

INNOVATION DISTRICTS: BUSH INSTITUTE INSIGHTS



GEORGE W. BUSH
PRESIDENTIAL CENTER

With reference to why more & more cities are creating them, how they're changing, and how they're performing as economic development engines

Cullum Clark

Richardson HQIQ Presentation
Dallas, April 2024



OUTLINE

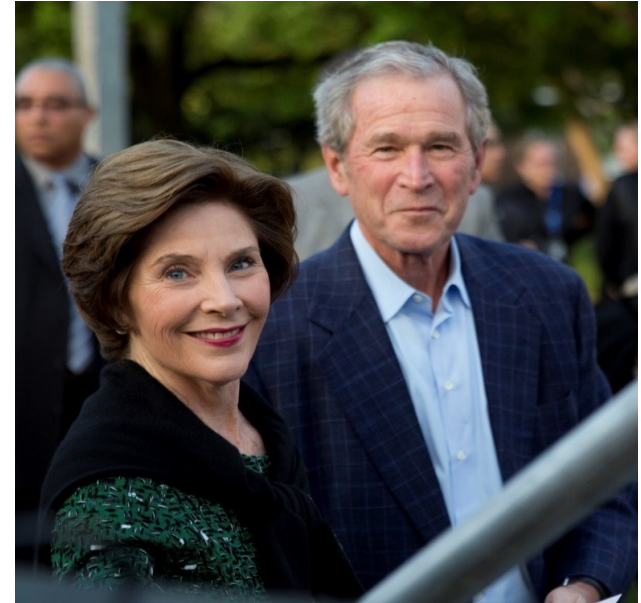
- George W. Bush Institute-SMU Economic Growth Initiative
- Innovation in America: Long-term trends
- 2021-23 place-based innovation policy initiatives
- New data on innovation districts



WHAT DRIVES US

We celebrate the goodness of our Nation and pursue with optimism the timeless values of:

- Freedom
- Opportunity
- Accountability
- Compassion



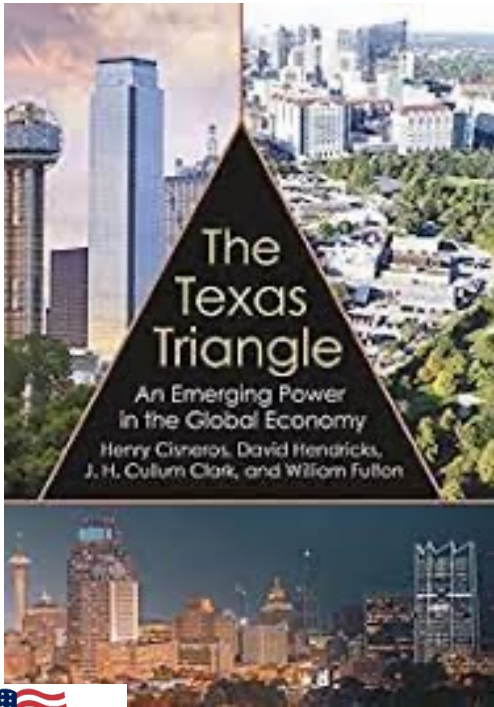
“We believe in open societies ordered by moral conviction. We believe in private markets humanized by compassionate government. We believe in economies that reward effort, communities that protect the weak, and the duty of nations to respect the dignity and the rights of all.”

- President George W. Bush
November 13, 2003



BLUEPRINT FOR OPPORTUNITY

Challenge: How to create inclusively prosperous, opportunity-rich cities in 21st century America?



“Big D Is a Big Deal
Dallas–Fort Worth is becoming
the de facto capital of
America’s Heartland.”
City Journal



The Dallas Morning News

The secret sauce of North Texas suburban growth

Bush Institute published work:

- “Cities and opportunity in 21st century America”
- “The new geography of opportunity”
- “The innovation impact of U.S. universities”
- “Eds and meds: Anchor institutions in the economic development of Dallas & other cities”
- “How to make urban growth more inclusive: The Dallas experience”



NEW BUSH INSTITUTE REPORT

ENGINES OF OPPORTUNITY:

How Eds and Meds Institutions Can Become
More Powerful Drivers of Prosperity in America's Cities



