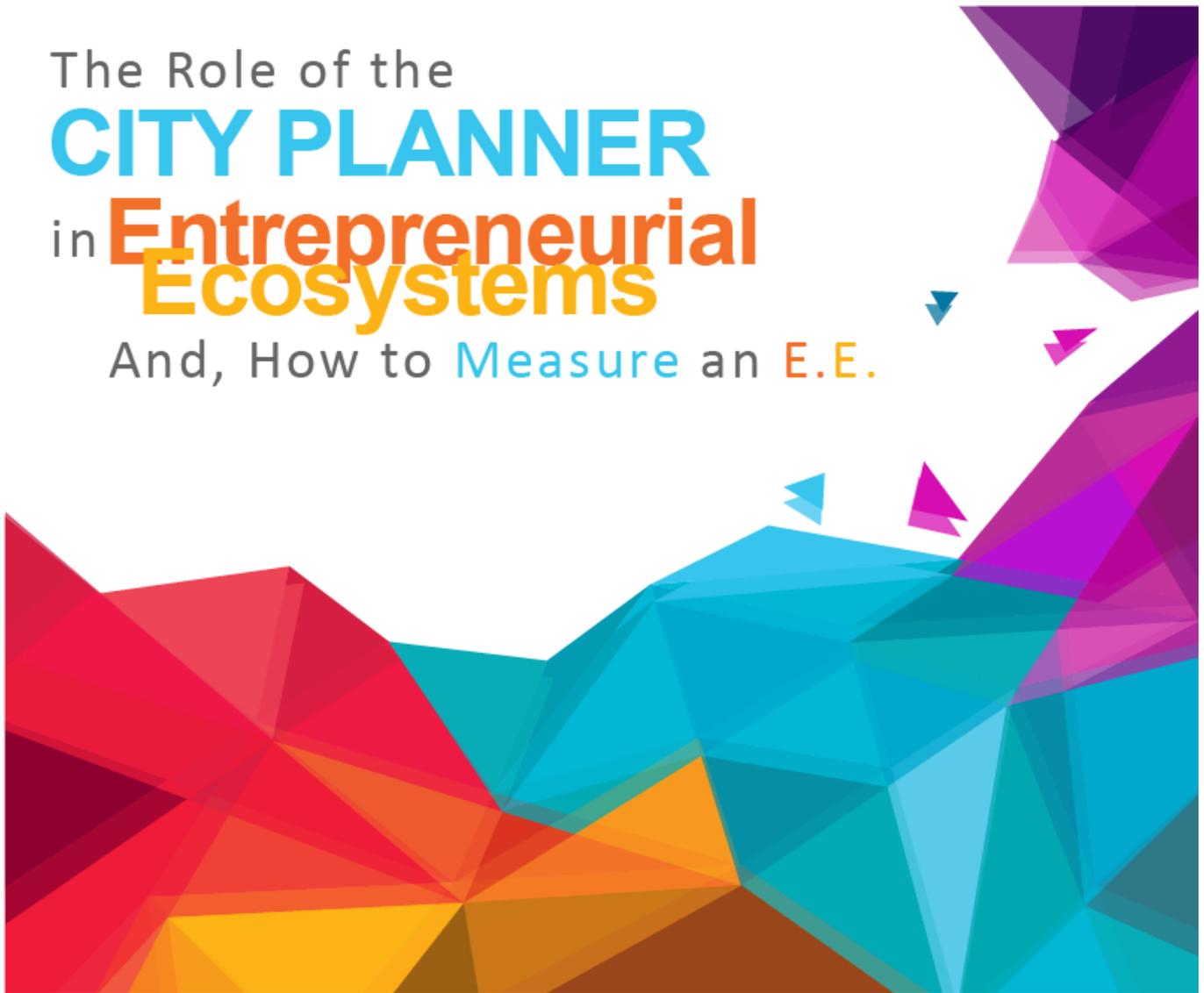

The Role of the
CITY PLANNER
in **Entrepreneurial**
Ecosystems
And, How to **Measure** an **E.E.**



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Executive Summary

Entrepreneurship and innovation provide long-term strategies for economic development (Pitelis, 2012). A thriving entrepreneurial ecosystem (EE) brings with it a host of benefits such as an emerging creative class, downtown revitalization, social capital and, and most importantly—economic growth. The motivation behind entrepreneurial ecosystems is that an EE reinforces a firm’s success through its environment, which is rich in social and economic capital (Pitelis, 2012).

This paper focuses specifically on the role of the City Planner in EEs, but it is noted that the role of the Regional Planner in EEs is also significant, despite their limited discussion here. This paper provides recommendations on how the City of Madison can best support their EE to further this long-term economic development strategy, and the paper gives guidance on how to evaluate an EE from a municipal point-of-view.

Introduction

A Strategy for Economic Transition

As the 2015 City of Madison Economic Development Strategy states, “Madison’s economy is shifting under our feet.” What was once characterized as a reliable base of government jobs with a few mature companies is now “...giving way to a new economic structure that is driven by small business, nimble startups and fast-growing companies in key high-growth sectors” (City of Madison Economic Development Division, 2015). Recognizing the changing landscape of the local economy, the City of Madison looks to its entrepreneurial leaders in the community to take ownership of its long-range strategy for a thriving EE in order to grow the local tax base; to begin to minimize Madison’s most

critical weakness—its racial economic disparities; and as a way to bring and develop a spectrum of jobs varied-in-skill to Madison.

