

REGIONAL ECONOMIC DATA

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NCSES & CNSTAT: Innovation Indicators Workshop

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How Are Places Transformed?





San Francisco
Daly City

Silicon Valley

Oakland

Concord
Walnut Creek
Brentwood

Pacifica

San Mateo

Redwood City

Fremont

Half Moon Bay

Menlo Park
Palo Alto

Milpitas

San Gregorio St. Beach

Pescadero St. Beach

Pescadero

Butano S.P.

Pt. Año Nuevo
Año Nuevo St. Res.

Sunnyvale

Santa Clara
Saratoga

Campbell

Los Gatos

San Jose

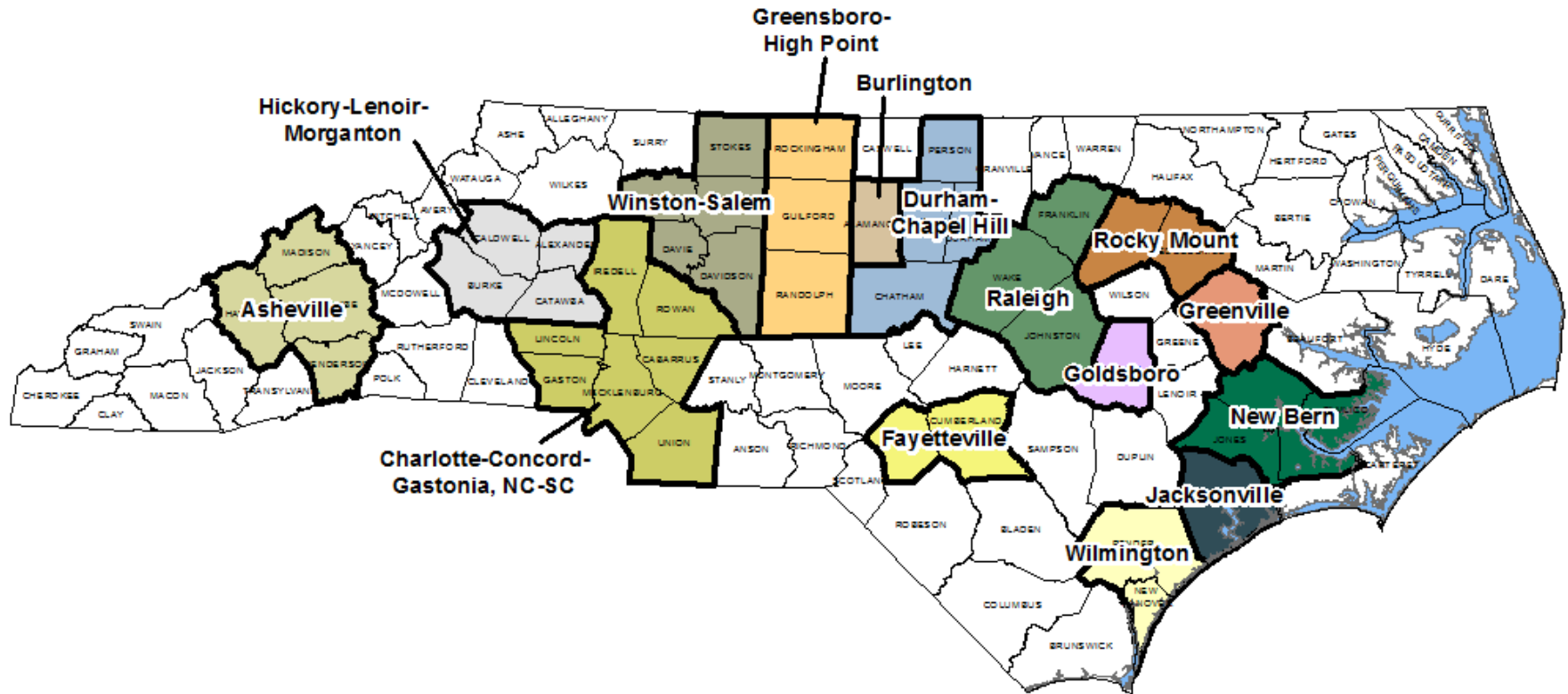
