

CATALYST 30



2040 x 2030

By 2030, Memphis can achieve 2040 results by accelerating advancements in Internet and digital infrastructure, data and technology solutions, startup and capital activity, and talent density.

THE VISION

Memphis will build a city of tomorrow that levels the playing field for startup, corporate, and civic talent to build innovation-based solutions for the betterment of residents, neighborhoods, and institutions.

current Economy

- ❑ Heavily reliant upon tax incentive (i.e. PILOT) programs
- ❑ Over utilization of tax credits for big business
- ❑ Traditional workforce development programs
- ❑ Slow to adopt support for entrepreneurship and small businesses
- ❑ Reliance on manufacturing economy

Draft Version

CHALLENGES & OPPORTUNITIES

CHALLENGE: A COMMUNITY OFFLINE

- ❑ In 20 years, the U.S. expanded the # of households with broadband Internet from from 48% to 73%
- ❑ Memphis is currently at 52%
- ❑ Memphis has the slowest Internet of all major U.S. metros

Draft Version

CHALLENGE: SKILLS GAP

- ❑ The U.S. homework gap for teens who don't have Internet access or a computer in the home is 20%
- ❑ For teens in underserved communities, the gap is 45%
- ❑ For teens using cell phones as a substitute, the gap is 33%
- ❑ Memphis bachelor's degree attainment lags the U.S. by 20%; for blacks the lag is 45%

Draft Version

CHALLENGE: career PATHS & JOBS

- ❑ Memphis lags the U.S. in technology deployment by 47%
- ❑ High school degrees and < high school degrees have the highest rate of entrepreneurship
- ❑ Memphis tracks this statistic; entrepreneurship is rooted in necessity
- ❑ In 2018, \$85B in venture capital deployed; less than 1% went to blacks and 2% to women
- ❑ Companies < 5 years old produce 3x more NET NEW jobs than companies > 5 years old
- ❑ Memphis ranks 81 of 100 in advanced industry jobs

Are we an ENVIRONMENT OF CHOICE?

Key drivers for attraction and retention of business and workforce:

- ❑ Digital infrastructure
- ❑ Young creative companies & talent
- ❑ Data & technology solutions
- ❑ Incentives to stimulate them

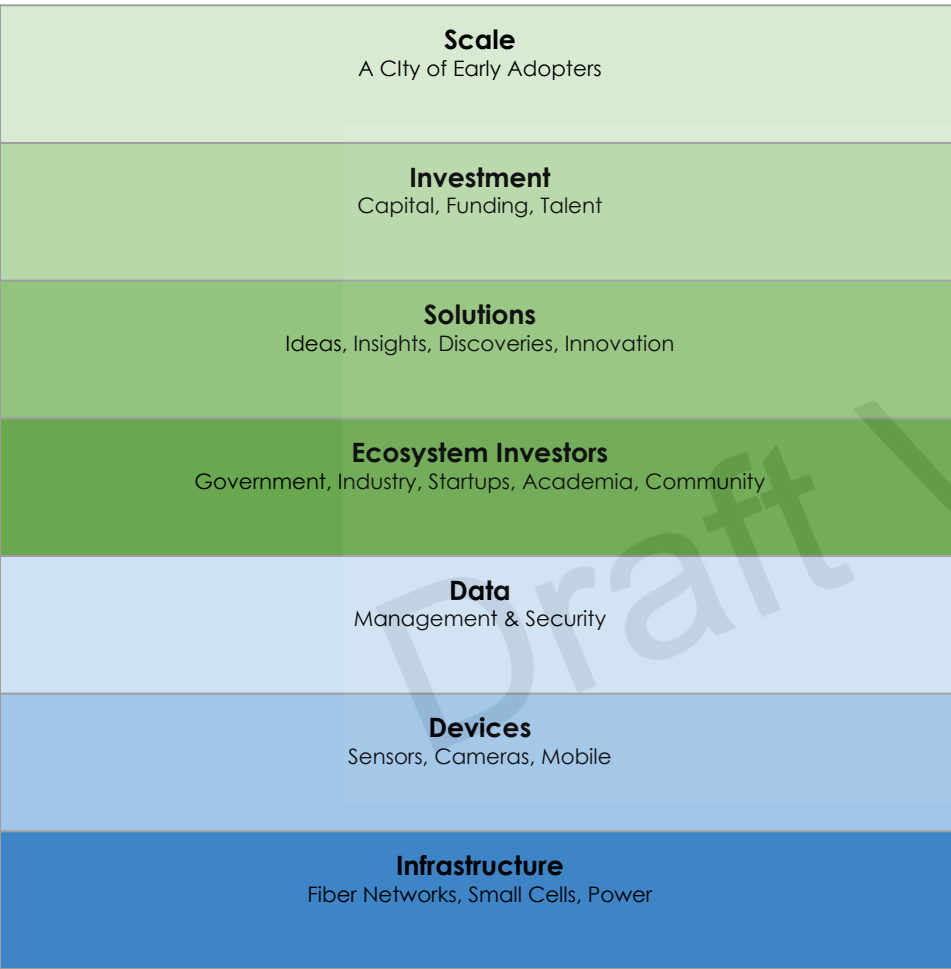


circumstances are aligning

- ❑ Union Row is prioritizing startups, innovation, & entrepreneurship
- ❑ Right in the middle of an Opportunity Zone
- ❑ Public-Private Partners are at the table
- ❑ \$11B more in planned development in Memphis
- ❑ Memphis is a 5G city



THE SMART ENTREPRENEURSHIP ENGINE



An opportunity for Memphis to take a deliberate, inclusive approach to building a smart and connected city. This is human-centered because of being informed and built by community. Success will not come from just installing infrastructure by way of fiber networks, power, and small cells, nor from only adding connected IoT devices, nor collecting and aggregating data or creating software to optimize that data. The technical aspect is simply a beginning.