Not unique to this City, Madison has felt the stinging impacts of de-industrialization on its workforce, as observed by 2015 closure of Madison’s 700+ employer, the Oscar Mayer meat packaging plant. However, national trends show the exodus of big industry cleared space for a city-centered renaissance of high-skilled human capital clusters to take root, as described by Enrico Moretti’s theory The New Geography of Jobs. New cluster economies have emerged to capitalize on US pockets of high-skilled workers to overcome business hurdles fueled by federal disinvestment in transportation infrastructure, among other reasons. (Moretti, 2012) These clusters, referred to as entrepreneurial ecosystems (EEs), are self-reinforcing in which innovative firms of physical proximity experience collisions; these collisions build place-based social and economic capital, which in turn maximizes productivity. (Pitelis, 2012) Home to a Tier 1 Research University, Madison enjoys a comparative advantage with its fluid supply of a high-skilled workforce, indicating the City is poised to be a premiere EE with the right inputs.

Research shows that the presence of a college or university in a city increases both the supply of college graduates, by educating some and attracting others from outside, and the demand for college graduates, by making them more productive (Moretti, 2014).

The City’s strategy to support the regional entrepreneurial ecosystem is essential in

transitioning Madison's economy to America's new geography of jobs.

Purpose & Objectives

The purpose of this paper is to: a) understand best practices of the role of the City Planner as a player within EEs; and b) examine how to measure and evaluate the outputs of an EE. For this investigation, I partnered with the City of Madison's Economic Development Planner Dan Kennelly, who requested the following deliverables to supplement the City's 2015 Economic Development Strategy:

- Provide recommendations for how Madison, WI can improve their EE based on best practices illuminated from research; and,
- Identify metrics for evaluation of Madison's EE and provide recommendations for its EE promotion.

Methodology

My client in this research is the City of Madison's Planning and Economic Development Planner Dan Kennelly, and his request for research is explained above.

I interviewed seven people who participate in the entrepreneurial ecosystem in different facets: two entrepreneurs (of which one is an Alderperson), one researcher, two University representatives (of which one is a data analyst), and two regional planners. The demographics of my interviewees include:

- 7/7 male
- 6/7 caucasian, white
- 1/7 african-american
- 6/7 interviewees were > 30 years old in age
- 1/7 interviewee was < 30 years old in age

The materials used in this study are comprised of scholarly articles suggested by those whom I interviewed or whom advised me. The literature I reviewed includes:

- Several reports funded by nonprofits
- Two books
 - Startup Communities - authored by an entrepreneur
 - The New Geography of Jobs - authored by an economist
- News articles to relate concepts discovered in literature and books

Through literary analysis and interview responses, I identified common themes to develop my findings or best practices for the role of the Planner in an entrepreneurial ecosystem (EE) and provided recommendations for the City of Madison in support of its EE.

Findings

The Role of the City Planner in Entrepreneurial Ecosystems

I asked all my interviewees "Please describe the job description of a City Planner." The majority of answers included the word "zoning," indicating a perspective that the City Planner is controlling. Whether or not this perception is true, a thriving EE operates in a horizontal or network structure, rather than a hierarchy (as illustrated by Appendix A), and the City will have to adapt its behavior to fit within this unfamiliar organizational network. (Feld, 2012)

An EE operates best when entrepreneurs are inspired to champion the ecosystem as leaders. Research shows that the market is the best determinant of which companies

survive within the EE; therefore, the City Planner should be conscious of how they affect the EE through regulatory behavior as well as a funder (Feld, 2012). The City of Madison is operating with this logic by supporting the Startingblock financially, as opposed to funding individual companies within Startingblock (Resnick, 2016). When it comes to public financing, government dollars are best spent on feeder actions that impact, not control, the entrepreneurial ecosystem. Above all, the City Planner should embrace its position as a player in the ecosystem who has the privilege of having a rapport with many stakeholders; a City Planner should capitalize upon this facet of daily work to facilitate EE cross-connections (Feld, 2012).

Prevalent Criticisms and Missteps of Planners Trying to Function in an Entrepreneurial Ecosystem

The following are a list of policies of local government which can inhibit an EE's success (Feld, 2012), (Kauffman Foundation, 2015):

- Constrictive land use and density zoning rules
- Overwhelming regulatory activity
- Shortsighted tax policy that drives companies to neighboring communities

While these criticisms are valid trends of local American governments, policy alternatives exist that do not lead to utter deregulation (Kauffman Foundation, 2015). For example, form-based code offers a less-constrictive form of zoning that carries added benefits of contributing to aesthetics targeted towards EE participants.

Overwhelming regulatory activity does not

contribute positively to an EE (Leher, 2000). It disproportionately discourages immigrant entrepreneurs from starting a business; for instance, tasks such as sifting through dense legalese can inhibit English-as-a-second-language or immigrant prospective entrepreneurs from starting a business; and, enforcement on persons with backed child support or certain criminal histories also hinders entrepreneurship (Pierce, 2016).