SANTA CLARA

Morgan Hill

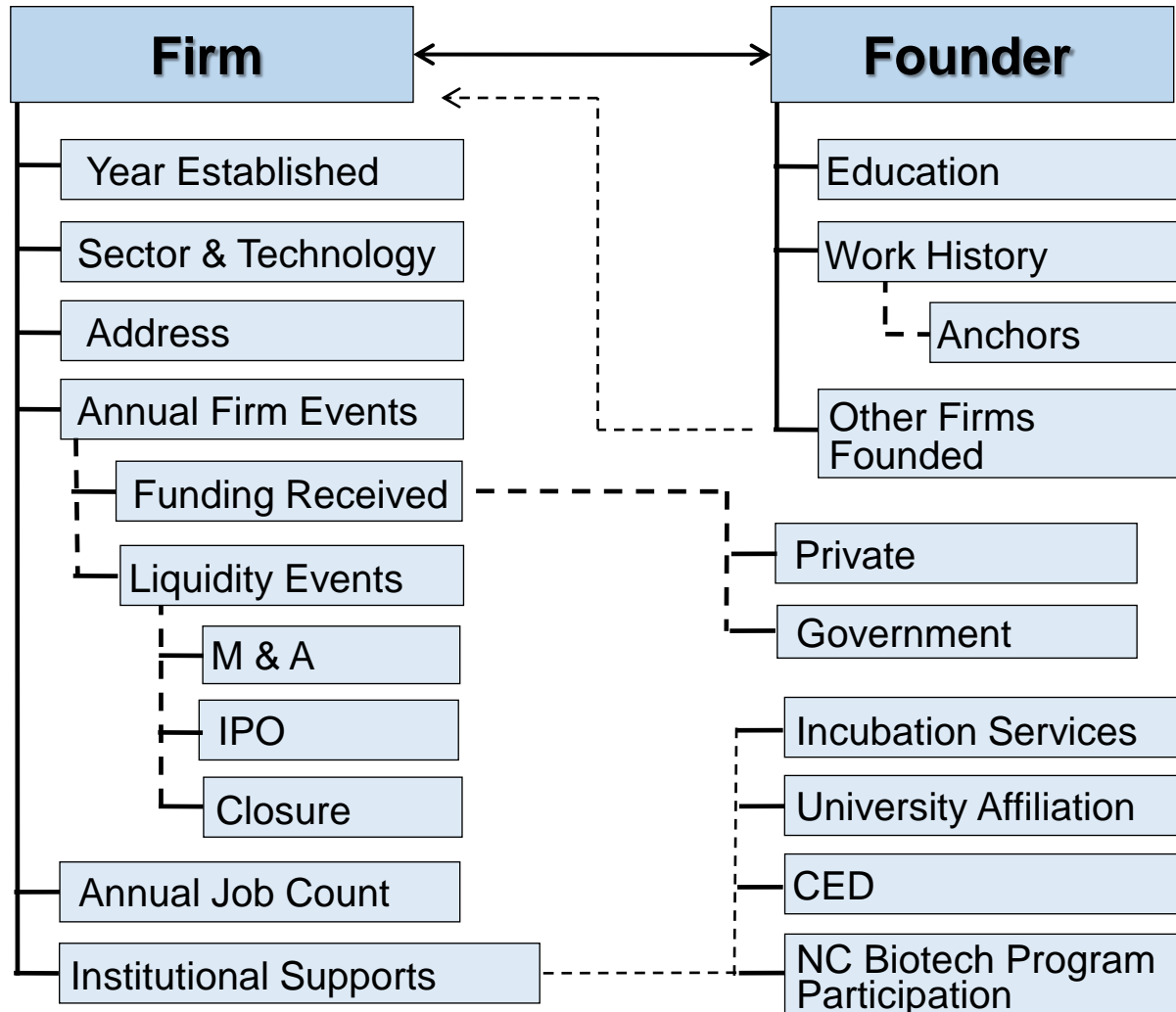


North Carolina

Metropolitan Statistical Areas: 2013

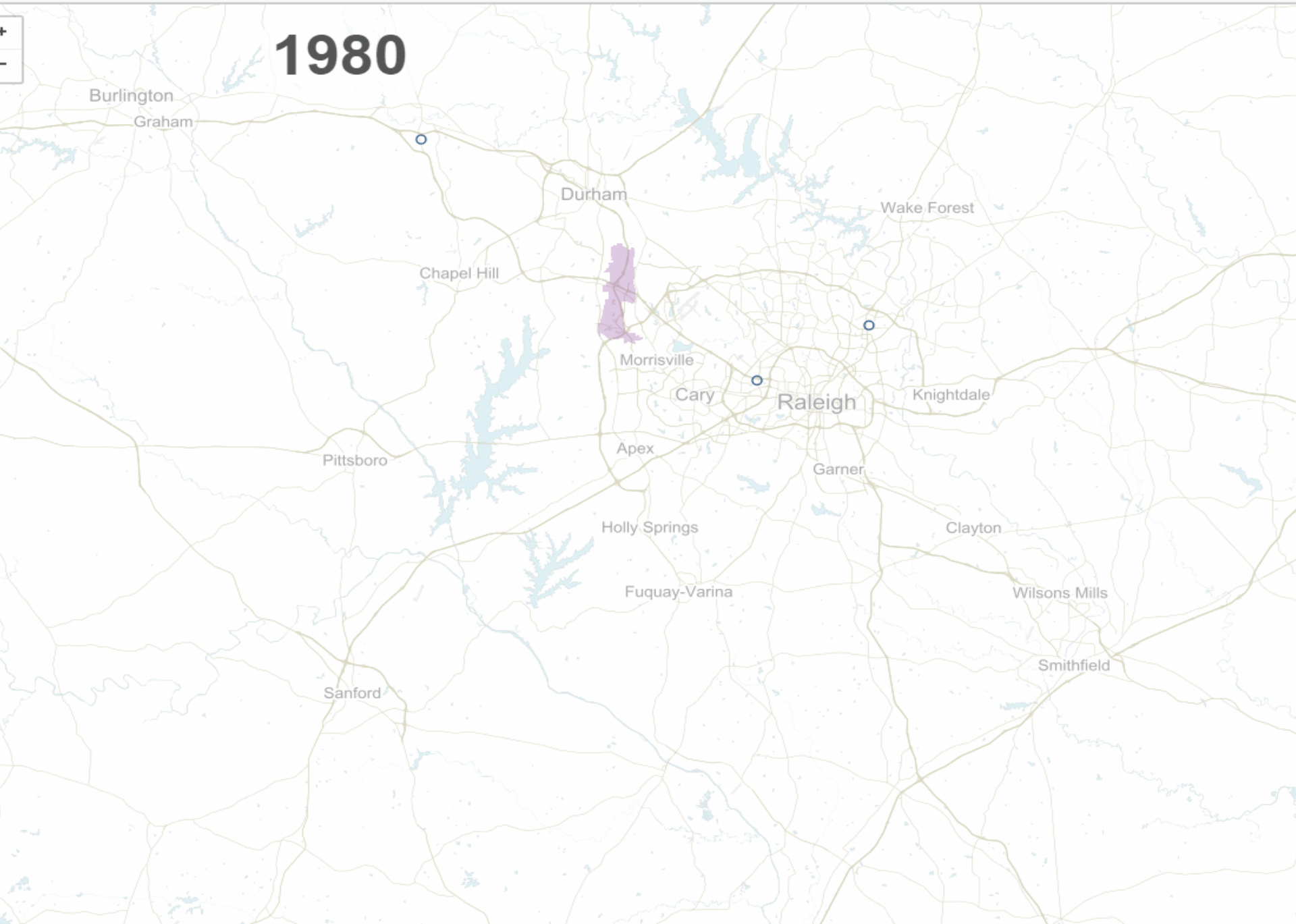


Firm Forensics: > 20 Sources

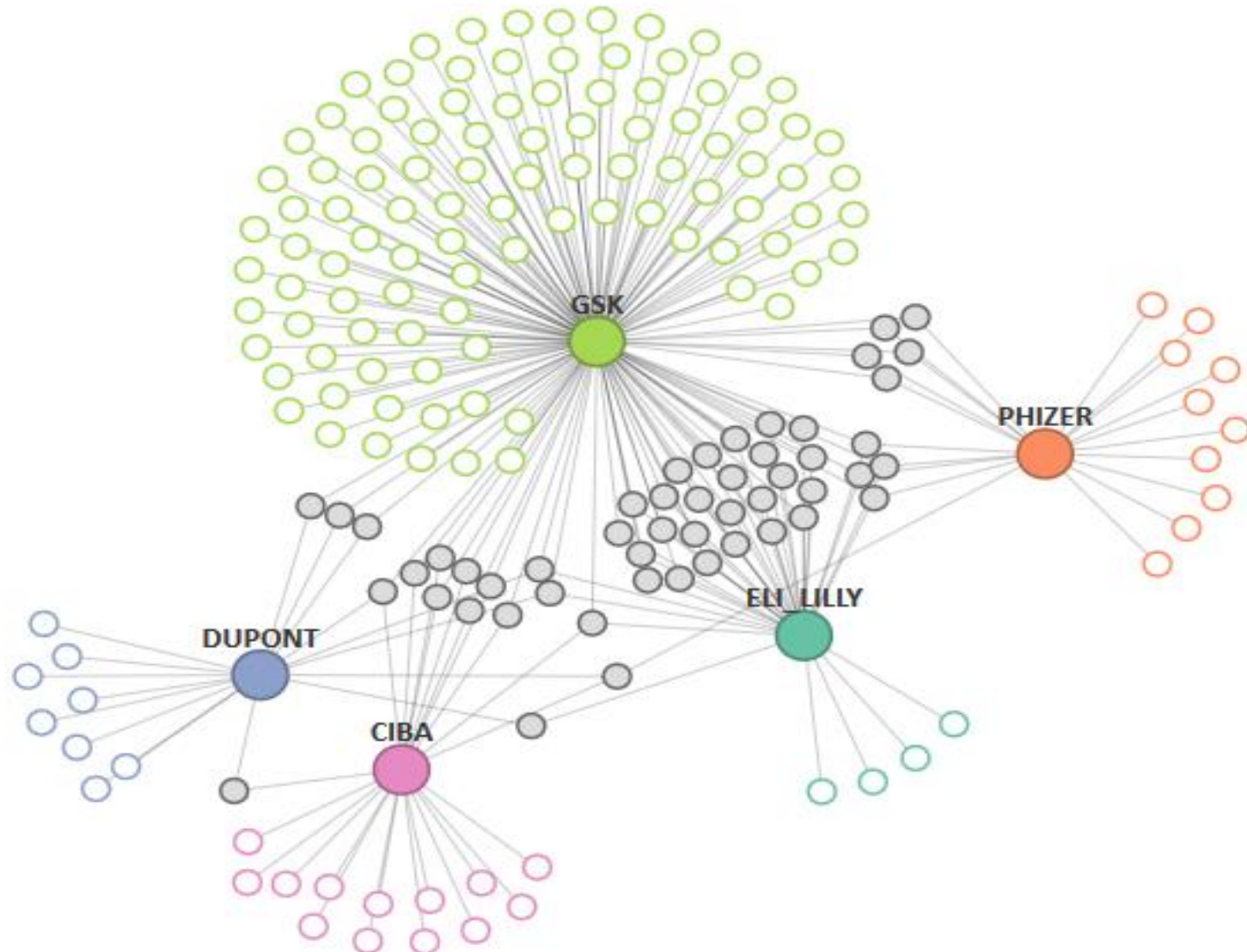


Triangulate Data Sources

- When Does a Firm Begin?
- Firm Growth
 - Annual Employment Numbers
 - Annual Sales, Revenue
- Innovative Activity
 - Patents
 - FDA trials
 - New Product Announcements
- Events
 - Funding Raised (public & private)
 - Patents
 - M&A, IPO
 - Participation in incubators, support organization programs

