

Positioning Buffalo-Niagara for the Next Economy

Leveraging the \$1 Billion Opportunity





“Buffalo has the workforce, the talent, the resources, and the will to succeed. We believe in Buffalo. And we’ll put our money where our mouth is.

So, today, I say to national and global industries: come to Buffalo. The State of New York is ready to invest \$1 billion in a multi-year package of economic development incentives. That’s a “B” - for \$1 billion and for Buffalo.”

*-Governor Cuomo, State of the State Address
January 4, 2012*



Metropolitan Policy Program

at BROOKINGS

SCHOOL OF ARCHITECTURE AND PLANNING



REGIONAL INSTITUTE
URBAN DESIGN PROJECT



2012

March

April

May

June

July

August

September

Phase I (Brookings + UBRI)

- Data gathering and organization
- Initial market assessment
- Market assessment and strategy development

Phase II

- Refine analysis of investment opportunities
- Develop operational plans for leading opportunities
- Engage market actors and potential investors

2012

March

April

May

June

March 14-15

WNED Address
Buffalo \$1 Billion Planning Meeting
WNYREDC Meeting

April 23

Clean Economy Roundtable
Regional Economics Roundtable
WNYREDC \$1 Billion Working Group

May 23-24

Meeting with Mayor Brown
Innovation and Commercialization Roundtable
Global Trade and Talent Roundtable
Land and Transformative Investments Roundtable

June 1 (Albany)

Briefing to Governor's Office

June 6-7

Fact-finding trip

June 13

WNYREDC &
UB Partners



Principle 1:
Investments should create jobs
in the short-term and position
the region for prosperity in the
long-term

5:1



Principle 2:
Investments should have a
high rate of return



Principle 3:
Investments should build on Buffalo's competitive advantages in the next economy



Principle 4:
Investments should grow jobs
from within and attract new
firms



Principle 5:
Investments should be cross-cutting and mutually reinforcing to have scale and impact

1 2 3

1 To prosper, Buffalo must excel in the Next Economy





Manufacturing Is a Major Source of Innovation

35%

manufacturing
share of engineers

68%

manufacturing
share of R&D

90%

manufacturing
share of patents

Source: EOP "A Framework for Revitalizing American Manufacturing" (2009)

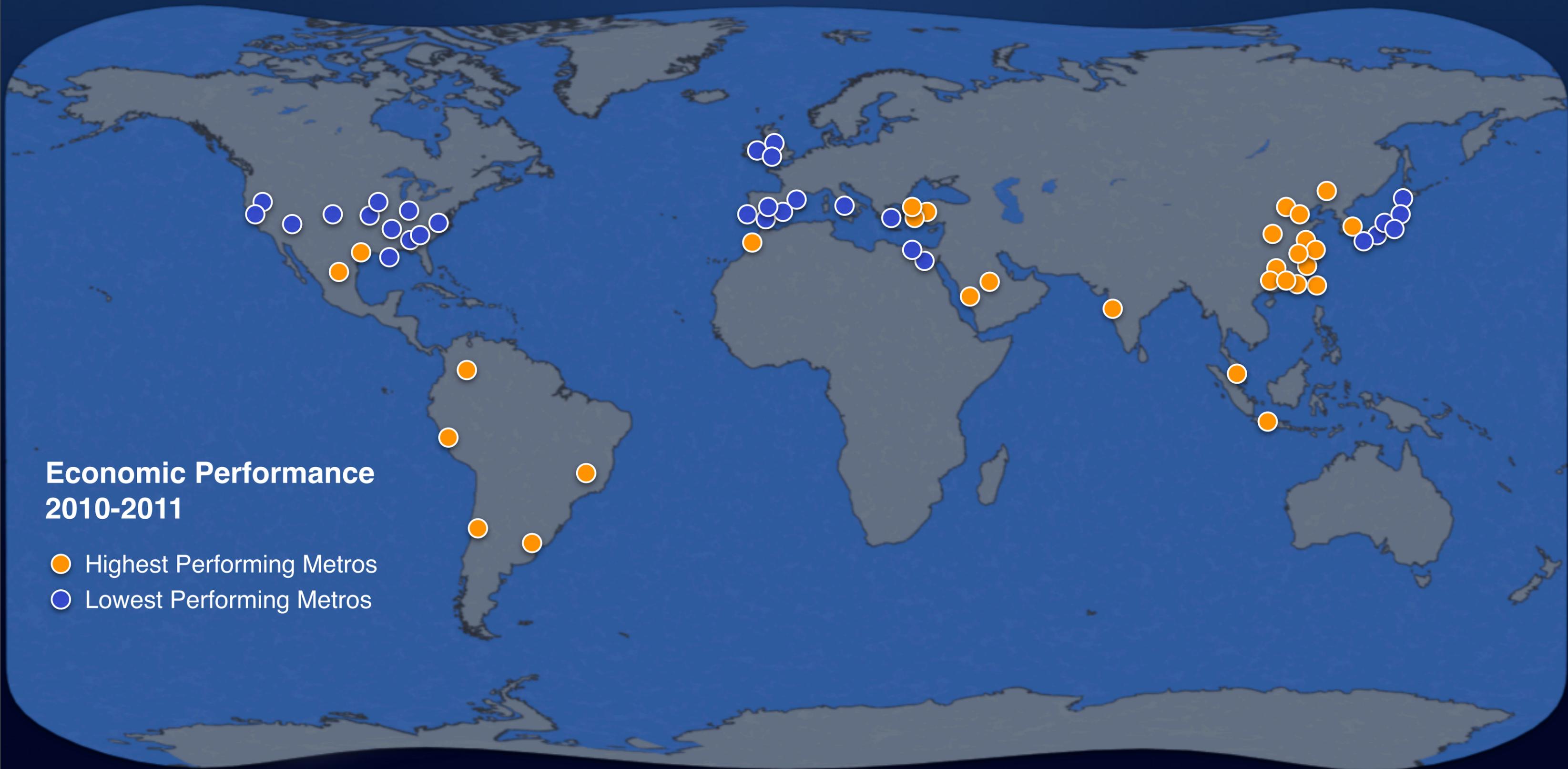
Brookings "Accelerating Advanced Manufacturing with New Research Centers" (2011)