The National Venture Capitalist Association reports "Venture-backed publicly traded immigrant-founded companies have a total market capitalization of \$900 billion (as of June 2013). If immigrant-founded venture-backed public companies were a country, then the value of its stock exchange would rank 16th in the world, higher than the exchanges of Russia, South Africa and Taiwan" (Stuart Anderson, 2014).

These examples of overwhelming regulation based antiquated bureaucratic organization furthers racial economic disparities in Madison. Understanding how to ensure quality and protect health and safety in a way that fosters competition and new-business creation is a powerful ingredient in an EE (Kauffman Foundation, 2015). Further, many entrepreneurs, especially ones early in their careers, are not expert business owners. Therefore, simplifying tax policy and payment systems can relieve entrepreneurs from excessive burden by way of the City (Olzewski, 2016).

Research shows that publicly funded incubators do not have an impact on the life span of a startup company (Kauffman Foundation, 2015). Incubators are criticized for too much hand-holding with their companies, and accelerators have

become a preferred format for encouraging startup companies (Kauffman Foundation, 2015). Public dollars are better spent on promotion of existing EE accelerators, such as Madison's "Gener8tor Program." The MassChallenge, funded initially in large

Figure 1 Success Story - MassChallenge

The nonprofit organization **MassChallenge**, a partnership of statewide public funding and private contributors, selects 128 startup companies annually to participate in its four-month accelerator program, which provides entrepreneurs access to expert mentors, marketing and media resources, funding opportunities and free office space in Boston. Following the four-month accelerator period, MassChallenge awards \$1 million in grants to the program's top companies. MassChallenge accepts startups from all industries and has the resources to provide startups from "any industry, anywhere in the world" with tremendous value. However, all of the startups must be "early-stage," meaning that they have received up to but no more than \$500,000 of equity based funding and haven't generated more than \$1 million in revenue. The MassChallenge accelerator program is designed to provide entrepreneurs with a range of strategic and tactical insights, covering everything from sales to hiring and legal to financing. The brilliant catch to this program is the stipulation that participating companies have to move to Boston for eight weeks to compete (Drell, 2012). In doing so, some companies end up sticking around, despite not winning the monetary prize.

part by the City of Boston, MA, is an example of public funding done right (Resnick, 2016). MassChallenge is credited as a factor in General Electric's recent

decision to relocate its headquarters and ~800 employees to Boston's Sea District—a decision in which GE overlooked a list of 40 other US locations in favor of the Boston region (Leung, 2016).

Shortsighted tax policy drives companies to neighboring communities, so the City Planner must work with Regional Planners to ensure its tax policies match that of the surrounding community's (Kauffman Foundation, 2015). Because an EE operates at a regional scale, it is not in the best interest of the City to attempt to undercut its neighboring communities with unique tax incentives for entrepreneurs; rather, the City should plan for the tastes and preferences of entrepreneurial startup employees, not for entrepreneurial startup companies (Gay & Kettleson, 2016; Resnick, 2016). While the City can only be so flexible in its zoning code and regulation of negative externalities of the private sector, it should focus efforts into creating habitats for targeted residents. This can be done by working with developers to inspire transit-oriented development that meets the preferences and tastes of the targeted population the City wants to attract to its EE. For example, a company can be attracted to the Madison region, but decide to locate in a first ring suburb due to the City's strict environmental protection policy. Madison can still benefit from this company locating outside of its boundaries by retaining the company's employees as City residents (Olzewski, 2016).

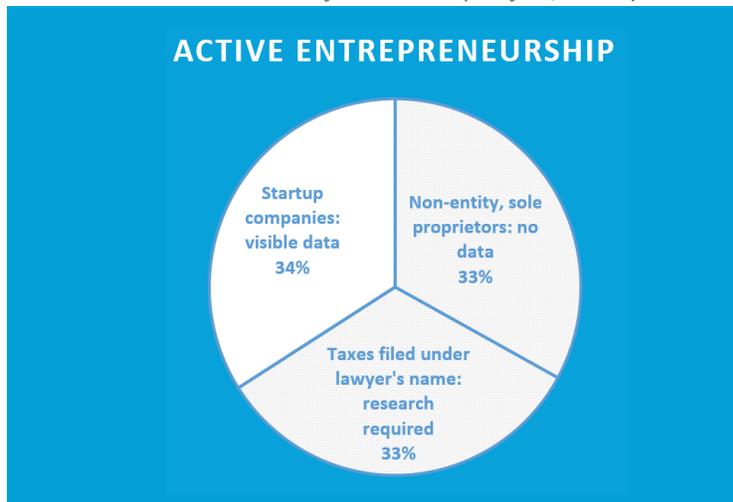
Measuring an entrepreneurial ecosystem

Constraints of Data

Past efforts to collect data on Madison's EE were undertaken by the University of Wisconsin-Madison Business School's INSITE team, but a loss of funding in the mid 2000's has since stalled the initiative

(Surydk, 2016). Figure 3 explains the main constraint of data on entrepreneurial firms.

Graph 1 Only 33% of active entrepreneurship data is readily available (Surydk, 2016).



