collaboration that can drive innovation and promote economic development. This defines the core activities of the campus, its research drivers, target partnerships and the scope of its business ecosystem.

(2) Place
A vision for the physical environment. This defines how the place feels and functions, including the campus's development capacity, mix of uses and design characteristics.

(3) Culture
A vision for organizational dynamics to support innovation. This defines programs, tenant support services, marketing and conditions of operational governance.

These focus areas are naturally linked. One should not consider placemaking without feasible economics and a clear market position. One should not implement an economic strategy without a clear plan to guide the development. Further, one should not embark on a new business venture without a business plan, governance structure and marketing plan to promote it.

This framework has been used as the basis for this study, allowing for a complete picture of the State of the Practice. For each of these lenses, specific measures were identified for comparison to both direct the research and give our community areas for comparison. Each measure is critical to the success of our parks and the impact they make.

With each measure, two critical components were studied, leading to three major findings.

Methods of Study

Broad outreach combined with in-depth surveys provided the updated datasets that build on measures from the 2012 study.

As the major source of information, the in-depth survey was designed by an AURP Work Group. It streamlined past surveys to focus on the most critical benchmark data needed and helped to better define the definition of regions in which research parks are located to enable better comparisons across research parks. The survey also asked new questions on the value propositions of parks and how much funding was raised by companies in the parks since 2012.

The AURP staff and leadership were active in the outreach to university research park directors to solicit survey responses. The web-based survey was administrated, collected and analyzed by TEConomy Partners, LLC., ensuring the confidentiality of each research park's response and only reporting aggregated and "de-identified" responses.

To track employment from research parks that responded in 2012 but not in 2018, AURP and TEConomy did independent web searches and outreach to gather recent employment data.

Employment Outreach by the Numbers

82

Parks Submitted Employment Data

+21

Additional Parks Data Collected Between 2012 and 2018

In-Depth Survey by the Numbers

24

Questions on the Web Survey

4

Geographies Surveyed

Large Metro with an Urban Core

Large Metro with a Suburban Core

Med-Sized Metro

Rural or Small Metro

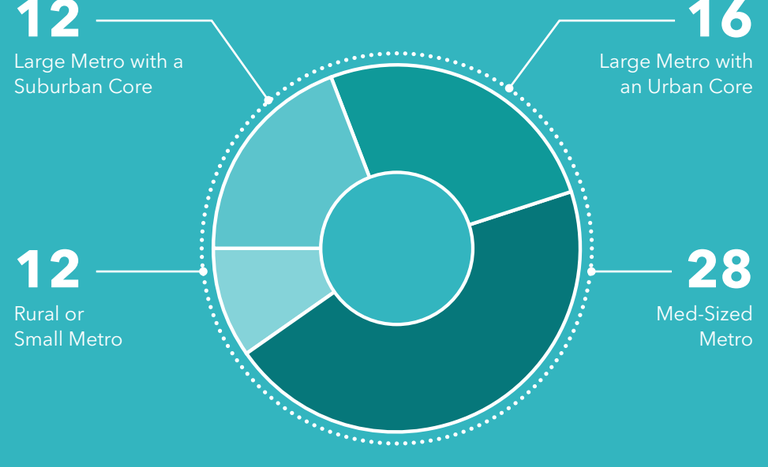
62

Parks Completed the Survey

47%

Response Rate
(132 surveys were distributed)

Responses by Geography



01

The State of

Economy

University research parks primarily affect the direct economic activity of their communities by offering a high quality location for existing businesses wanting to locate in their region as well as for new and emerging technology companies looking to take root and expand. The impact of the direct economic activity of university research parks can best be measured by the number of jobs located in their facilities. The survey results in the following pages provide insights into recent trends in research park activity since the last AURP benchmark survey conducted in 2012, the range of tenants and the economic impact of the university research parks across North America for 2018.

"Universities are most effective at shaping a local economy when they are part of a larger ecosystem of innovative activity, one that includes a thick market for specialized labor and specialized intermediate services. Once a cluster is established, colleges and universities play an important role in fostering its growth, often becoming a key part of the ecosystem that supports it and makes it successful."

Enrico Moretti, Professor at the University of California, Berkeley, The New Geography of Jobs, Houghton Mifflin Harcourt Publishing, New York, NY, 2012.

How have we grown employment?

Research parks are growing faster than advanced industries (tech-based industries).

23% Job Growth from 2012-2017 for the 82 Parks Tracked

-vs-

8% Job Growth from 2012-2017 for Advanced Industries

This means...

61,295 Total New Jobs from 2012-2017 for the 82 Parks Tracked

All four geographies are growing.

With mid-sized metros adding the most jobs

	2012-2017 Percentage Growth	2012-2017 Job Gains
Large Metro with an Urban Core	58%	6,966
Large Metro with a Suburban Core	27%	23,040
Med-Sized Metro	12%	12,758
Rural or Small Metro	28%	19,336

Research parks are linking to leading advanced industry clusters across regions.

76% of Research Parks Report having a Significant Impact on Strengthening Regional Industry Clusters

~60% of Research Park Jobs are found in Leading Advanced Industries of Bioscience and Software and Internet Services

Most importantly, research parks are positively impacting their local economies.

404,167 Direct Jobs in US and Canadian Research Parks

+

544,000 Additional Jobs from Indirect and Induced Impacts

This means...

1.00 Research Park Job

-creates-

1.34 Additional Jobs

How have we impacted entrepreneurial development?

Research park startups are more successful than new companies started outside of parks.