OUR ANSWER

• Talent



• Innovation



• Place



INNOVATION DISTRICTS

- Innovation districts: **dense, physically compact** urban areas where **knowledge-generating institutions** and **leading-edge companies** of **diverse size and industry** cluster together to stimulate **creativity, collaboration, innovation, and entrepreneurship**
- Examples:
 - Kendall Square (Cambridge MA)
 - Research Triangle Park (Raleigh-Durham NC)
 - University City District (Philadelphia)
 - The Ion (Houston TX)
 - Pegasus Park (Dallas TX)



PLAYERS

- Eds and Meds institutions (universities & academic medical centers)
- Real estate developers
- Entrepreneurs & investors
- Large leading-edge firms
- Philanthropists & community nonprofits
- Local (& sometimes state) governments
- Management entities

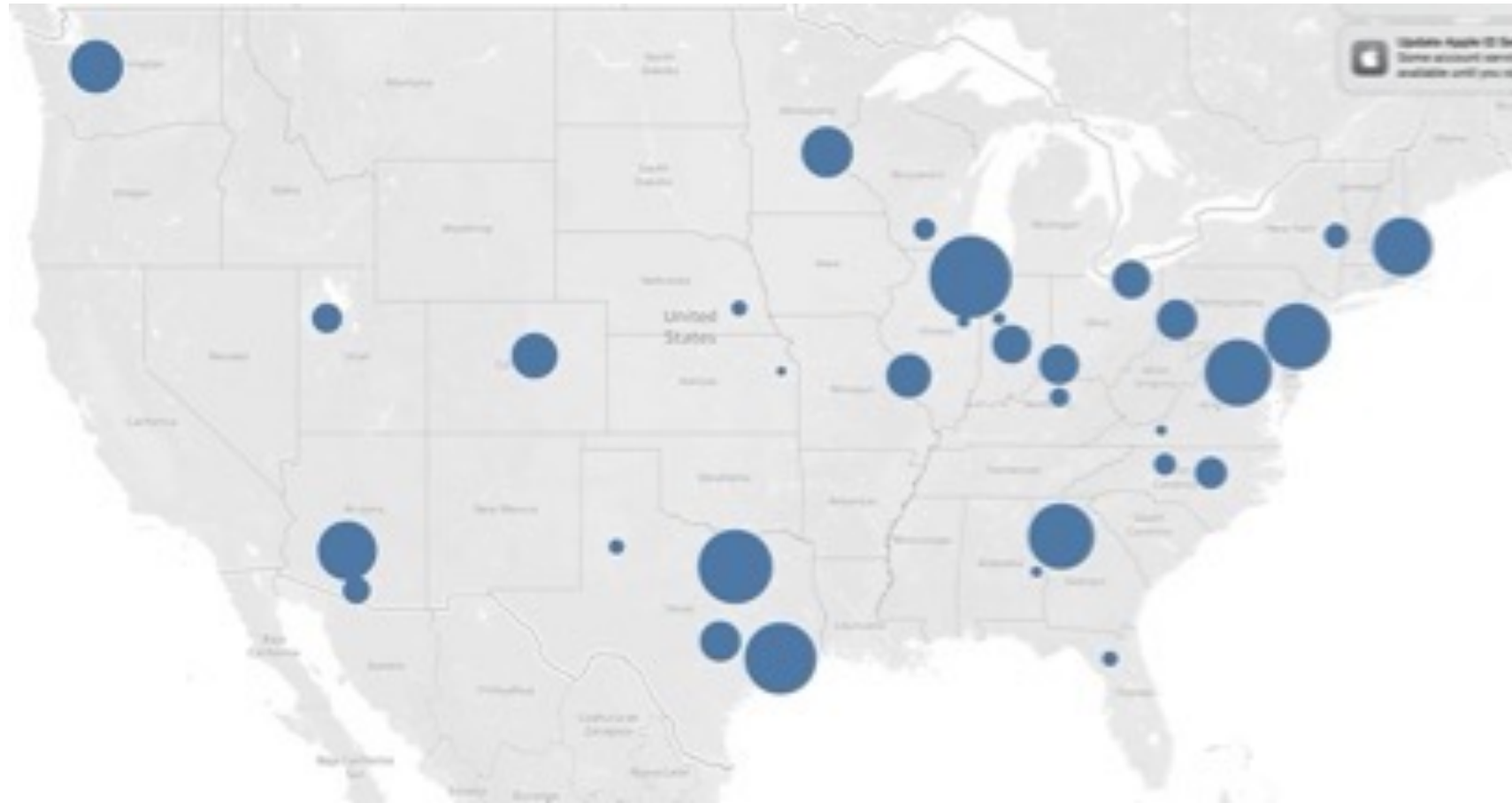


GROWTH

- More than 100 in the world, vs. less than 20 before 2000
- 60+ in USA by strict definition – but more than 100 under looser definitions
- *New first-of-its-kind Bush Institute dataset: 36 districts*
 - 21 launched since 2000
 - 10 since 2013
- Dozens of universities planning new districts