To overcome the gaps in EE data, inputs are often used as a substitute for comparison. Currently, the Madison Economic Region Partnership (MadREP), a regional economic development nonprofit organization, maintains a database of EE inputs which compare the Madison region to three peers—Austin, TX, Des Moines, IA, and Lincoln, NE—as well as to Wisconsin and nationally. Articles from Forbes Business, Bloomberg and Entrepreneur Magazine use inputs as their methodology when comparing top locations of EEs (Thompkins-Bergh, 2015). Inputs can serve as indicators of *potential* for performance of an EE, but they do not accurately account for the *current* performance of a functioning EE (Feld, 2012).

A City Planner would have difficulty measuring an EE, knowing that EEs extend beyond any municipal jurisdiction or political boundary (Thompkins-Bergh, 2015). Obtaining data sets beyond the municipal scope might be deemed outside of a City Planner's job description, or logistically too complex or time consuming.

However, it is important to not re-invent the wheel. City Planners can leverage partnerships with Regional Economic Development Planners and University Technology Transfer Offices, for example the Wisconsin Alumni Research Foundation (WARF), to form a strategic plan to capture output data (Surydk, 2016).

Choosing Metrics for Output Evaluation

The Kauffman Foundation, an entrepreneurial think tank, suggests using a number of metrics grounded in the sub categories below, as detailed in Appendix B (Bell-Masterson & Stangler, 2015):

Density

Density metrics explain the number of firms, prevalence of firms by sector, and a firm's impact on employment in an EE in which a high density measure is valued.

Fluidity

Fluidity metrics explain the underlying bricolage of an EE's human capital in terms of talent and capacity for remixing to strengthen an EE in which a workforce of high-skilled workers are valued.

Connectivity

Connection metrics explain the social capital outputs of an EE in which a dense network of connections among a small number of firms and programs is preferred.

Diversity

Diversity metrics explain the economic diversification of an EE in which a balanced landscape of sectors and companies is preferred in avoidance of an overreliance on any one industry.

Mobility

Mobility metrics measure a population's probability of moving

up or down the economic ladder between different income quintiles in which upward climbing is preferred.

Together, or cherry-picked for certain audiences to maximize strategic messaging and framing, these metrics effectively measure an EE's success and allow for comparison among competing regions (Richardson & Villano, 2015).

Metrics for Evaluation, but More for Promotion

The metrics listed in Appendix B, Table 1, are used to evaluate an EE. However, it is burdensome to collect and analyze data of an EE, let alone multiple regions for comparative evaluation (Surydk, 2016). Due to the extensive amount of work required to measure an EE, I argue that a City Planner can best use their time in an assistive role to data analysts or by using the metrics to promote rather than evaluate. Because measuring EEs require a great amount of work and time, this is most likely why each region uses its own method for calculating EEs. Nonetheless, an asset of a densely connected EE is that frameworks of partnerships exist, which can be leveraged to accomplish large endeavors such as data collection, analysis, evaluation and promotion.

While quantitative systems for evaluation are powerful to some audiences, such as investors and CEOs, additional evaluation communication formats can offer more context and substance to other perspective EE participants. These forms of evaluation are more abstract and include a City's image and how it is portrayed in the media, and these forms have a dual purpose of promotion. It is important to use the Kauffman Foundation's suggested output metrics to create a scientifically sound narrative tailored to a target audience

(Feld, 2012). Opportunities for promoting this narrative include:

- Having a strong web presence;
- Leveraging partnerships for promotion with the University, the WARF, MadREP and other renowned organizations to help spread the word; and,
- Through leaders championing the Madison EE through Mid-western and nationally consumed editorials and other media outlets.

"At the core of any entrepreneurial ecosystem are the entrepreneurs themselves, so naturally we want to know how many entrepreneurs are in a given city of region," states Kauffman Foundation authors Bell-Masterson & Stangler.

To appeal to entrepreneurs, a narrative should include density metrics such as new and young firms per 1,000 people.

Although challenging for the City Planner to collect output EE metrics, the Planner has a unique role in which he/she interfaces with all participants of an EE. From these face-to-face experiences, a City Planner carries a comprehensive, qualitative view of an EE landscape. This extensive perspective makes a Planner the ideal person to construct and ground truth qualitative summaries or narratives about the goings-on of an EE, offering the best way a City Planner can evaluate its EE without reinventing the wheel or stepping on a partners' toes (Feld, 2012).

Evaluation of Madison's Entrepreneurial Ecosystem

In reference to my previous suggestion, I use qualitative and quantitative information gathered in my interviews with EE participants to evaluate Madison's EE in place of Appendix B's metrics.

- Madison's EE is the strongest in Wisconsin accounting for \$79 million of Wisconsin's \$88 million venture capital investments (Gay & Kettleson, 2016).
- Madison's accelerator Gener8tor topped the 2015 Most Active Investors in the Midwest list (Resnick, 2016).
- The 2015 Wisconsin Portfolio, put out by the Wisconsin Technology Council reports, "At least 113 Wisconsin early stage companies raised investment capital in 2014, a 31 percent jump from the prior year. Those 113 companies raised more than \$346 million, nearly three times more than 2013's total of about \$128 million. Even if the 2014's six largest deals in terms of dollars invested are taken out of the mix, the remaining 107 companies collectively raised more than \$112 million – still approaching the 2013 total" (Still, 2015).