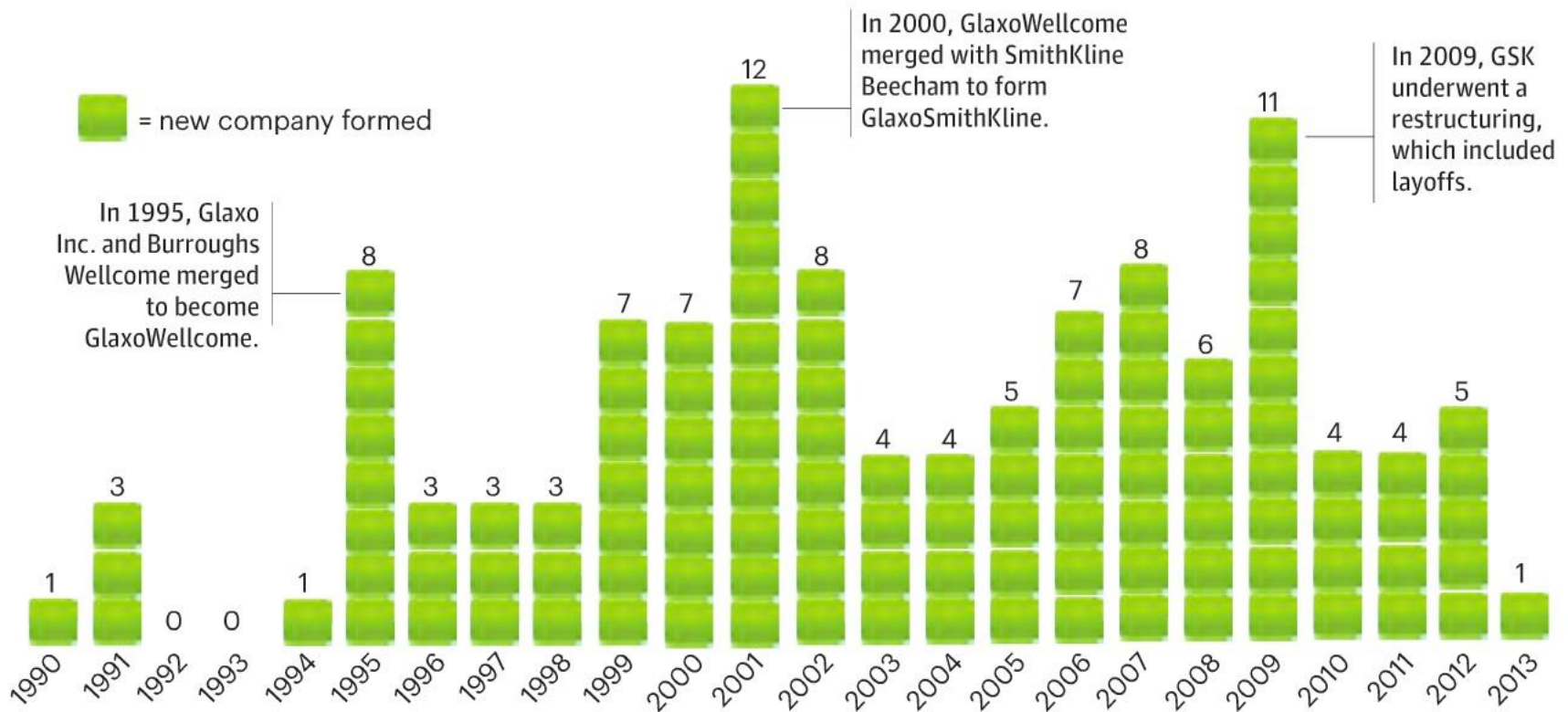


Bioscience Corporate Spawns



YEAR-BY-YEAR BREAKDOWN OF COMPANIES OUT OF GSK

The chart below shows how many companies were launched per year from 1990 to 2013, by scientists and executives who left GlaxoSmithKline in the Research Triangle area.



Data by Feldman & Lowe. Image: Jason deBruyn (September 4, 2015). "GSK's Triangle genealogy". *Triangle Business Journal*, volume 3 (1)

Entrepreneurial Ecosystems

- “a set of interconnected entrepreneurial actors, institutions, entrepreneurial organizations and entrepreneurial processes which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment” (Mason & Brown, OECD Report, 2014)
- It's time to operationalize institutions!