Further, the U.S. Is Experiencing a “Manufacturing Moment” Post-Recession

350,000

manufacturing jobs added in the United States from January 2010 to December 2011





Economic Performance 2010-2011

- Highest Performing Metros
- Lowest Performing Metros

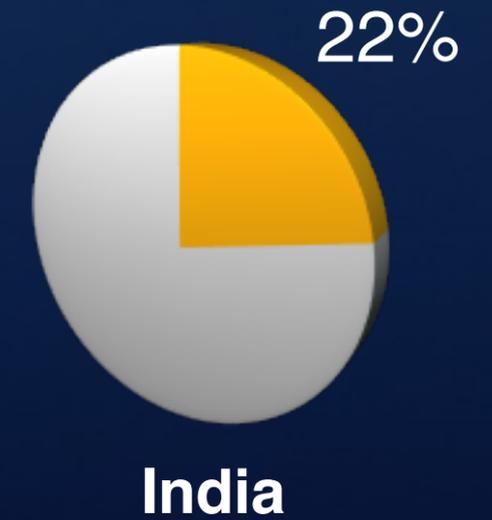
Exports Drove 46 Percent of GDP Growth Between 2010 and 2011

Exports Share of GDP Growth 2010-2011



Exports Drove 46 Percent of GDP Growth Between 2010 and 2011

Exports Share of GDP 2011



Going Global Pays Off for Small and Medium Enterprises

U.S. Firms Revenue Growth

(2005-2009)





The Clean Economy Continues to Attract Private Capital

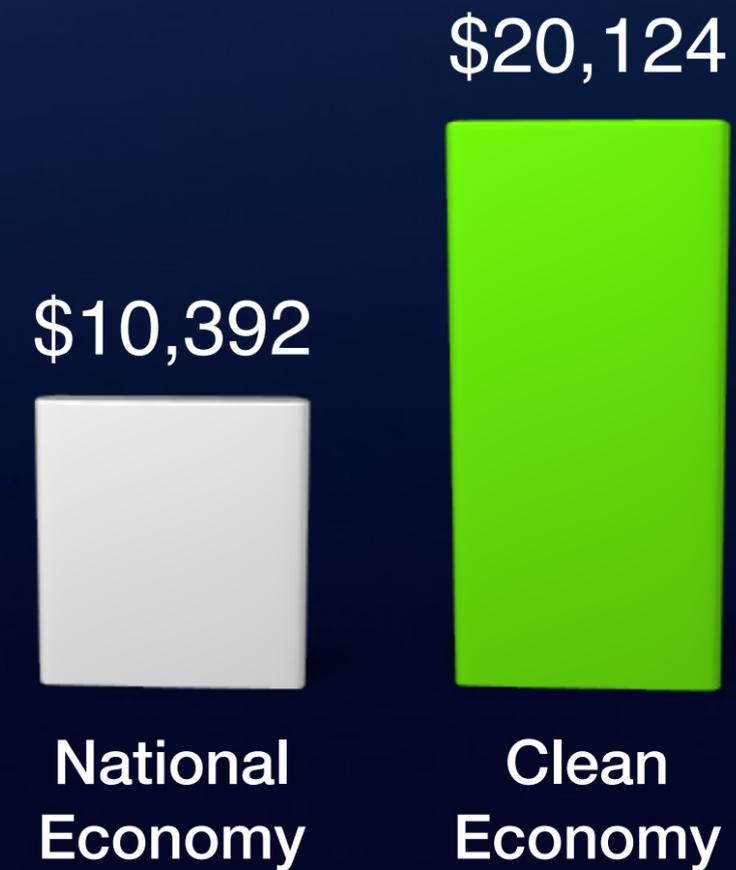


Source: HSBC Global Research, "Sizing the Climate Economy" (September 2010); PricewaterhouseCoopers/NVCA MoneyTree Report, Data: Thomson Reuters

\$53.9 billion
clean economy exports

Export Intensity

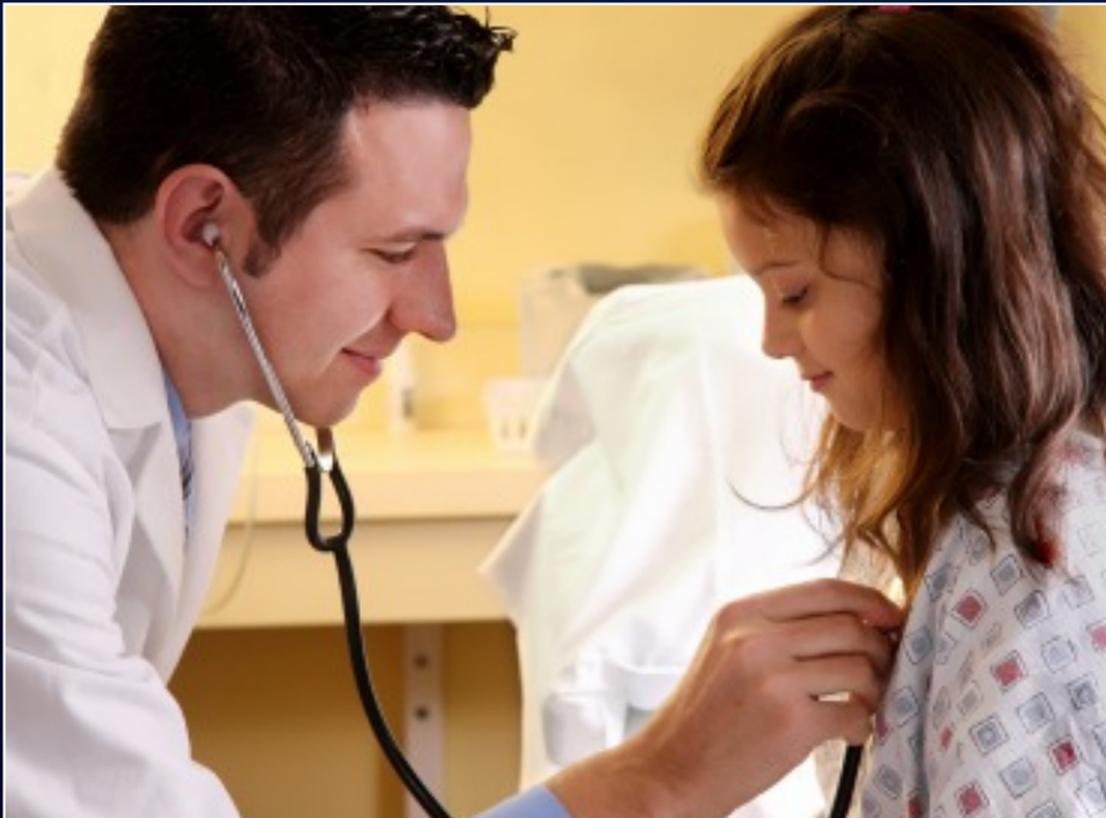
Yearly Export Earnings per Job







11%
wage premium
in **exporting firms**



Greater likelihood
of health and
retirement benefits
in **export-intensive
industries**