Recommendations

The following include a list of best practices and Plan recommendations for City of Madison to achieve an ideal relationship with its entrepreneurial ecosystem:

Emphasis on Impact, Rather than Control

Consult with developers in the site plan review stage to push considerations about design, which cater to the preferences of the EE and are aligned with City's goal to reduce racial economic disparities:

- Flexible leases lengths
- Spaces which can be refigured to accommodate the life cycle of a startup business
- Site selection that contributes to City's goal of revitalization of the de-industrialized downtown core and other transit-oriented nodes or hubs
- Explore the creation of an Innovation District along the East Washington Corridor to facilitate a physically dense EE.
- Mixed-income, affordable and workforce housing to offset negative unintended consequences and strive for a low cost of living

Reconsider restrictions on short-term rentals and privatized ride sharing as symbol of progressive support of EEs

Provide professional development in English-as-a-Second-Language communication to Business & Development Department employees

City as an EE Feeder, Letting Others be the Leader

Avoid oversaturation of incubators by promoting and partnering exclusively with Startingblock to assist in branding and identity of Madison's EE

Spend resources supporting, promoting and celebrating entrepreneurial grassroots efforts rather than trying to recruit out-of-state conferences and companies to locate in Madison

Encourage City employees and representatives to provide welcoming

social introductions among existing EE network players and newcomers:

- Do not organize catalytic events but support the entrepreneurial efforts of those who do by offering or coordinating meeting space for a low fee, monetary sponsorship for advertising, free of charge

Recognize Neighboring Communities as Assets

Understand how to best assist MadREP with EE output data collection and analysis

Leverage partnership with MadREP to promote regional EE globally and nationwide

Focus on planning for a targeted EE habitat rather than engaging in a deregulation and/or subsidization race-to-the-bottom with a neighboring municipality in order to obtain net benefits from a company's move into the regional EE

Develop EE through Livability and Quality of Life Infrastructure

Foster the arts and entrepreneurship in youth through fablab installation in every library within the City

Increase access to information with city-wide outdoor WiFi access and provide WiFi access free of charge at the Monona Terrace Conference Center

Explore the creation of a Civic Entrepreneurship Department within the City of Madison:

- Consider locating Civic Entrepreneurship Department within Startingblock as gesture of long-term support
- Review case studies of cities such as Chicago to understand best practices for increasing open access to information and civic hacking opportunities

Increase transportation access to and within the City of Madison by:

- Work towards construction of the proposed bus rapid transit line
- Reinvesting in the Dane County Airport
- Remain open to a regional high speed rail system through Madison
- Increasing mass transit access, frequency and range throughout the City and County Parks system

Conclusions

Entrepreneurial ecosystems illustrate the new geography of American economic productivity. Flush with a high skilled workforce, the Madison region is home to a burgeoning EE. To help foster an EE as a long-term economic development strategy, the role of the City Planner is minimal, yet important. There are many indirect ways a City Planner can impact its EE without smothering it with regulation.

To do this, a City Planner should reframe one's role to that of a Facilitator or Advocate using an asset-based approach. Through this reformation of roles, the City Planner does not operate as an EE leader or gatekeeper; rather, as a welcoming representative of an EE in a horizontally structured, informal organization.

Nevertheless, economic development does not happen in a vacuum. EEs are slow to start, offer minimal return on investments and minimal employment in the short-run. But with positive, long-term commitment, the Planner can support the EE. One of the most impactful strategies a Planner can implement is working to create attractive neighborhoods, districts and corridors offering location-efficiency (mixed use, walkable, medium density) and a high quality of life (easy access to transit, bike

paths, parks, culture, and more).

Upon doing so, the Planner can also help promote a City's place-based livability and grassroots entrepreneurial ecosystem by leveraging partnerships and resources and utilizing metrics (such as density, fluidity, connectivity, economic diversity, and mobility) to attract new firms, talent and entrepreneurs to an ever-growing cluster economy.