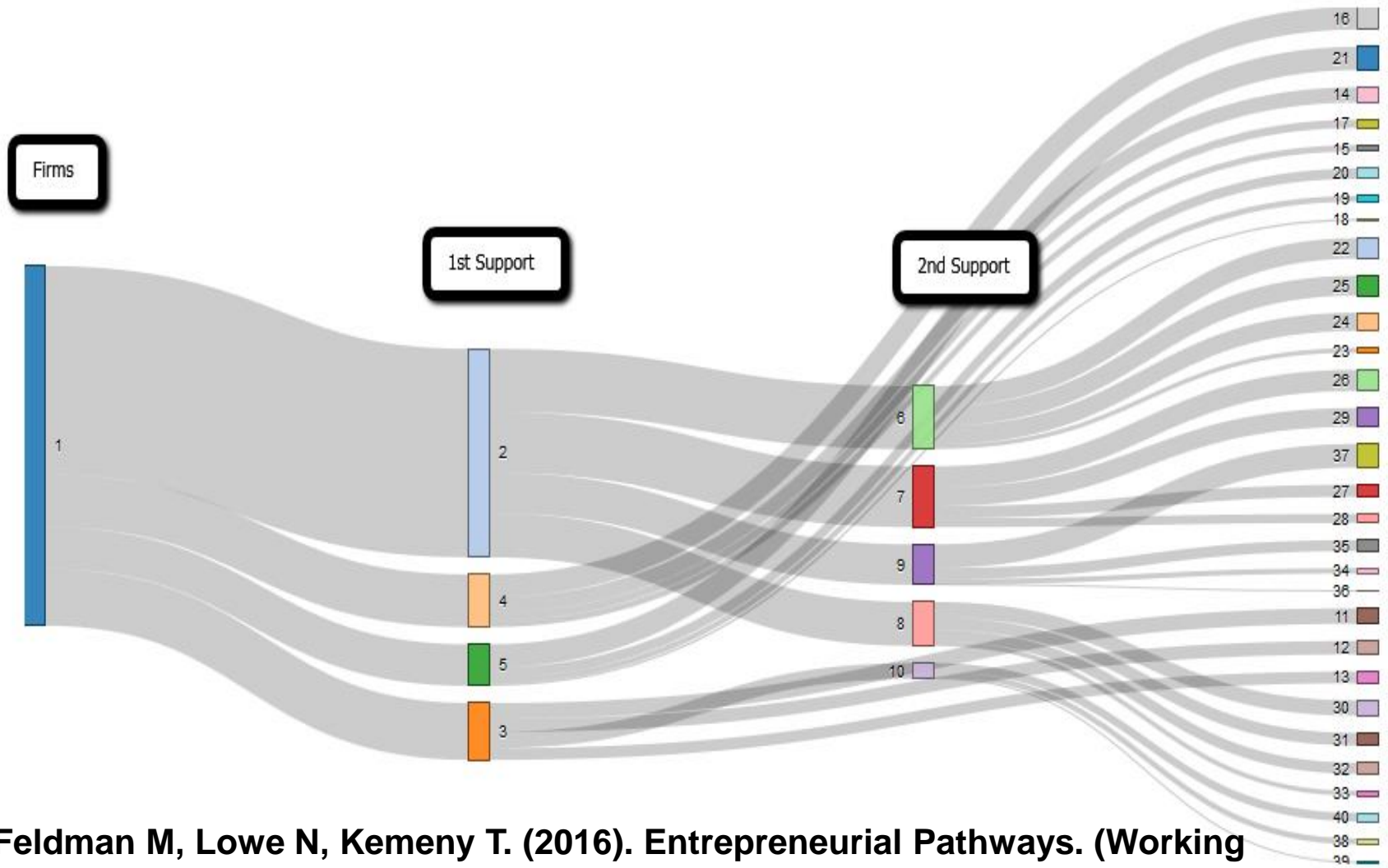
NC Biotech Center Initiatives

Goal	Target Orgs	Programs	Year Started
Interdisciplinary collaboration	Universities & firms	<i>Various</i> : bioelectronics, bioprocess engineering, marine biotech, plant molecular biology.....	1985
Research support	Universities & start-up firms	Competitive Small Grants Economic Development Grants Institutional Development grants Historically Minority University Biotech Program	1985 1988 1988 1994
Talent recruitment	Universities & start-up firms	Visiting Industrial Scientists Preeminent Scholars	1985 1987
Public technology awareness	High schools/ news outlets	Media and PR (expert writers) Education and public affairs	1985 1987
Workforce dev./ Vocational training	HS & comm. colleges	Education and public affairs Educational Enhancement grants	1987 1991
Technology transfer	Universities	<i>Various initiatives</i>	1988
Entrepreneurship/ commercialization	Start-up firms	Small Business Innovation & Research Match Commercialization support Patent Funding Assistance	1992 1992 1994

Institutional Support Breakdown

	CED Venture	CED Fasttrac	NC Biotech Loans	NC Biotech Grants	SBIR	SBIR state match	STTR	STTR state match
OTD License	33%	13%	28%	8%	51%	21%	15%	7%
Academic Other	18%	8%	16%	4%	25%	6%	4%	0%
Corporate Spawn	16%	8%	10%	2%	10%	0%	3%	0%