1 2 3

2

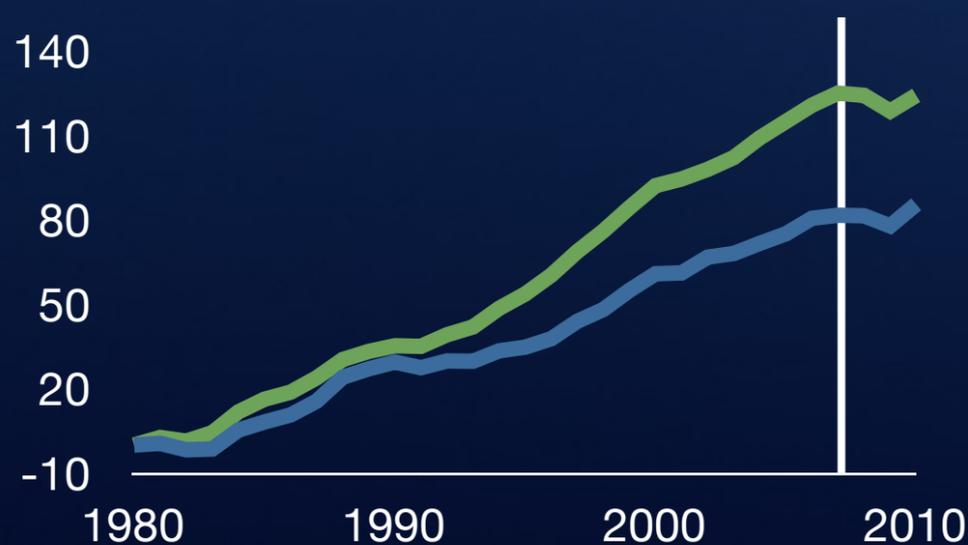
To get to the Next Economy, Buffalo
– and the \$1 billion investment –
must leverage market assets



Buffalo's Overall Economic Performance Has Been Lagging the U.S.

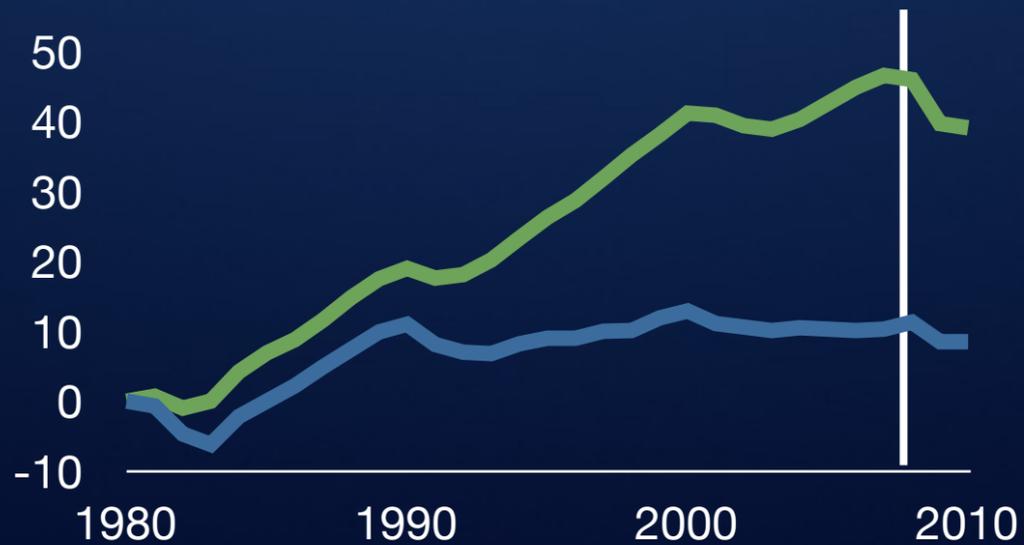
— Buffalo
— U.S.

GMP/GDP, 1980-2010



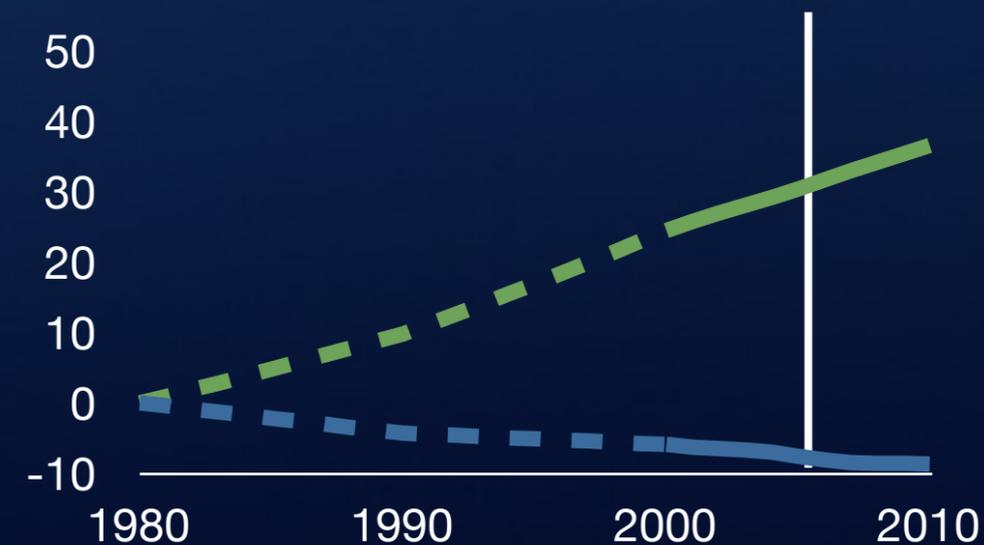
2.6% U.S. Annual Growth
2.0% Buffalo Annual Growth