Catalyst30 calls for a community of ecosystem investors (startups, government, corporations, academia, civic institutions, etc.) to leverage Smart City assets to better create solutions based on their ideas, insights, and discoveries. These solutions will be better able to secure investment to include capital and new talent. This sets the stage to create a city of early adopters who will buy and/or use these solutions to benefit Memphis. The Smart Entrepreneurship Engine is the guiding light for this community.

OPPORTUNITIES we cannot ignore

- ❑ Use of Incentives
- ❑ Smart City
- ❑ Startups
- ❑ The Social Envelope
- ❑ Density is Destiny

Draft Version

PROJECT LEADERSHIP



Union Row



Market Analysis

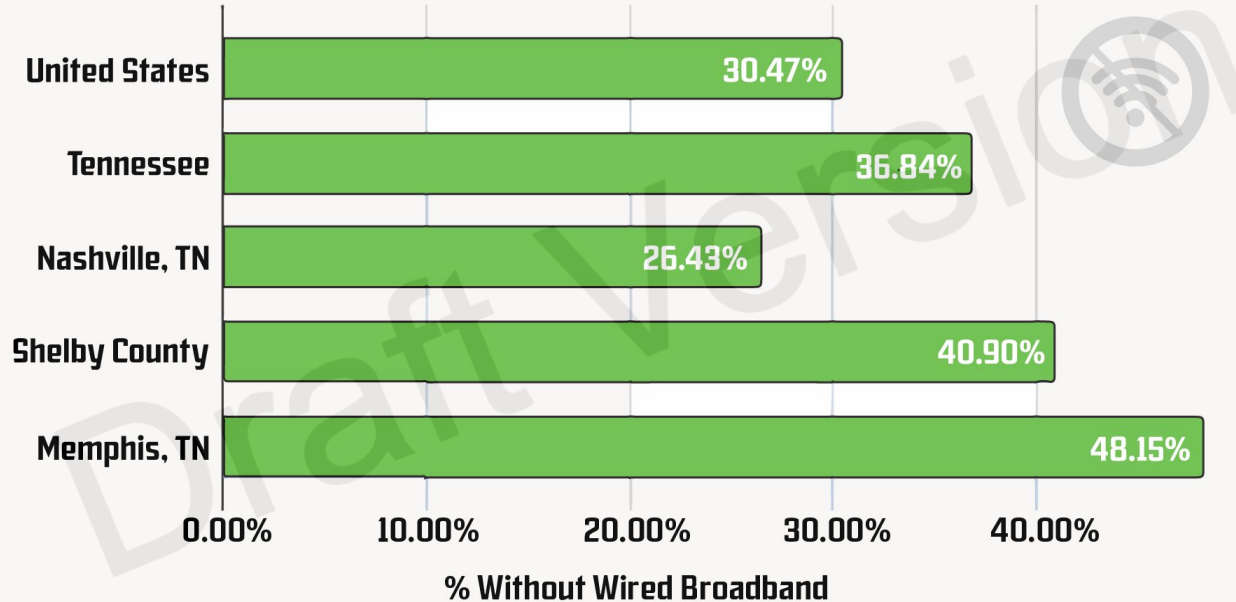
secondary Research

To substantiate hypotheses developed through extensive interviews, Project Leadership reviewed:

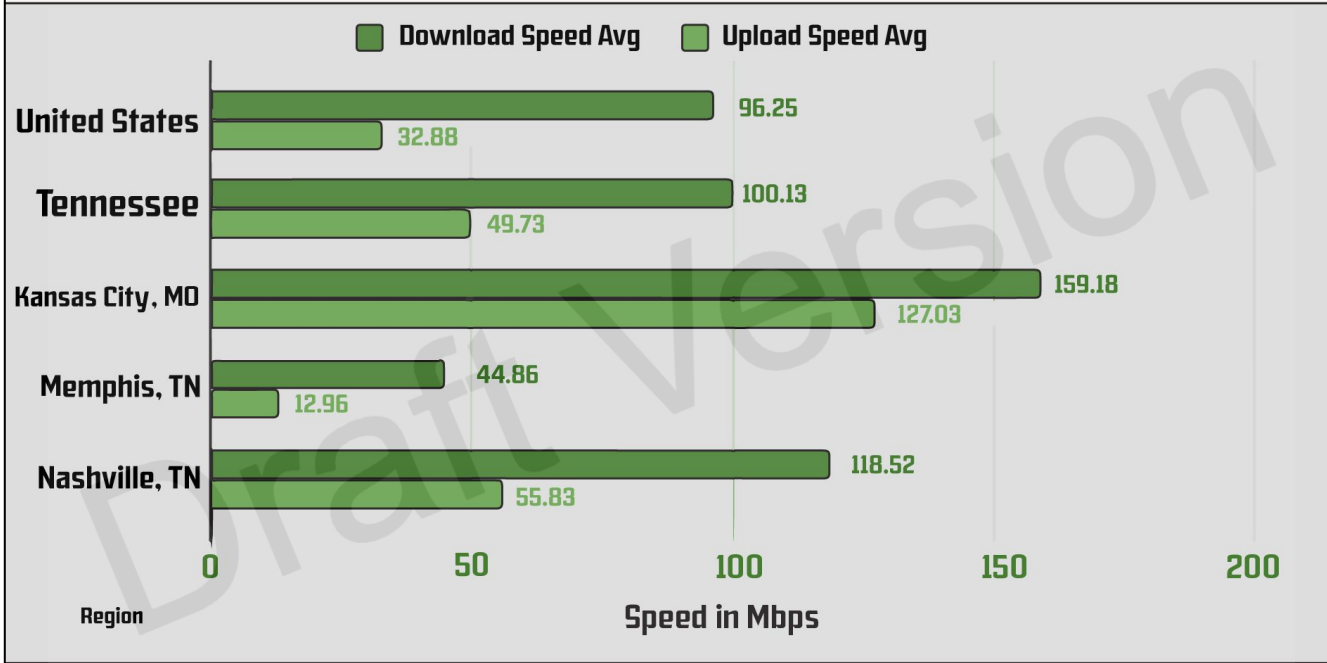
- Regional innovation and economic competitiveness data
- Data on Internet connectivity, speed, demographics (Pew Research)
- Data on regional population, demographics, economics (U.S. Census)
- Labor, workforce and regional cluster analyses
- University R&D, SBIR and STTR data
- Historical data on regional venture capital investment
- Historical deal flow data as reported by the region's service providers