BUSH INSTITUTE DATASET: 36 INNOVATION DISTRICTS



BUSH INSTITUTE DATASET: 36 INNOVATION DISTRICTS

Metro Areas	Innovation Districts	Year Founded	Metro Areas	Innovation Districts	Year Founded
Albany NY	Rensselaer Technology Park	1981	Lawrence KS	KU Innovation Park	2009
Atlanta GA	Atlanta Tech Sq	2000	Lexington KY	Coldstream Res Campus	1992
Auburn AL	Auburn Research & Tech Fdn	2004	Lincoln NE	Lincoln Neb Innov Campus	2014
Austin TX	Capitol City Innovation	2017	Lubbock TX	Innov Hub at Research Park	2014
Blackbsburg VA	Virginia Tech Corp Res Ctr	1985	Madison WI	University Research Park	1984
Boston MA	Longwood Medical Area	1972	Minn-St. Paul MN	Towerside Innov District	2013
Boston MA	Kendall Square	1960	Philadelphia PA	University City District	1997
Champaign-Urbana IL	Research Park	1999	Phoenix AZ	ASU Research Park	1984
Chicago IL	Uni Tech Park at IIT	2006	Phoenix AZ	PHX Core	2017
Cincinnati OH	Cincinnati Innov District	2020	Pittsburgh PA	Pittsburgh Innov District	2000
Cleveland OH	Cleveland Health-Tech Corr	2010	Raleigh NC	Centennial Campus NC State	1984
Dallas-Fort Worth TX	Pegasus Park	2015	Raleigh NC	Research Triangle Park	1960
Denver CO	Fitzsimons Innov Community	2004	Salt Lake City UT	Univ of Utah Research Park	1968
Gainesville FL	Gainesville Innov District	2010	Seattle WA	South Lake Union	1990
Houston TX	UH Tech	1953	St. Louis MO	Cortex Innov Community	2002
Houston TX	Houston Innovation Corridor	2021	Tucson AZ	Tech Parks AZ	1994
Indianapolis IN	16 Tech	2015	Washington DC	Discovery District	2017
Lafayette IN	Purdue Discovery District	2001	Winston-Salem NC	Innovation Quarter	2002



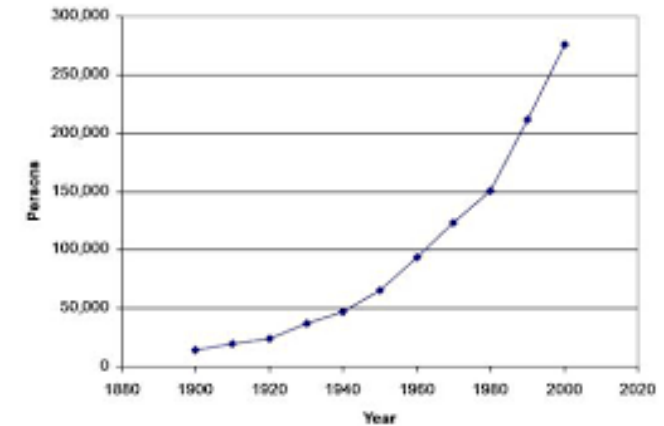
WHY INNOVATION DISTRICTS?

- Key idea from urban economics: AGGLOMERATION ECONOMIES
 - “Collisions”
 - Benefits of clustering strongest within a quarter mile
 - Explains office layouts at Bell Labs, Apple, & Pixar
- A senior biotech exec on Kendall Square:
 - “To benefit from Kendall Square, you have to leave your office and get out into it.... It wasn’t until I joined a small biotech where collaboration outside the company was essential – so-called competitors, data consortia, potential hires, others seeking to learn – that I realized the true power of Kendall Square. It is all there. You have many points of intersection. The proximity to peers, to some of the startups, and then the proximity to the academics as well makes a big difference.”