Employment Change, 1980-2010

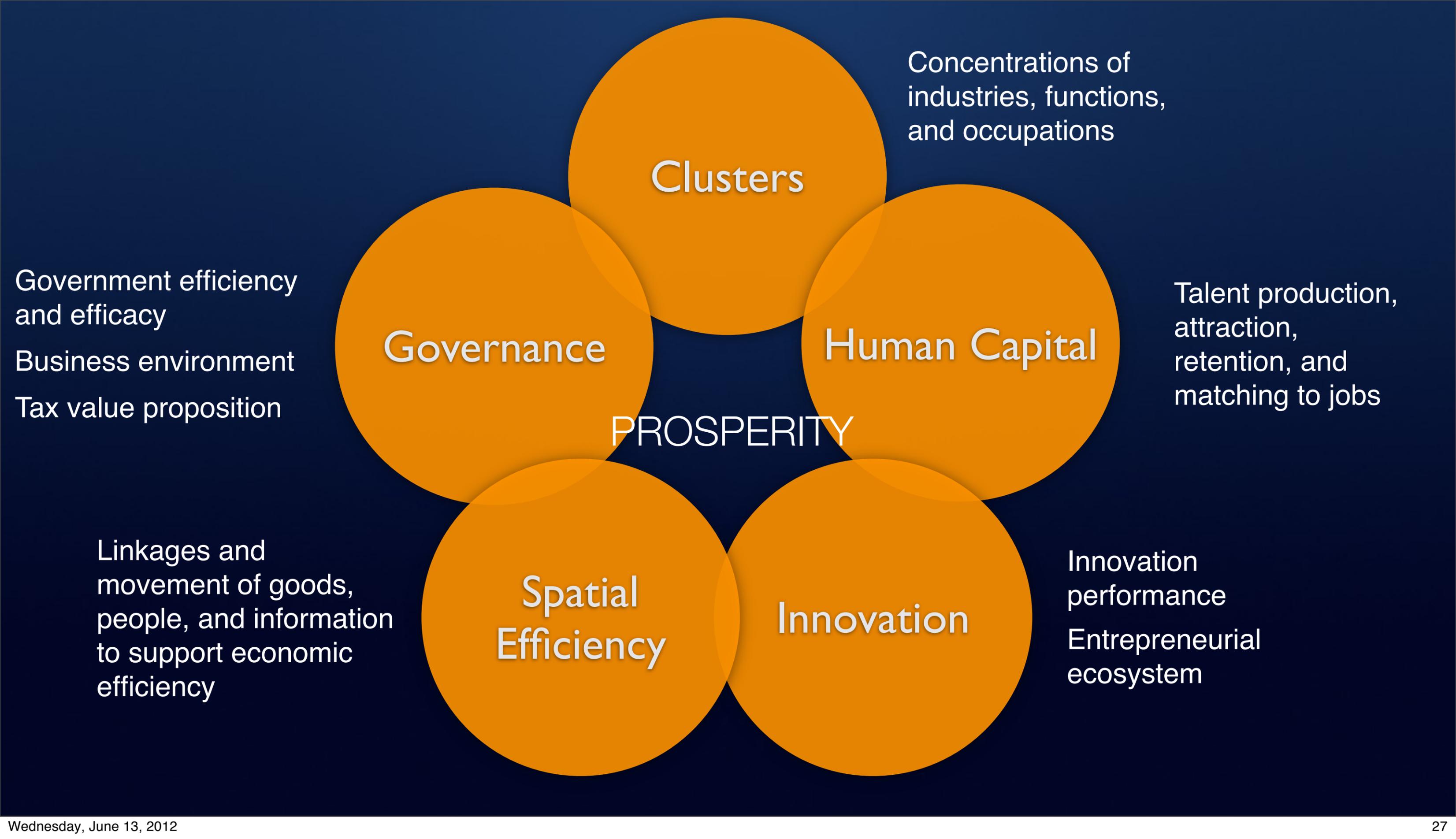


1.1% U.S. Annual Growth
0.3% Buffalo Annual Growth

Population, 1980-2010



1.0% U.S. Annual Growth
-0.3% Buffalo Annual Growth



Concentrations of industries, functions, and occupations

Clusters

Talent production, attraction, retention, and matching to jobs

Human Capital

PROSPERITY

Innovation performance
Entrepreneurial ecosystem

Innovation

Linkages and movement of goods, people, and information to support economic efficiency