Percent of Households With No Wired Broadband Connection

Households without cable, DSL, or fiber broadband (%)



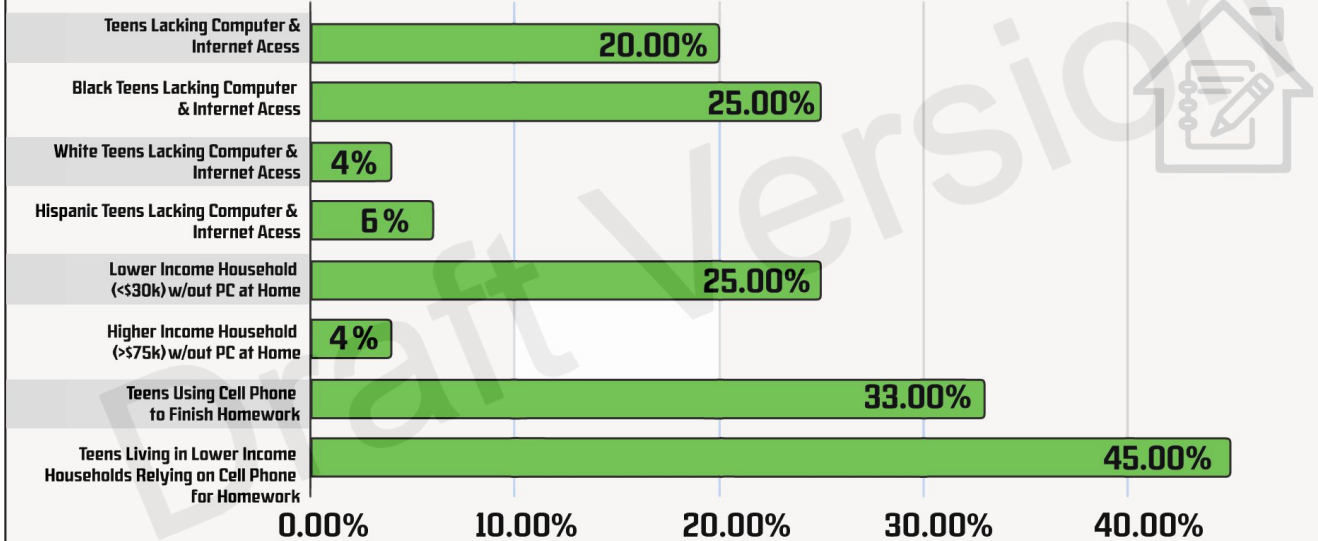
Fixed Broadband Internet Speeds



The Homework Gap

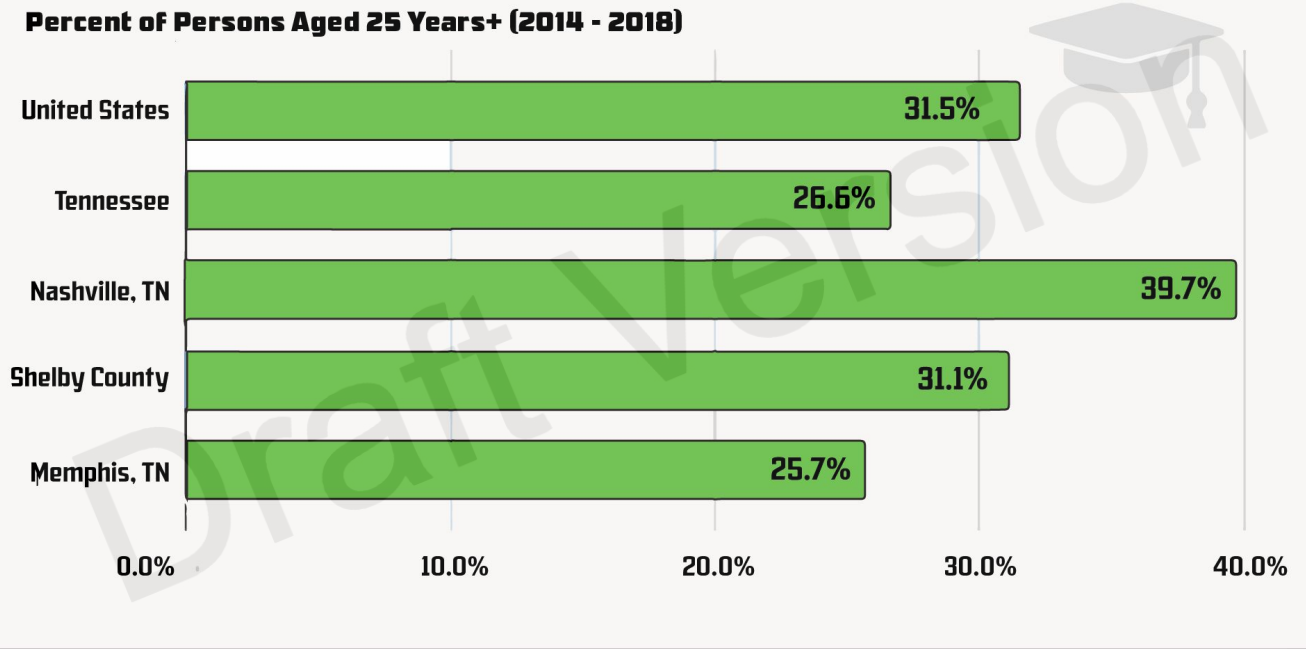
Teens Unable to Complete Homework at Home