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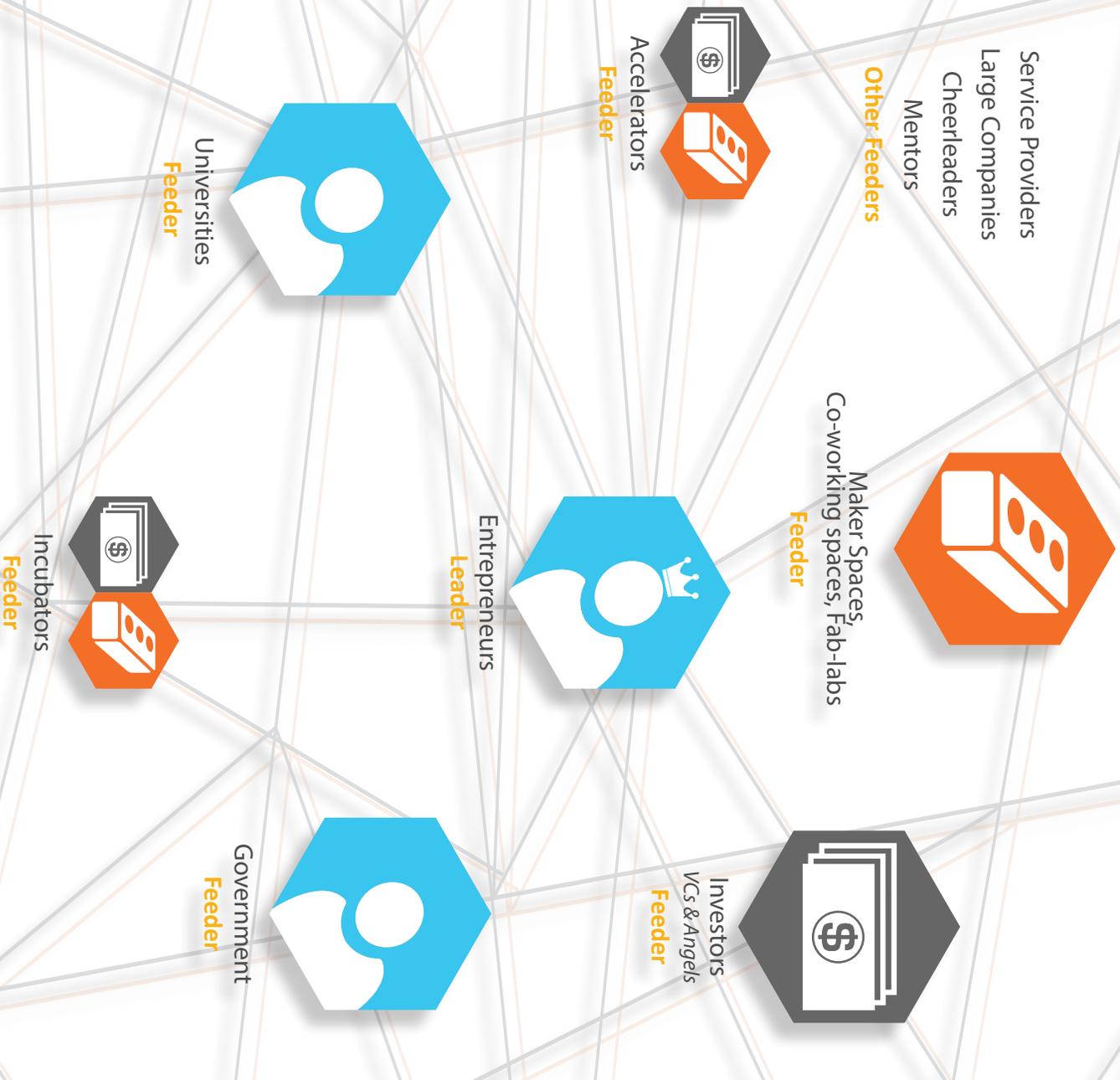
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Appendices

- Appendix A)** Entrepreneurial Ecosystem Structure
- Appendix B)** Table 1 - Existing Conditions of Madison's EE Inputs, and Output Metric Suggestions
- Appendix C)** Figure 3 - Financing Filter to IPO based on 2004-2008 US Data

ENTREPRENEURIAL ECOSYSTEM STRUCTURE



Leader = Entrepreneurs

Leader ≠ Feeder

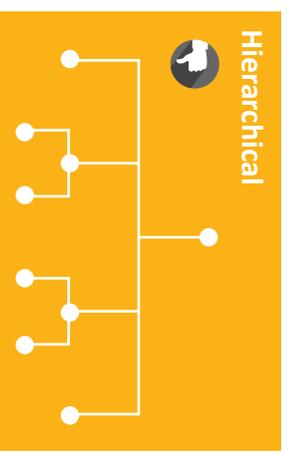
Government ≠ Leader

Feeder = Government, University, Investors, Physical Spaces, Accelerators, Incubators, Mentors, Service Providers, Large Companies, Cheerleaders

Network Structure Recommended



Hierarchical



Input and Output Data of an Entrepreneurial Ecosystem to Consider

Table 1 - Existing Conditions of Madison's EE Inputs and Output Metric Suggestions

Inputs—Indicators of Entrepreneurial Ecosystem Potential <i>(Sample metrics (Richardson & Villano, 2015)). (statistics pulled from Data Dashboard of MadREP)</i>		
Metrics (Madison Region)	Statistic (2014)	Potential Source
Median HH Income	\$57,645	ACS 2014 (5-yr estimates)
Educational Attainment ≥ Bachelor's degree	33.5%	ACS 2014 (5-yr estimates); Data Dashboard of MadREP
Total Population	1,031,323	Census 2010; Data Dashboard of MadREP
Annual Unemployment Rate	4.6%	US Bureau of Labor Statistics; Data Dashboard of MadREP
Outputs – Indicators of Entrepreneurial Ecosystem Vibrancy <i>(Bell-Moister & Stangler, 2015)</i>		
Density		
New and young firms per 1,000 people	Business Dynamics Statistics; WI Dept. of Financial Institutions (CRIS)	
Share of employment in new and young firms	Census Bureau; Aaron Oliver from University Research Park has data regarding this	
Sector density, especially high tech Exits, Liquidity events	National Establishments Time Series (NETS); MG&E Hi Tech Sec. Form D from Federal Securities and Exchange	
Fluidity		
Population flux	Internal Revenue Service, Statistics on Income (SOI)	
Labor market reallocation	Quarterly Workforce Indicators	
High-growth firms	¹ Inc. 5000	
Connectivity		
Program connectivity	GIS	
Spinoff rate	Track follow-on funding through Angel.co	
Dealmaker networks	Mandel's economic graph ²	
Diversity		
Multiple economic specializations	NAICS codes; quarterly census of employment and wages (QCEW); Bureau of Labor Statistics	
Mobility	³ Geography of opportunity by CARPC	
Immigration	American Community Survey; University of Wisconsin Population Demographics Lab	