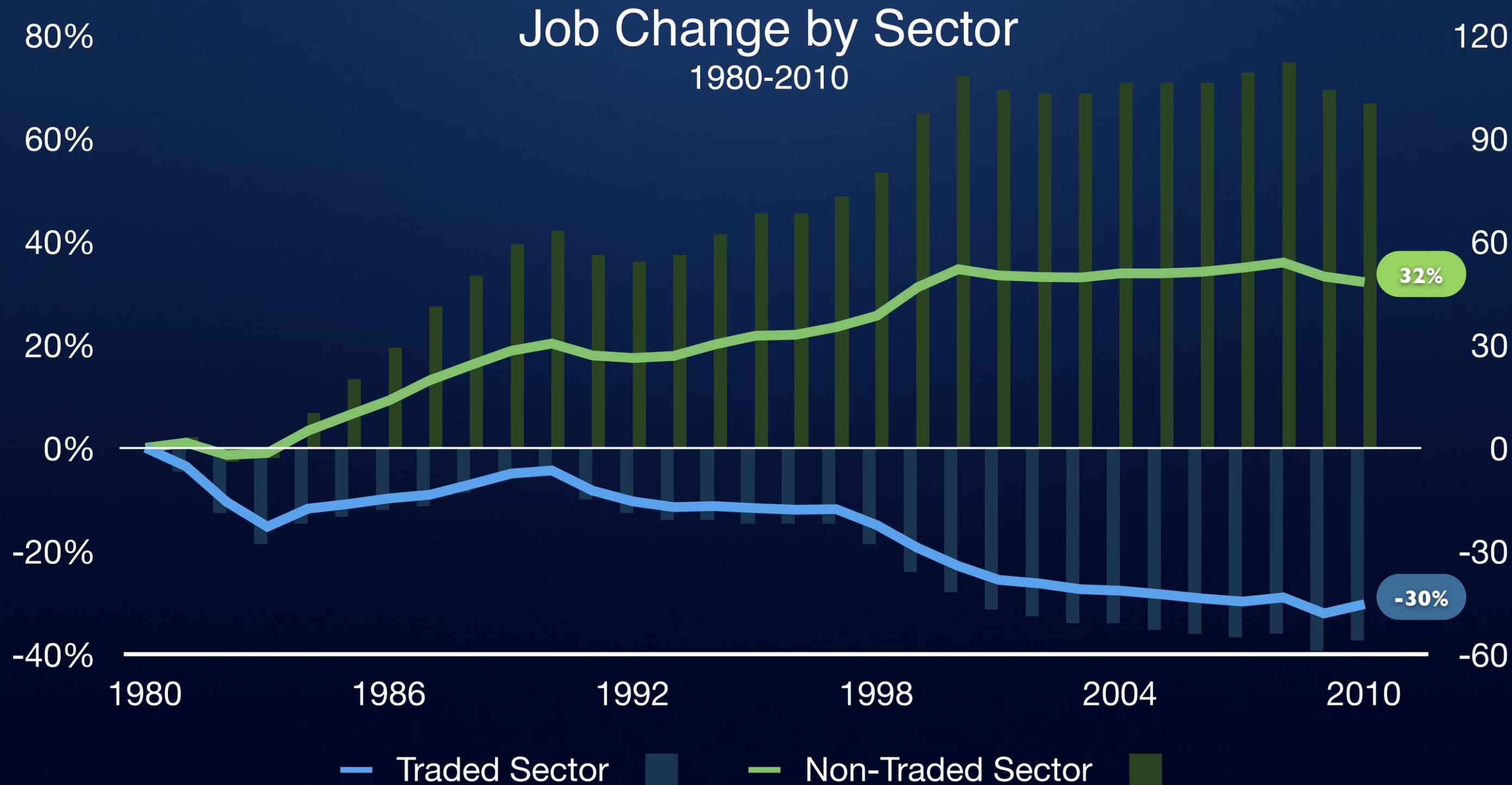
Spatial Efficiency

Government efficiency and efficacy
Business environment
Tax value proposition

Governance



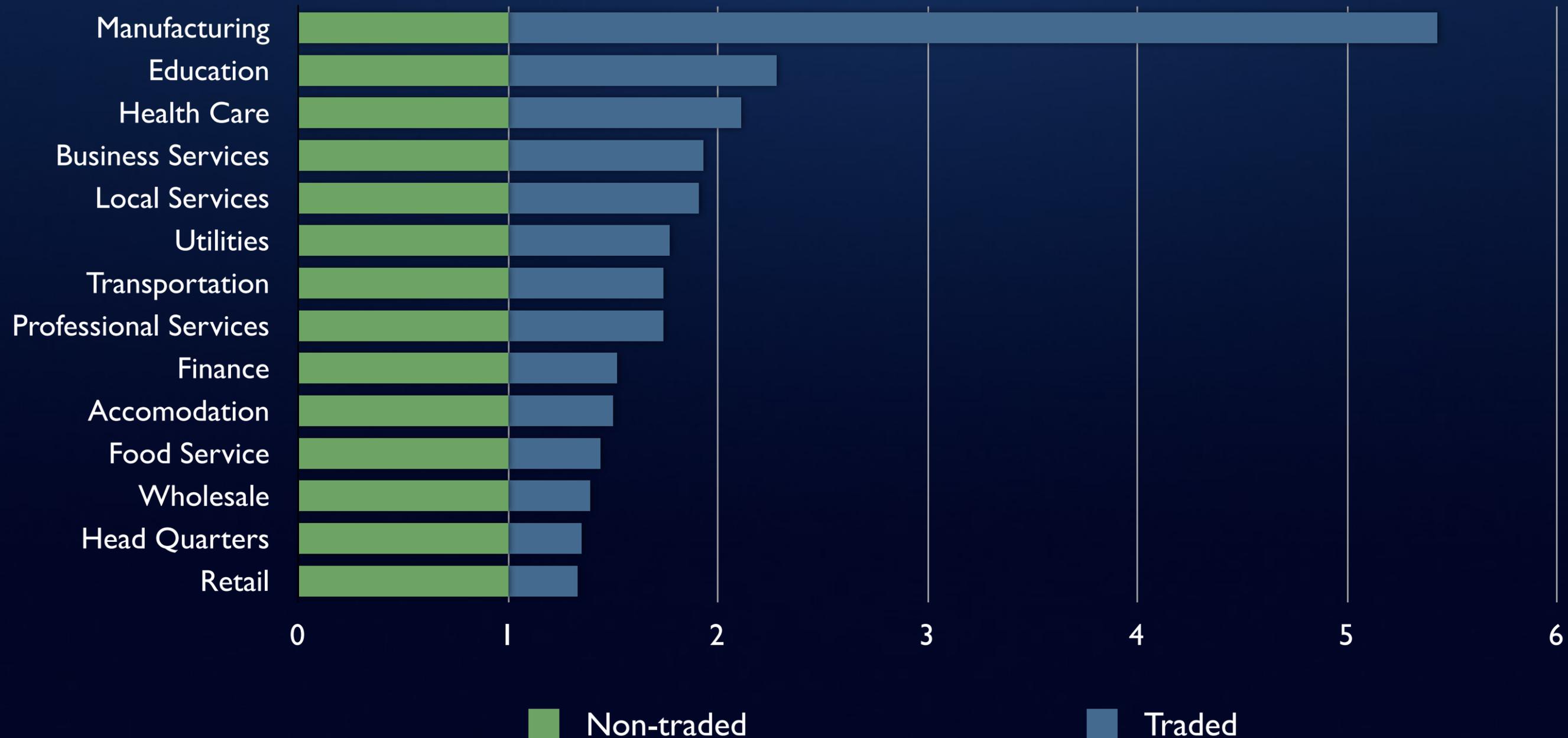
Buffalo's Traded Sector Has Been Shrinking



Source: Brookings analysis of Moody's Analytics data.