(2019)

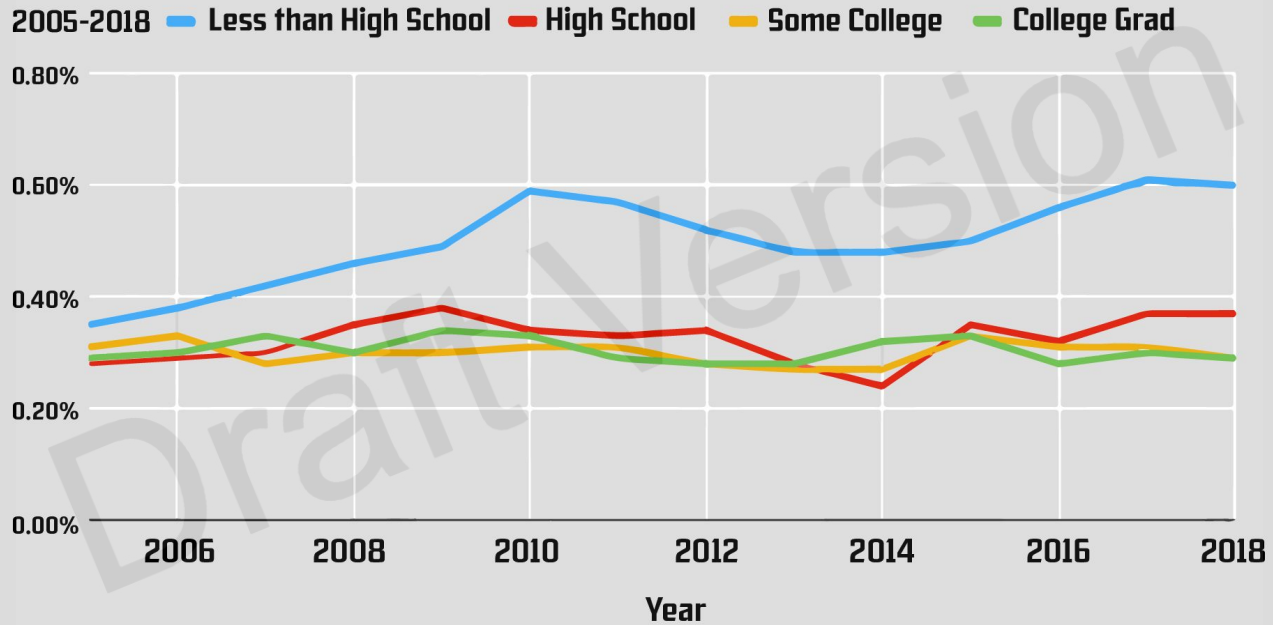


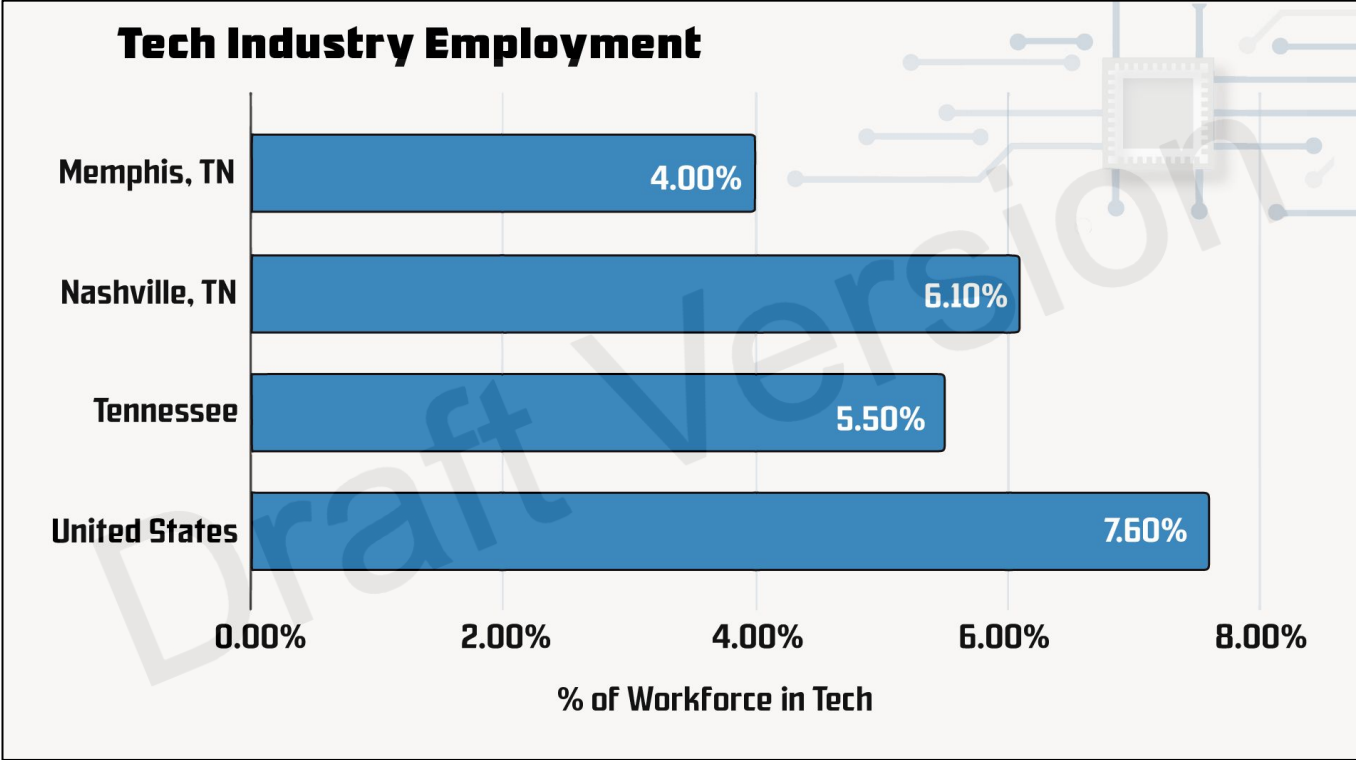
Educational Attainment (Bachelors Degree or Higher)