¹ <http://www.inc.com/inc5000>

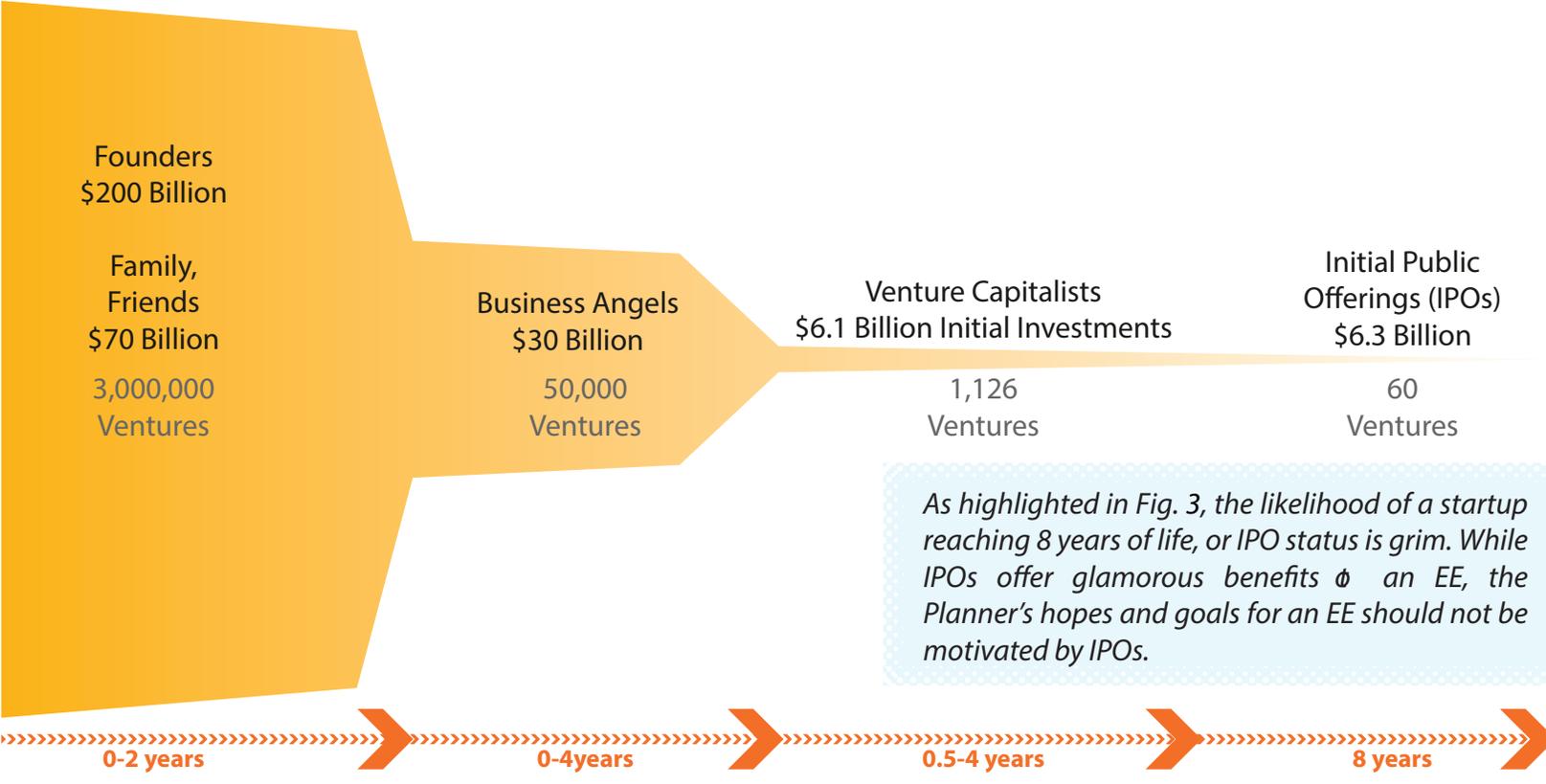
² Michael Mandel, "Connections as a Tool for Growth: Evidence from the LinkedIn Economic Graph," South Mountain Economics, November 2014, at <https://southmountaineconomics.files.wordpress.com/2014/11/mandel-linkedin-connections-nov2014.pdf>

³ <https://cityofmadison.maps.arcgis.com/home/webmap/viewer.html?webmap=f66394c81684332890c21b686147c5c>

Figure 3

Financing Filters to IPO based on 2004-2008 US data

-Legend-
 Company Age
 Funding Sources
 Number of Venture-backed-capital companies; trend is also represented by 
 Source: Bygrave and Zacharakis, *Entrepreneurship*, 2011, Second Edition, Hoboken, NJ; Wiley and Sons, Inc. Page 400



Glossary of Terms

Buzzwords and innovation go hand-in-hand; therefore, I define the many elements of an EE below, based on research and interviews (see methodology section).