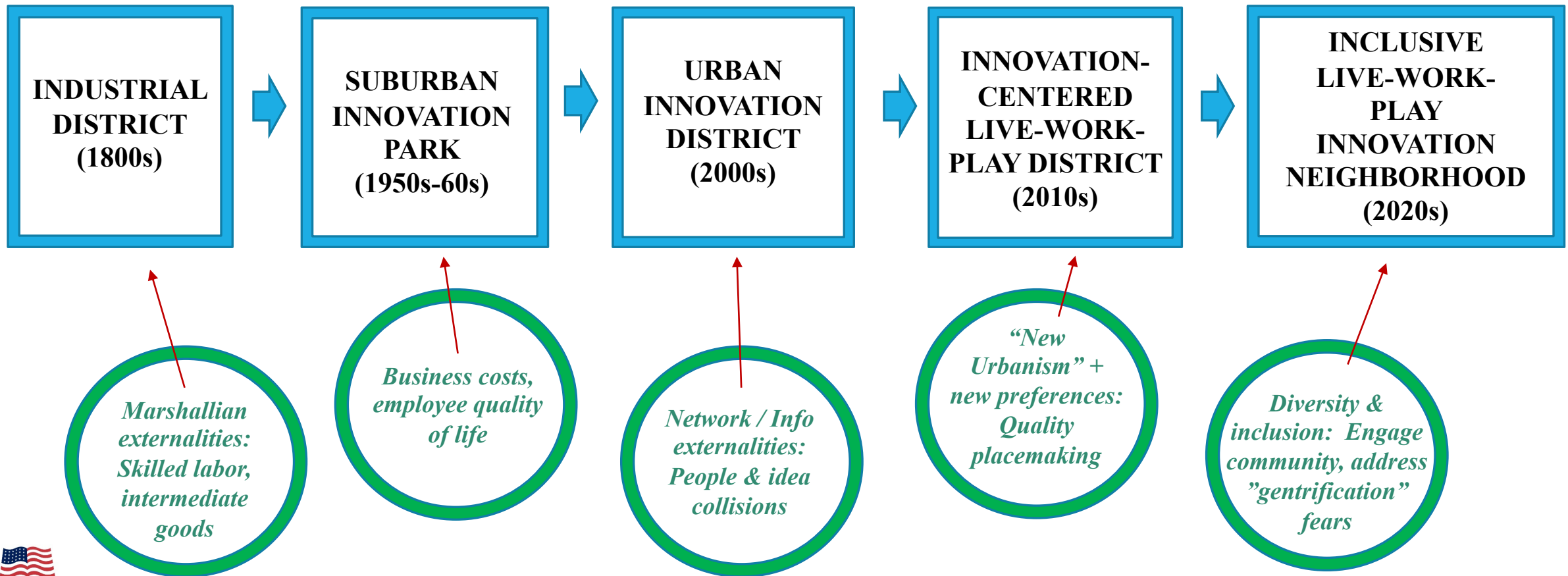


PURPOSES

- For **universities, medical centers, & companies**:
 - Attract & retain talent: researchers, entrepreneurs, students
 - Accelerate innovation
- For **cities & states**: R&D centers are a game changer for local economies
 - e.g. Raleigh-Durham NC



INNOVATION DISTRICTS: EVOLUTION OF AN IDEA



CURRENT STATE OF THE ART

- **Key features:**

- Strong basic **science**
- Critical mass of **talent**: Entrepreneurs, engineers, et al.
- **Compact, mixed-use environment**
- **Diversity** of firms & technologies
- Intentional **design**: Promote collaboration & “collisions”
- University / medical center: **Entrepreneurial culture** + well-oiled **tech transfer & commercialization** team
- Quality, authentic, attractive **place**
- **Inclusive & accessible**

- **Also: It takes patience!**

- Kendall Square: “the most innovative square mile on the planet” – it took 25 years, including devastating setbacks, to arrive as a leading innovation district



ELEMENTS, I

• Physical space:

- Class A space, sometimes ready for wet labs / clean rooms
- Building adequate supply to keep up with demand
 - Adding: **Kendall Sq, RTP, Winston-Salem Innovation Quarter, Tech Square, Ion, Pegasus, ASU**
- Startup challenge
 - Kendall Square entrepreneur: “Startups are rejuvenating because they’re always attracting new talent, new people. That rejuvenative capacity of an ecosystem, which has been missed in my view by people, is a key, key component of what drives it.”