Percent of Persons Aged 25 Years+ (2014 - 2018)

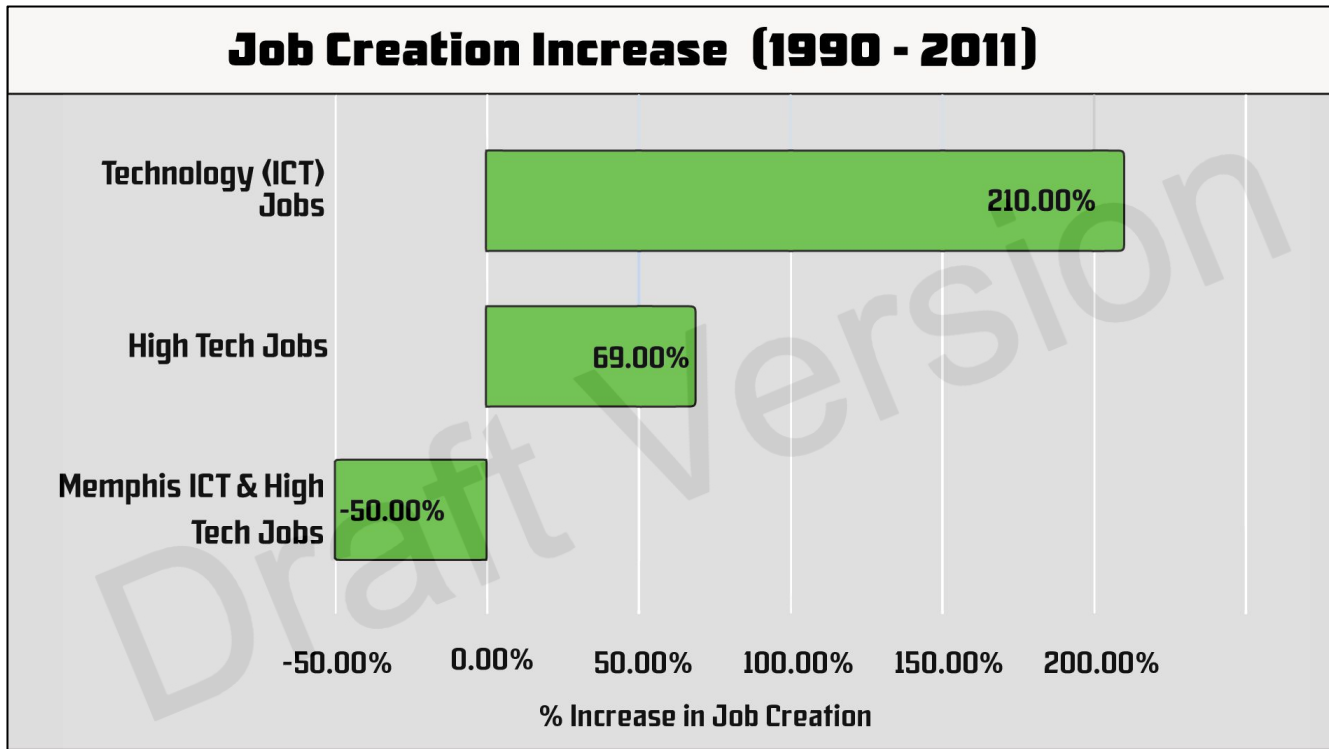


Rate of Entrepreneurship, Education Level

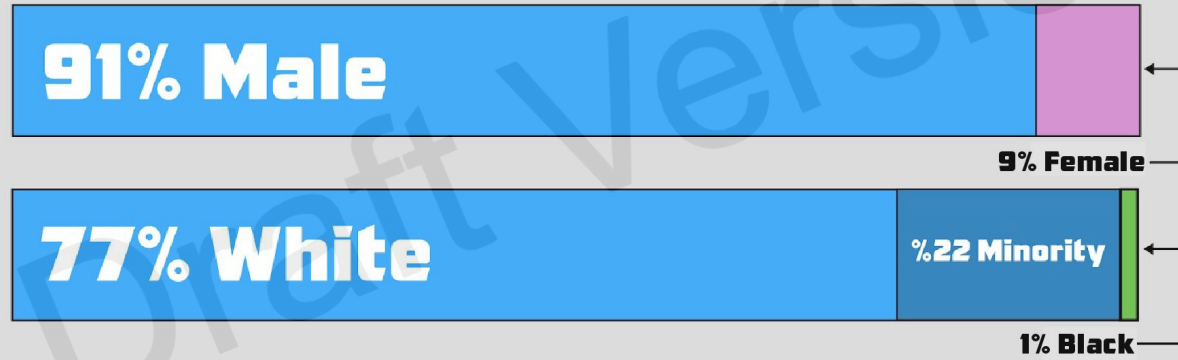




Job Creation Increase (1990 - 2011)