Buffalo's Traded Sector Industries Were Highly Specialized in 1980

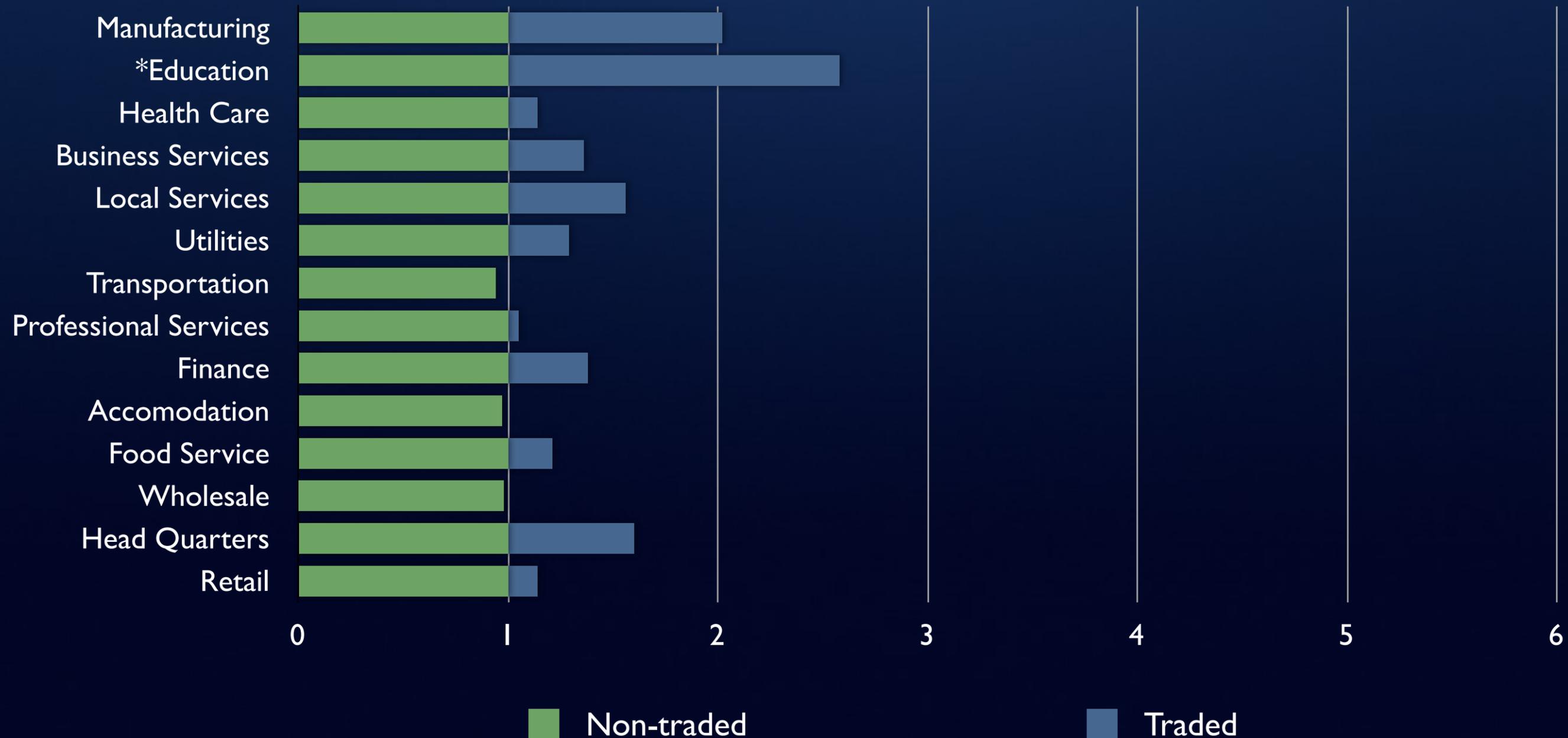
Most Specialized Traded Sectors (by LQ), 1980



Source: Brookings analysis of Moody's Analytics data.

But Buffalo's Competitive Advantages Have Shrunk

Most Specialized Traded Sectors (by LQ), 2010



Source: Brookings analysis of Moody's Analytics data.

As Buffalo Shed Traded Sector Jobs, Wages Fell

Percent Change in Wages 1980 to 2010



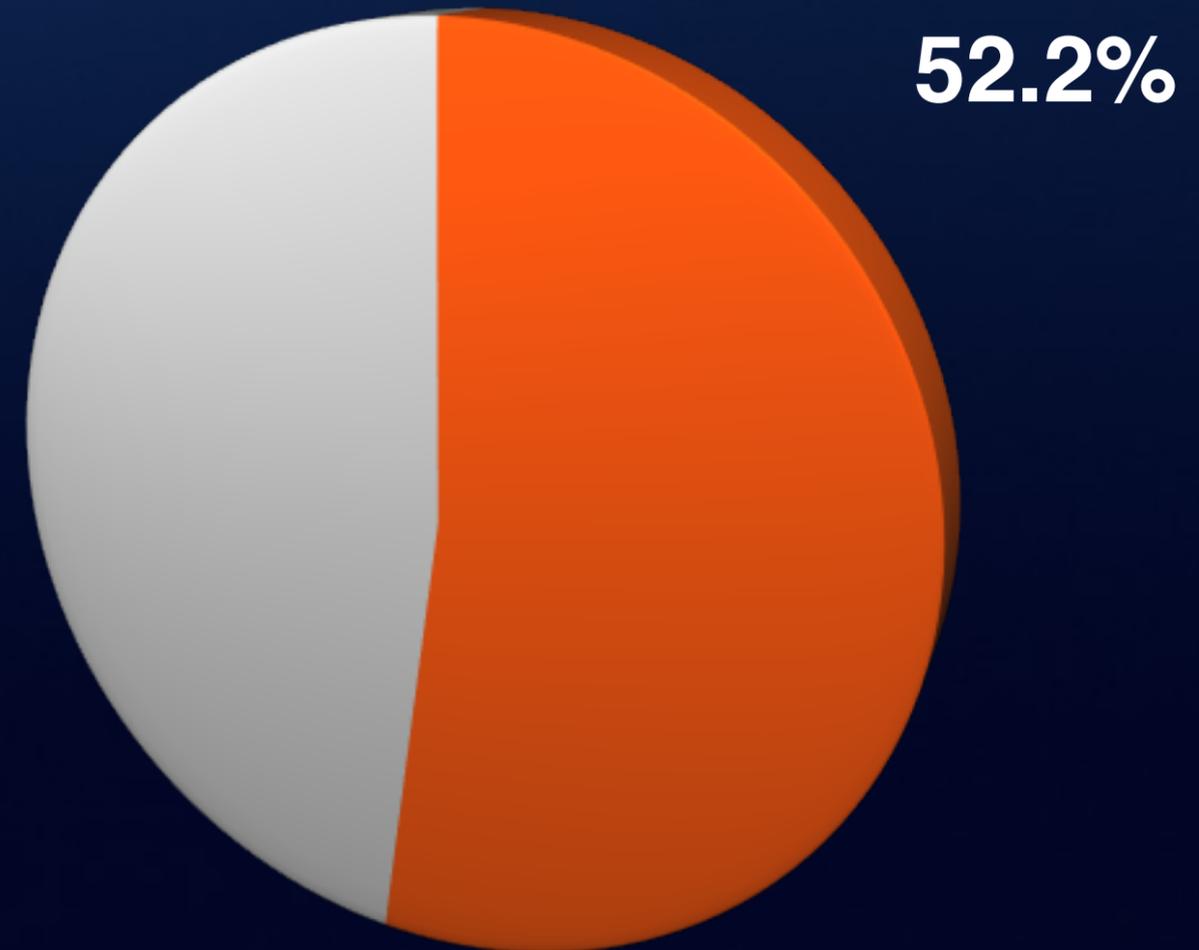
Manufacturing in the Buffalo Region Has Been a Strong Source of Growth