Entrepreneurial Pathways



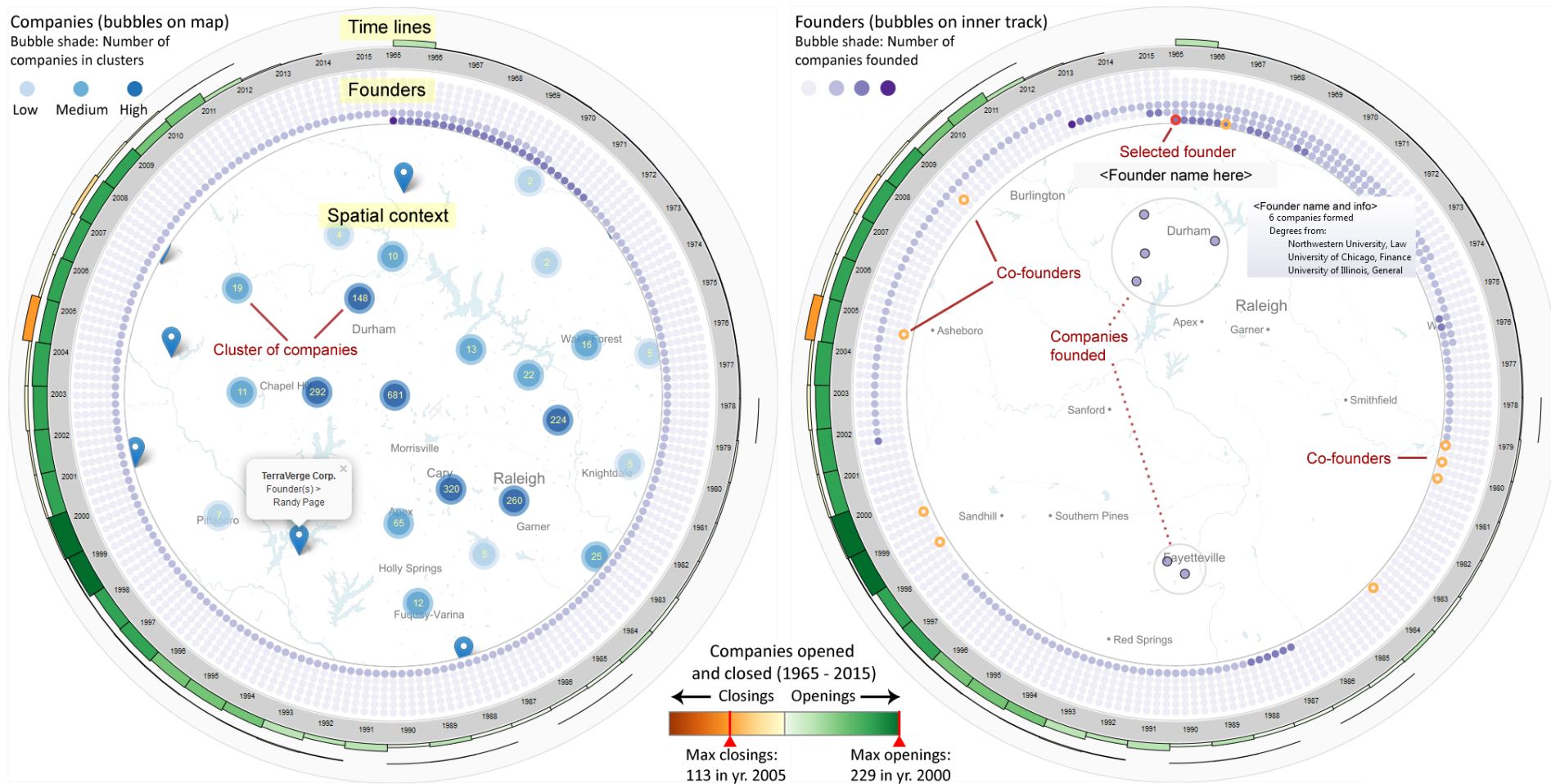
Feldman M, Lowe N, Kemeny T. (2016). Entrepreneurial Pathways. (Working Paper).

Image: Sid Thakur, RENCI

Conclusions

- Current regional data are not adequate
 - Not enough granularity
 - Publishing delays limit usefulness
 - Limited Data on Outcomes
- New age of cyber-enabled regional research
 - Amazing what you can find on the web!
 - Matching records
 - New visualization techniques
- State & local administrative records
 - Significant R&D & programmatic expenditure
 - Limited availability of records

Time, People, Geography



Feldman M, Lowe N, Kemeny T. (2016). Entrepreneurial Pathways. (Working Paper).

Image: Sid Thakur, RENCI