• Curation & programming:

- Curating the tenant base
- Value-added coworking space
 - **BioLabs, LabCentral**
 - **Ion**: gradations of space
- Accelerator programs
- Speakers, networking events
- Collaborative institutes:
 - **TUCASI**: “the park within the park” – “secret sauce” of RTP



ELEMENTS, II

- **Design & quality of life:**

- **Brain-healthy design**
- **Hot spots** to promote collisions
- **Transparent building skins** to show off innovation
- **Walkability, amenities, public art**
- Big emphasis on improving **sense of place**
 - Tech Square, UCD, Kendall Square, Pittsburgh Innovation District,

- **Housing:**

- **Kendall Sq:** 1,700 units
- **RTP:** 1,200 units in Hub RTP
- **South Lake Union (Seattle):** 2,000+ units since start



ELEMENTS, III



ELEMENTS, IV



NEW BUSH INSTITUTE DATA

- **Goal: Assess whether innovation districts are succeeding as placemaking ventures**
- **Method:**
 - 36 districts
 - Collect data on (1) Census Tracts where innovation districts are located & (2) adjacent Census Tracts
 - American Community Survey (U.S. Census), 2010 and 2020 data; real estate data from CoStar & others
 - Aggregate data across each district's Census Tracts
 - Generate data for both “core” & “extended” neighborhoods – “extended” is more useful
- **Note: We're comparing neighborhoods w/ District PLUS Eds/Meds institution to neighborhoods with neither**



PROSPERITY & OPPORTUNITY

Groups	Pop Gwth 2010-20	Educational Attainment			% Creative Sectors	% Incr Median Household Inc 2010-20	Commute	
		% Adj Assoc/ Some Coll	% Bach+ 2020	Incr in % Bach+ 2010-20			Avg Comm Time	Incr in Avg Comm 2010-20
All 36 Innovation Districts	9.8%	48.5%	49.0%	6.5%	63.9%	46.0%	20.4	0.6
Metro America	8.3%	43.6%	33.6%	4.8%	51.6%	31.7%	27.5	2.1



PROSPERITY & OPPORTUNITY: OUTPERFORMERS

Innovation Districts	Compos Score	Pop Gwth 2010-20	Educational Attainment			% Creative Sectors	% Incr Med HH Inc 2010-20	Commute	
			% Adj Assoc/ Some Coll	% Bach+ 2020	Incr in % Bach+ 2010-20			Avg Comm Time	Incr in Avg Comm 2010-20
vs. USA									
1 Virginia Tech Corp Research Ctr	0.81	0.96	1.20	1.91	1.15	1.48	1.39	0.56	0.95
2 Atlanta Tech Square	0.69	0.89	1.49	2.50	1.11	1.49	1.18	0.73	0.94
3 Capitol City Innovation (Austin)	0.60	1.19	1.22	2.03	1.01	1.32	1.52	0.51	1.03
4 South Lake Union (Seattle)	0.50	1.25	1.67	2.26	1.03	1.29	1.34	0.89	1.06
5 University City (Philadelphia)	0.45	0.97	1.04	1.87	1.09	1.51	1.22	0.80	0.93
6 Cortex Innov Community (St. Louis)	0.38	0.94	1.05	1.81	1.05	1.35	1.16	0.70	0.94
7 Auburn Res & Tech Fdn	0.34	1.26	1.42	1.35	0.97	1.36	0.93	0.63	0.89
8 Cincinnati Innovation District	0.33	1.02	1.06	1.44	1.04	1.27	1.24	0.70	0.94
9 Kendall Square (Cambridge)	0.31	1.18	1.14	2.20	1.02	1.55	1.23	0.86	1.05
10 Lincoln Nebraska Innov Campus	0.21	0.98	1.32	0.81	0.99	1.12	1.44	0.58	0.88
11 Houston Innov Corridor	0.15	1.02	1.24	1.81	1.01	1.26	1.04	0.84	0.94
12 Longwood Medical Area (Boston)	0.11	0.98	0.91	1.18	1.03	1.54	1.07	0.47	1.07
13 University of Utah Research Park	0.10	0.97	1.63	2.12	0.98	1.38	1.03	0.65	1.05
14 Towerside Innov Dist (Minneapolis)	0.09	1.05	1.13	1.96	1.06	1.32	1.13	0.82	1.01
15 Research Park (Champaign)	0.03	0.68	1.45	2.17	0.96	1.55	0.87	0.51	0.89



WHY SOME DISTRICTS OUTPERFORM FOR PROSPERITY & OPPORTUNITY

- Innovation district **age & size**
- Strength of **Eds & Meds institutions**
- Metro-area **housing** policies
- Innovation district **location** in metro area
- One factor that DOESN'T predict success: **metro-area size**