Demographics of VC Backed Startups



Venture Capital Deployed in 2018

\$85B Total Venture Capital

\$1.87B Women Founders

\$0.85B Black Founders

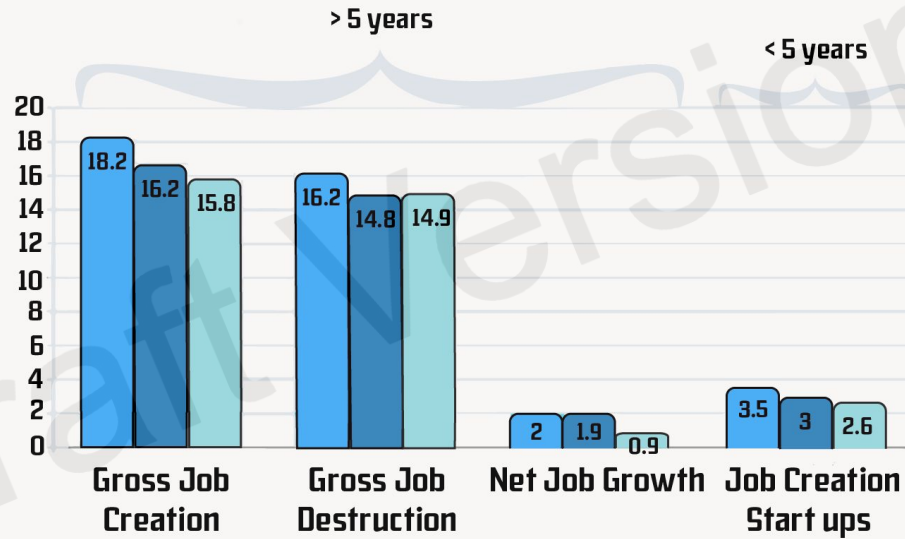


Draft Version

Job Creation + Destruction By Firm Age



- 1980-89
- 1990-99
- 2000-09



Primary Research Objectives

- ❑ Understand existing resources (e.g. infrastructure, expert assistance, capital, specialized equipment/facilities, etc.) to support smart city and entrepreneurship efforts attempting to bring solutions to market
- ❑ Identify and organize current deal flow or potential sources of deal flow by phase of commercialization, technology/market, source, etc.
- ❑ Identify promising data & technology solutions, entrepreneurs, & sources of entrepreneurial thinking/action
- ❑ Identify gaps in assistance, capital, and infrastructure to help promising the innovation community bring their solutions to market
- ❑ Ensure community engagement and involvement for better success

Primary Research: INDIVIDUALS INTERVIEWED

- ❑ Smart infrastructure and technology vendors & participants
- ❑ Governments, corporations, foundations, nonprofits
- ❑ Entrepreneurs, data experts, creative talent
- ❑ Private equity investors & ecosystem funders
- ❑ Providers of expert services and specialized facilities
- ❑ Leaders of SMWBE resource providers
- ❑ University leaders, administrators and faculty
- ❑ Regional policy makers and elected officials
- ❑ Private business leaders
- ❑ Etc.

Primary Research

AgLaunch	City of Memphis Planning & Dev	Grizz Prep, Grizz Fit	Junior Achievement	Majestic Grille	Millennium Search	SCORE CDC	Tradelanes
Alabama Power Connected Cities	Civic Commons/Cossitt	Henry Turley Co.	KC Digital	Marketplace City	Montgomery Martin Contractors	ServiceMaster	University of Memphis
Alabama Power Innovation Team	Code Crew	High Cotton Brewery	Knowledge Quest	MediaCityUK, Smart Salford	MRPP Park Rangers	Silly Goose	Urban Community
Archer Malmo	Crenshaw Library	Holiday Event Rentals	Kudzukian	Medical District Collaborative	Office of Business Diversity & Com	Smart Cambridge	Urban Data Project (Telensa)
Autozone	Downtown Memphis Commission	Housing Authority of Central Austin	Lemoyne Owen College	Memphis Airport Authority	Ookla	Smart Docklands	Urban Strategies
Baker Donelson	Edge Alley Coffee	Hu	Leo Events	Memphis Chamber	Orion	South of Beale	Urban Strategies
Catholic Charities	Epicenter	IndigoAg	LITE	Memphis Light Gas & Water	Orion Federal	Streets Ministries	US Ignite
Century House	FedEx Logistics	Innova	Loaded for Bear	Memphis Police Department	Pittco Management	TN Entertainment Commission	Women's Foundation GM
Christian Brothers University	Five One Architecture	Innovate Memphis	Local Smart City Stakeholder Group	Memphis Riverparks Partnership	Puck Food Hall		Wonder/Work/Create
Cisco	FIX	Intelligent Buildings	LRK & Associates	MIFA	Sagestone Partners		