Manufacturing's Share of Total Job Growth

2010Q1 to 2011Q4

+5.4%

The Buffalo region had the 28th highest manufacturing job growth between 2010Q1 and 2011Q4 of any of the 100 largest metro areas



Greater Buffalo Has Strengths in the Clean Economy

14,452
clean jobs (37th)

Top Sectors By Industry Specialization

LQ

Waste-to-Energy

6.8

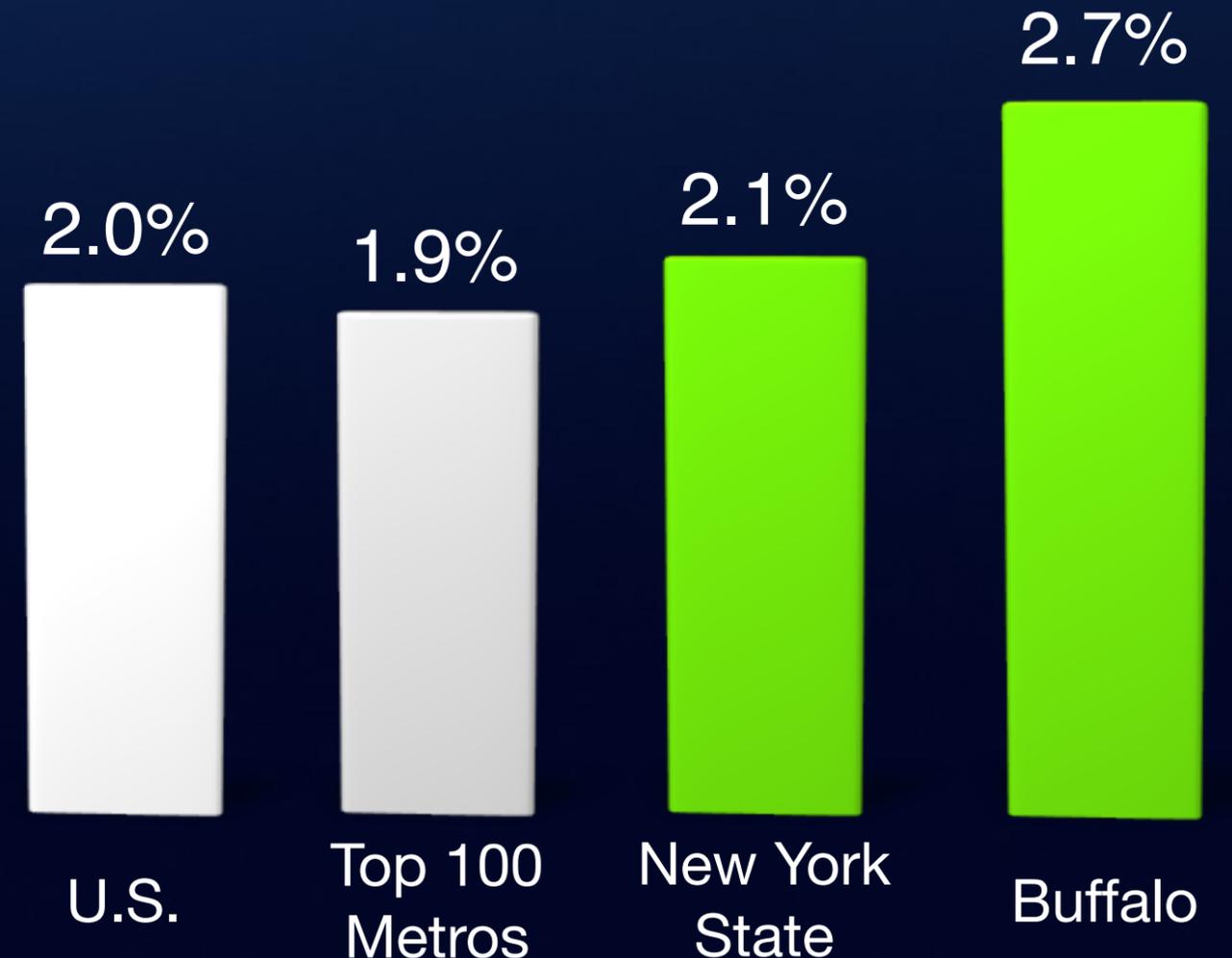
Hydropower

6.4

Geothermal

4.6

Clean Employment Intensity (18th)