75%
Research Park Startup Business Survival Rate

-vs-

49%
National New Business Survival Rate
(After 5 Years in Operation according to 2016 Kauffman Index of Main Street Entrepreneurship)

39
Average Incubator Graduates per Research Park from 2012-2017

Incubator graduates are staying in their regions but not always in the park that nurtured them.

Of the 75% Surviving Startups

17%
Startups Moved into the Research Park

-vs-

46%
Startups Moved out of the Research Park but Stayed within the Region

-vs-

11%
Startups Moved out of the Research Park and Left the Region

Launching startups continues to be a core focus of research parks.

80%
of Research Parks with Dedicated Startup Space

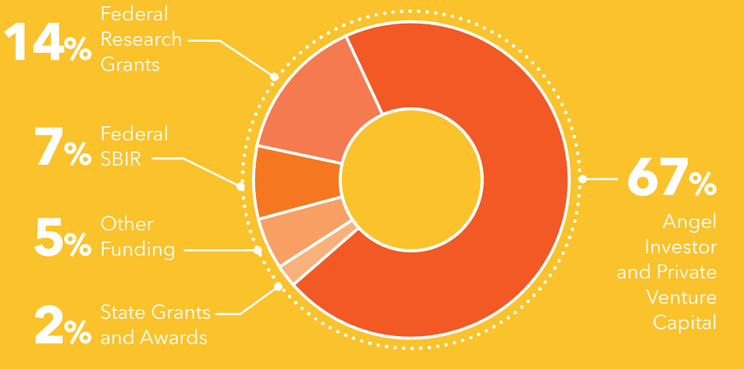
68%
of Research Parks Provided Business Planning Services

62%
of Research Parks Provided Technology and Market Assessments

45%
of Research Parks Provided Proof-of-Concept Funding

Tenants are generating significant levels of support.

$114 million
Generated in Average Outside Funding per Park over 2012-2017 Period



02

The State of

Place

University research parks are evolving to meet the heightened importance of creating dynamic placemaking that brings together people, quality of place and innovation around research universities to offer a unique highly networked and open environment for innovation-led development. Many recent research park developments are themselves fully integrated innovation districts combining both high quality live-work-play placemaking together with collaborative innovation ecosystems including Georgia Tech's Technology Square, Wake Forest's Innovation Quarter and NC State's Centennial Campus. Other research parks are quickly adapting to either offer a more complete place-making environment or to integrate and help anchor around their research parks such broader placemaking developments.

"A significant share of innovation districts emerging globally are adjacent to strong research institutions – universities, hospitals, and other research institutes – given the high level of translational research under way in areas such as life sciences, engineering, and computer science."

Julie Wagner, Bruce Katz and Tom Osha, "The Evolution of Innovation Districts," The Global Institute on Innovation Districts, 2019

Research parks have been physically growing.

The development of new parks is down from 2007-2012.

13

New Research Parks from 2007-2012

7

New Research Parks from 2012-2017

New construction in existing parks is active to accomodate growth.

75%

of Parks Have Added a New Building in the Last 5 Years

32%

of Parks Have a Building Under Construction

Capital expenditures are strong.

$29 million

Average Capital Expenditures from 2012-2017

Research parks continue to mix uses in meaningful ways.

Research parks are anchoring innovation districts.

66%

of Research Parks Indicated a Moderate to Significant Role in Anchoring Innovation Districts

Mixed use developments in our parks continue.

	2007-2012	2012-2017
Food and Restaurants	40%	43%
Conference Centers	26%	37%
Hotels	13%	18%
Housing	6%	6%
Daycares	Not Measured	27%

03

The State of
Culture

Research parks, through their facilities, innovation activities and growing mixed use developments, are becoming increasingly recognized as the innovation hubs around anchor research institutions and advanced industry clusters that underpin place-based innovation commons and bring together talent, capital and entrepreneurial resources needed to succeed in today's global, knowledge-based economies.

" ... more recent science park investments pay considerable attention to the collaborative and socio-cultural potential offered by events and spaces, and they design their central facilities with a view to increasing interaction and flexible communication ... Most importantly, they are aware that a cultural environment has to evolve and is needed to nurture regional innovation, and that such cultures cannot be easily imitated or rebuilt elsewhere."

The Role of Universities in Regional Innovation Ecosystems, European University Association, March 2019

How are we advancing our partnerships?

Research parks continue to have a diverse set of constituents.

76%
of Jobs in Research Parks Found in Private Sector Companies

Presence in Research Parks

University — 9 of 10 Parks

Non-Profit — 6 of 10 Parks

Government — 6 of 10 Parks

Research parks are activating partnerships with their programming.

80%
of Research Parks have Dedicated Partnership-Development Staff

76%
of Research Parks Match Companies to Talent via Internships, Co-ops and Student Hiring

67%
of Research Parks House University Tech Transfer & Commercialization Offices

46%
of Research Parks have Colocated University Shared-Use Core Facilities

How is the business?

Non-profits are typically leading our parks.

45%
of Research Parks are Governed by an Independent Private Non-Profit

25%
of Research Parks are Governed by an Affiliated University Entity

16%
of Research Parks are Governed by a Government Agency/ Quasi-Public/Public Authority

Our operating budgets are typically generated by our parks.

89%
of Research Parks Operating Funds are Generated by Park Operations

Other Sources

University — 5%

State/Local/Federal — 2%

Non-Profit — 1%

Other Sources — 3%

We are typically profitable.

75%
of Research Parks are Generating a Positive Net Income

Report Authors

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