Market Analysis: Observations

- ❑ The state of Memphis digital infrastructure is a major inhibitor to education, career, and economic development pursuits
- ❑ Most have not quantified the negative impact to understand urgency needed
- ❑ Historically entrepreneurship & the small business agenda has not garnered material support
- ❑ Burgeoning efforts gaining traction; incubation and acceleration activities, and business coach support
- ❑ Few early stage capital or funding sources
- ❑ Promising diversity & inclusion efforts, but not materially supported
- ❑ Density of young companies is extremely low
- ❑ The desire for data and technology solution is there; a path to get there is lacking
- ❑ Deployments of technology resources haphazard and superficial

Recommendations

Recommendations in 4 Areas

Digital City

Build solid “smart city” infrastructure - reliable fiber network, data collection/management, devices & connected technology - to enable insights & solutions

Digital Inclusion

Close the digital divide, increase digital literacy & education, envelop youth & families with skill, support and a better environment for success

Tech & Entrepreneurship

Create jobs & upskill talent for the jobs of tomorrow by investing & supporting innovation for startups, small businesses, corporations & governments

Urban Campus of Innovation

Invite community-wide problem solving by providing access to data, tech-enabled facilities, business/technical assistance under one roof to create density

Recommendation: DIGITAL CITY

Build the 1st Digital City in Memphis

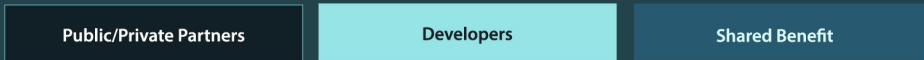
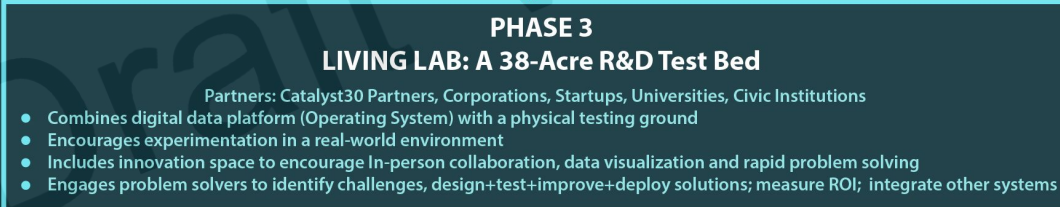
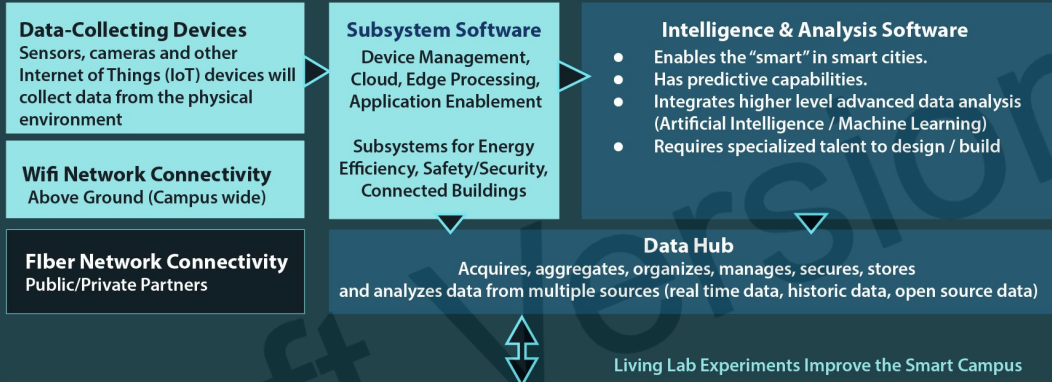
1. Union Row is investing to make this a reality
2. Sensor Network
3. Advanced Operating System
4. Living Laboratory

Result: 38-acre, digitally-connected neighborhood

- ❑ A testbed of residential living, hotels, retail/F&B, office, parking
- ❑ Invite the exceptional to leverage for solving problems
- ❑ Startups, corporations, universities, creative talent

Partners: Union Row, Start Co., Downtown Memphis Commission, Intelligent Buildings, MLGW, City of Memphis, University of Memphis

DIGITAL CITY: A Central Nervous System



Recommendation: TECH & ENTREPRENEURSHIP

Bring Additional Capital to Match Other Efforts

1. Launch \$15M Opportunity Zone Venture Fund
Support 20-25 deals raising \$1-2M each
2. Invest \$5.25M as Early Stage Support
Support 100 startups raising \$50-500K
3. Capital & Technical Assistance to Match

Partners: Start Co., Union Row, Epicenter, Innova Fund,
AgLaunch, ServiceMaster

Recommendation: Urban Campus

Build an Urban Campus of Innovation

1. Union Row is dedicating 117k sq.-ft innovation building
2. Subsidize rent so young companies can afford it
3. Startups, entrepreneurship organizations, labs, anchor tenants
4. Innovation conference center

Dedicated Programming & Engagement Activities on the Campus

Partners: Start Co., Union Row, University of Memphis, Epicenter, Downtown Memphis Commission, AgLaunch, CodeCrew

Recommendation: DIGITAL INCLUSION

South City Becomes a Digital Neighborhood

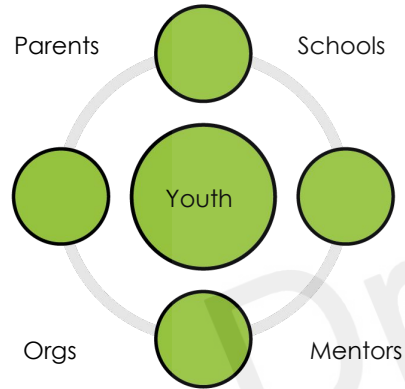
1. Internet & Computer Access & Literacy
2. Digital Skills
3. Environments Conducive to the Digital Agenda
4. 5k sq.-ft youth technology lab