HOUSING & NEIGHBORHOOD STABILITY

Groups	Housing						Black + Hispanic Pop Share	
	% Incr in Units	% Built since 2010	% Built since 2000	Median Home Value	Median Rent	% Incr Rent	B+H Pop Shr 2020	% chg B+H Pop Shr 2010- 20
All 36 Innovation Districts	14.0%	15.6%	27.3%	\$276,290	\$ 1,012	39.8%	34.7%	1.4%
Metro America	6.5%	6.3%	19.6%	\$292,536	\$ 1,096	30.3%	32.2%	1.1%



HOUSING & NEIGHBORHOOD STABILITY OUTPERFORMERS

Innovation Districts	Compos Score	Housing						Black + Hispanic Pop Share	
		% Incr in Units	% Built since 2010	% Built since 2000	Median Home Val	Median Rent	% Incr Rent	B+H Pop Shr 2020	% chg B+H Pop Shr 2010-20
vs. MSA									
1 Rennselaer Tech Park (Albany)	1.56	0.87	8.17	4.49	na	1.57	0.90	1.05	1.02
2 Atlanta Tech Square	1.41	1.55	6.09	1.53	1.67	0.76	1.08	0.91	1.02
3 Pegasus Park (Dallas)	1.22	1.38	1.86	0.79	1.15	0.87	1.01	1.51	1.40
4 Auburn Res & Tech Fdn	0.80	1.10	2.07	1.54	1.02	0.94	0.70	1.08	0.92
5 University Research Park (Madison)	0.49	0.82	3.66	2.40	na	1.00	0.95	1.57	1.01
6 Coldstream Res Campus (Lexington)	0.47	0.98	2.47	2.33	1.02	1.11	1.00	3.00	1.01
7 Lincoln Nebraska Innov Campus	0.45	0.96	1.16	1.33	0.49	0.73	0.70	1.84	1.05
8 Centennial Campus NC State	0.21	0.77	2.39	1.41	na	0.89	1.05	0.74	1.10
9 Virginia Tech Corp Res Ctr	0.18	1.01	2.21	2.01	1.08	0.74	1.07	1.14	1.02
10 Fitzsimons Innov Commtty (Denver)	0.15	0.88	1.69	1.20	0.61	0.81	0.82	2.53	1.03
11 Cleveland Health-Tech Corridor	0.14	1.00	3.13	2.09	0.91	1.05	1.16	2.06	0.93
12 16 Tech (Indianapolis)	0.07	0.82	2.01	1.38	na	0.97	0.98	3.15	0.96
13 Capitol City Innov (Austin)	0.04	0.86	0.96	1.25	2.10	0.98	0.97	0.75	1.00
14 Innov Hub at Res Park (Lubbock)	0.02	0.90	0.95	1.54	1.20	1.06	1.05	0.94	1.05
15 Purdue Discovery District	0.01	0.99	1.84	0.63	0.73	0.99	1.14	0.63	1.03
Average for 36 Districts		0.93	2.01	1.21	1.17	0.98	1.06	1.34	1.00



WHY SOME DISTRICTS OUTPERFORM FOR HOUSING & NEIGHBORHOOD STABILITY

- Innovation district **age & size**: Mixed effects
- **Growth, education levels, creative sector jobs**: Demand is inducing supply
- Strength of **Eds & Meds institutions**: Faster rent growth but not supply growth
- Metro-area **housing** policy
- District **location**: Mixed effects of being downtown



INNOVATION DISTRICT OFFICE & LAB REAL ESTATE

- Strong demand & premium rents
- CBRE data on dedicated life science real estate:
current lull after historic boom
- BUT big differences across metros:
 - Low vacancy/strong demand: **Philadelphia, Ral-Dur, Atlanta, Nashville, Dallas**
 - Higher vacancy/weaker demand: **NYC, Chicago, San Francisco, LA, San Diego**
 - Healthy demand but too much new supply: **Cambridge/Boston**



ACCELERATING INNOVATION?

- Too early to say & very hard to measure
- BUT:
 - Probably yes, in view of great placemaking success
 - Innovation district presence is influencing student choices (e.g. Wake Forest computer science)
 - District presence is influencing business location choices (e.g. biotech firms at Pegasus)
 - Probably more startups, in view of sky-high lab rents & home prices in coastal metros



INNOVATION DISTRICTS: PART OF THE ANSWER

- Expanding talent development pipelines
- Promoting innovation & entrepreneurship
- Building great urban places



Creating a brighter future.



And that's where you come in.

THANK YOU!