Legend

Network	Player	Concept	Space	Funder
				

Table 2 These icons represent the whole (network) and components (player, concept, space, funder) of an EE; graphics designed in house.

Table 2 - Terminology of an Entrepreneurial Ecosystem

Entrepreneurial Ecosystem (EE)



The network of ingredients that comprise the startup community microcosm including public and private organizations, places, spaces, leaders, feeders, investors, entrepreneurs, promoters and more; refers to the scene at-large.

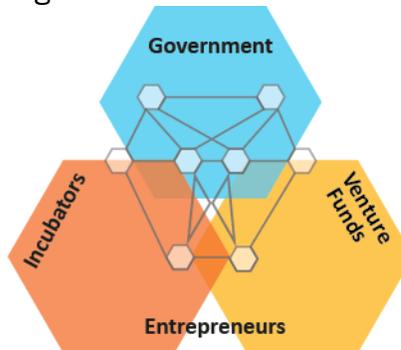


Figure 3 An ideal representation of an EE as a network rather than a top-down hierarchical structure; content from Kauffman Foundation, graphically replicated in house.

Entrepreneur



Someone who perceives an opportunity and creates an organization to pursue it. (Bygrave & Zacharakis, 2011)

Startup Company



A for-profit business that grows by 20% (usually within first 3-5 years of operation). A business is no longer considered a startup once its growth flattens out. Startups are a function of time and growth, not industry sector or workplace culture. Startups in the nonprofit sector do exist, but are not discussed in this paper.

City Planner

A City Planner works for a Municipality, exclusively, and is not to be conflated with a Regional Planner, for the purposes of this paper. City Planner may also be referred to as Planner, Government, or City within this paper.



Accelerator



A mentorship-driven program that invests in high-growth businesses. Accepted companies receive public or private seed money and intensive mentorship ranging from periods of two to six months. An accelerator is different from an incubator in that less public financing and fewer services are provided to the businesses involved, with a focus on the business quickly expanding out of its acceleration stage. An accelerator is a concept, not necessarily a physical space.

Madison example—Gener8tor



Image 1 Pictured is gener8tor, a Top-15 Accelerator¹ within the US, located in Madison, WI; graphic courtesy of gener8tor's website.

Incubator/Public Venture Funds



Similar to an accelerator, an incubator is a program that fosters entrepreneurship through funding and services, the main difference being that an incubator retains startups onsite for a longer period of time. Some literature disputes the effectiveness incubators have on the success of startups and include critiques of excessive hand-holding and wasteful public spending.

Madison Example—Women in Entrepreneurship Fund²

Maker-space



A community workspace where toolsets, 3D printers and other manufacturing devices are shared. Maker-spaces are often characterized as noisy and zoned as light manufacturing. These are great places for entrepreneurs to make prototypes in a low-cost, collaborative way.

Madison example—Sector67

¹ <http://www.startingblockmadison.org/>

² http://host.madison.com/wsj/news/opinion/mailbag/fund-will-help-women-entrepreneurs---heather-wentler/article_5dc0b12b-d4ce-5181-bd3b-f7dce0ce659.html



Image 2 Pictured is Sector67, Madison's premiere maker-space; photo courtesy of Sector67's website.

Small scale maker-spaces with an educational component are referred to as *fablabs*.

Madison Example—The Bubbler at Madison Public Library

An initial space where entrepreneurs have access to office amenities such as conference lines, desk space, high-speed internet, whiteboards, specialty computer software, etc, for a small monthly fee akin to a gym membership. Several small companies share these amenities in a co-working space. Many startups begin their journey in a co-working space, and then graduate to a larger office space as they begin to grow. The interior of a co-working space is characterized as open and relaxed, with 24-hour access, to facilitate networking and sharing of ideas.

Madison Example—100State



Image 3 Pictured is co-working space 100State with hodge-podge of comfy furniture and configurable space; photo courtesy of 100State's website.

Co-working space



Innovation Hub

The physical nexus of an EE—a space that includes co-working space, maker-space, accelerator office space, flexible leases, the fostering of innovation through youth education, meeting space for networking groups, and membership-based access



Innovation



that funds services such as WiFi and building maintenance. Ideally, there is one hub per EE, so as to facilitate a dense space where optimal networking can occur.

Madison example-Startingblock

A new application of an existing concept that sparks widespread consumption.³



Light Bulb
Invention

Household Electricity
Innovation

Figure 4 The lightbulb was the invention, but it was not widely used before the innovation of the city electrical grid system. Explanation³, graphic designed in house.

³ Malpezzi Ph.D., Stephen. "Powerpoint on the Wisconsin Tradition," fall 2016.