Start with The Foote Homes

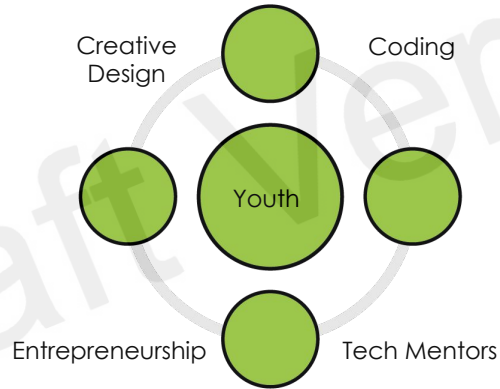
Partners: Start Co., Code Crew, Knowledge Quest, Urban Strategies
Women's Foundation of Greater Memphis, University of Memphis

THE SOCIAL ENVELOPE

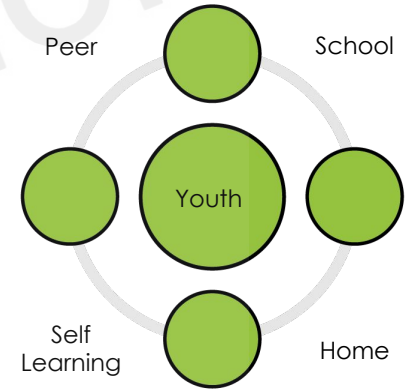
People & Organizations Creating the Village of Support



Skills Needed to Maximize Technology Use



Environments Conducive to Adoption & Learning



WHAT IS THE STORY YOU WANT TO BE TOLD ABOUT MEMPHIS

Inviting the Exceptional

- ❑ Create a new brand
- ❑ Immediately become a city sought out for innovation
- ❑ Magnet for talent, capital, corporations, etc.
- ❑ Cannot shy away from thinking big
- ❑ Must start winning again

THreats

- ❑ GDP
- ❑ Incumbents
- ❑ Prescriptive Spending
- ❑ Capital
- ❑ Aversion to Risk & New Ideas
- ❑ Scaling Technical Assistance
- ❑ Talent
- ❑ Recession Lag

Draft Version

MARKETING

There will be deliberate marketing functions towards identified customer segments; a formal marketing plan will be developed based on the below recommended strategies

- Partner Marketing Engagement & Alignment
- Direct Sales
- Train the Trainer
- Digital & Social Media

- Content Creation
- Center of Influence Development
- Events
- Community Engagement & Data Plan

BUDGET

	2020	2021	2022	2023	2024	2025	2026	2027	Total
Digital City	\$1,230,000	\$1,840,000	\$2,140,000	\$1,065,000	\$400,000	\$400,000	\$400,000	\$400,000	\$7,875,000
Tech & Entrepreneurship		\$5,750,000	\$5,460,000	\$5,460,000	\$5,460,000	\$1,610,000	\$1,610,000	\$1,610,000	\$26,960,000
Urban Campus		\$275,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$8,675,000
Digital Inclusion	\$72,500	\$1,388,800	\$1,347,600	\$1,506,400	\$877,800	\$877,800	\$877,800		\$6,948,700
Total	\$1,302,500	\$9,253,800	\$10,347,600	\$9,431,400	\$8,137,800	\$4,287,800	\$4,287,800	\$3,410,000	\$50,458,700

Measurement

2020 is a building phase. A formal metrics strategy will be formed as partners, needs, and goals are added. The following ensures that information collection will be put in place.

- ❑ **Collection:** Data will be collected through a variety of strategies. Data collection will include, but not limited to individual interviews, surveys, sampling methods, community engagement groups, partner reporting, and direct observation. Both quantitative and qualitative data will be used to measure the impact of this work in the community. Clients and community partners will be required to evaluate service providers.
- ❑ **Sharing:** In addition to using data to impact interventions, data will be used to celebrate the successes and share the challenges. The intention is to share credit for the success of the work with partners, especially those who have taken financial, political, or reputational risk. Data and metrics will be included into the marketing plan for effective dissemination of information.

outcomes

By 2022

- ❑ The Digital City will be built
- ❑ \$50M of venture capital will invest in Memphis
- ❑ 1,000 underserved households will have Internet access, skills, labs, and a community of supportive resources
- ❑ 117,00 sq.-ft innovation facility built and fully occupied

Summary of Forecasted Outcomes → 2027

- ❑ 2,500 new jobs created
- ❑ 750 net new knowledge based jobs
- ❑ \$100M of venture capital will invest in Memphis
- ❑ 50% minority and women participation targets will be achieved
- ❑ 100 startups supported and 50 small businesses onsite at Union Row
- ❑ One innovation anchor tenant onsite at Union Row
- ❑ National and International talent, partners, corporations, and institutions will come to Memphis
- ❑ South City will be a leader in digital inclusion as a community solution

THANK YOU BECOME THE CITY OF TOMORROW

Call to action

Unite and work together to leverage Union Row's investment
10+ years in the making

- ❑ October 2018 Inception
- ❑ Conducted 91 interviews
- ❑ Team of 10 people
- ❑ Completed 3-month market analysis
- ❑ Completed 2-month solution design
- ❑ Conducted 78 partner meetings
- ❑ 2,100 hours of primary & secondary research, planning & development
- ❑ 17 partners onboarded and working together