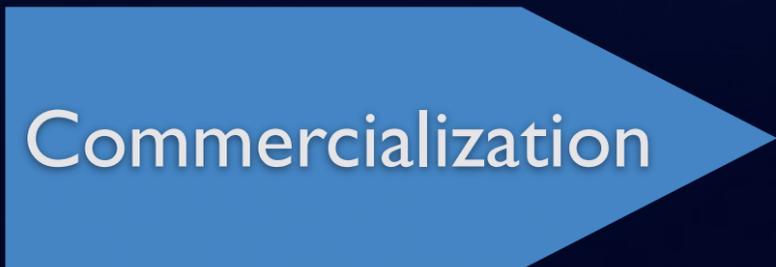


Buffalo Exported \$6.4 Billion in Goods and Services in 2010

Top Five Export Industries In Billions of Dollars, 2010

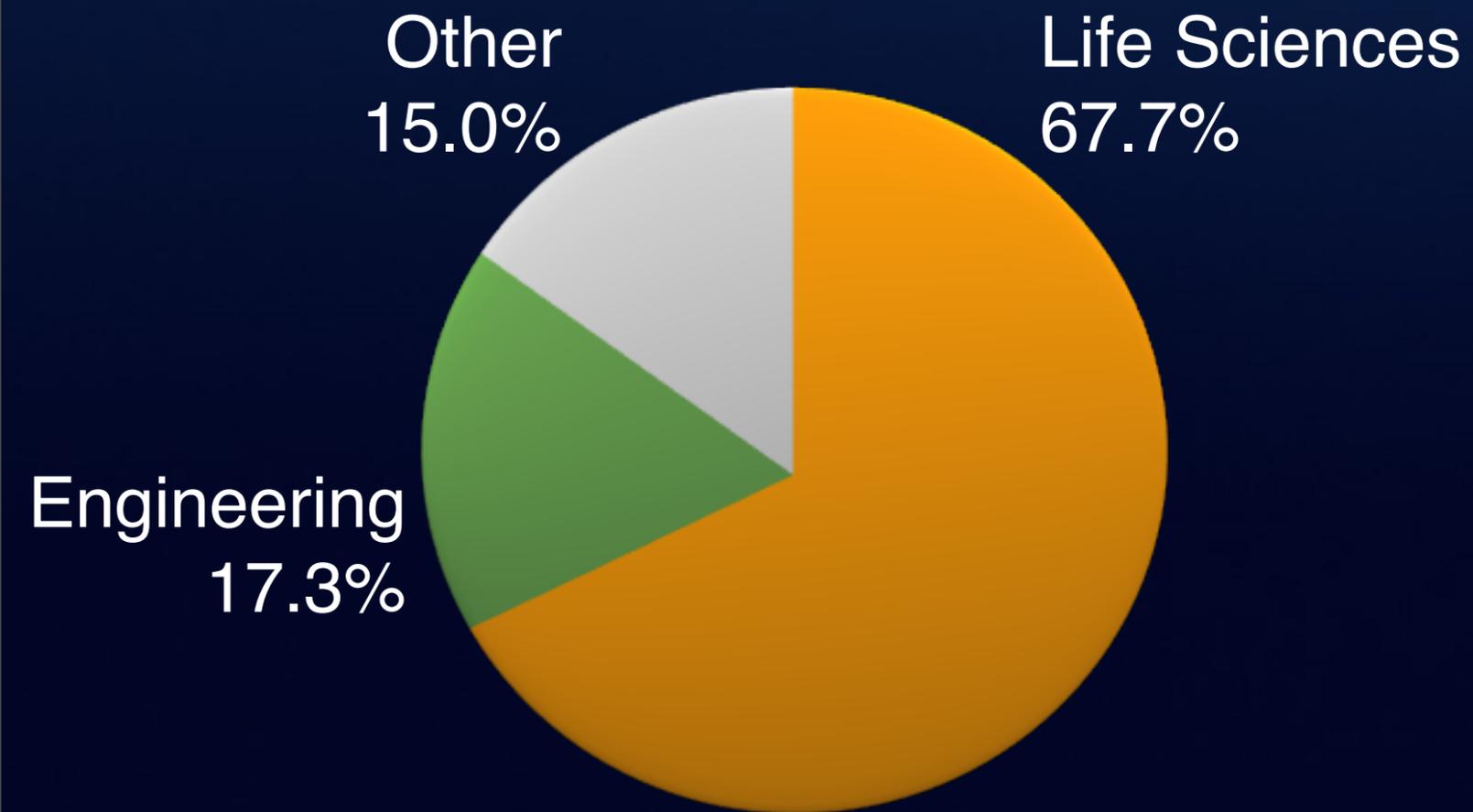


Source: Istrate and Marchio, "Export Nation 2012," Brookings. 2012.

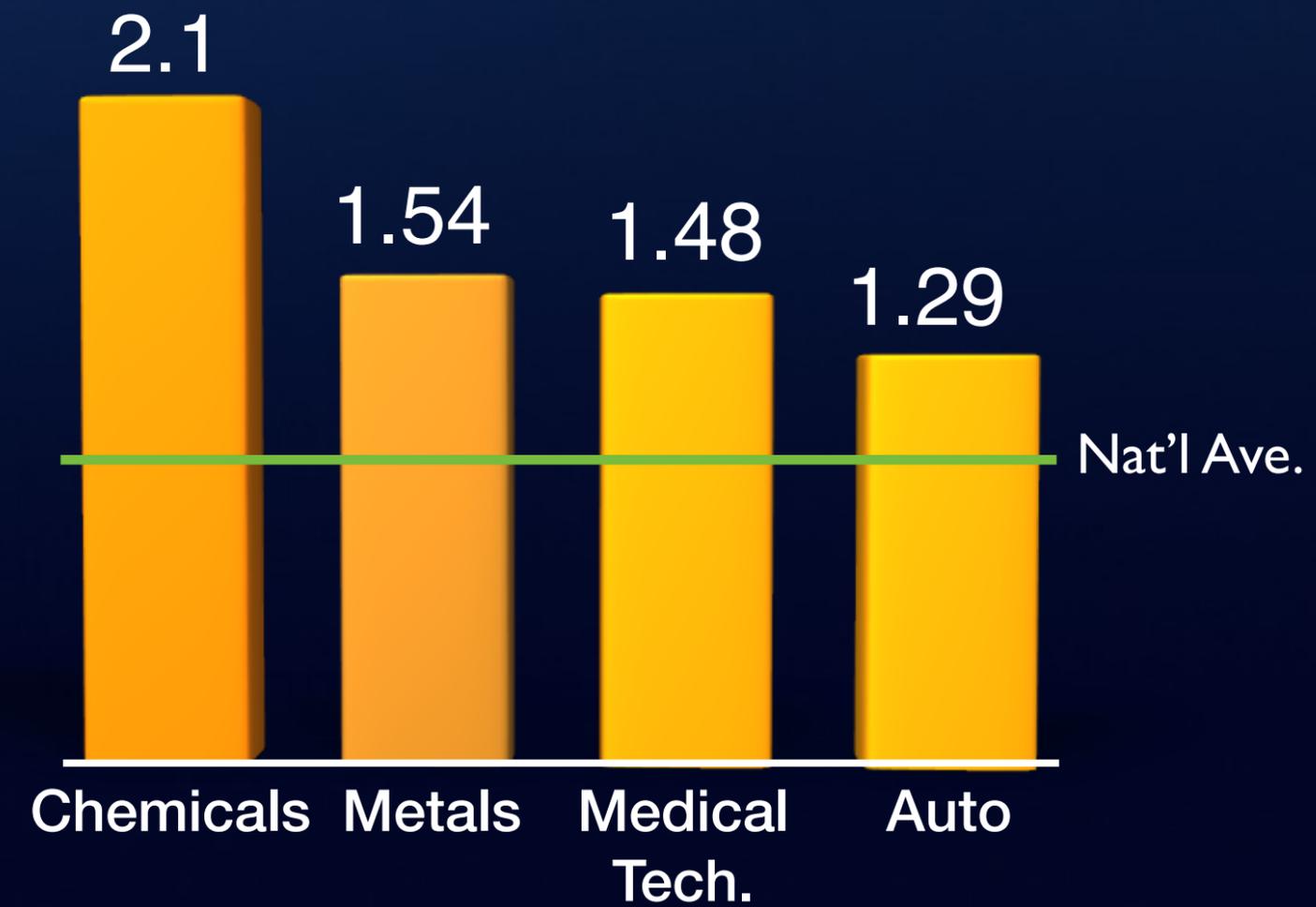


The Buffalo Region Excels at Research and Development and Production

University/College R&D Expenditures in millions, 2009



Most Specialized Clusters (by LQ)

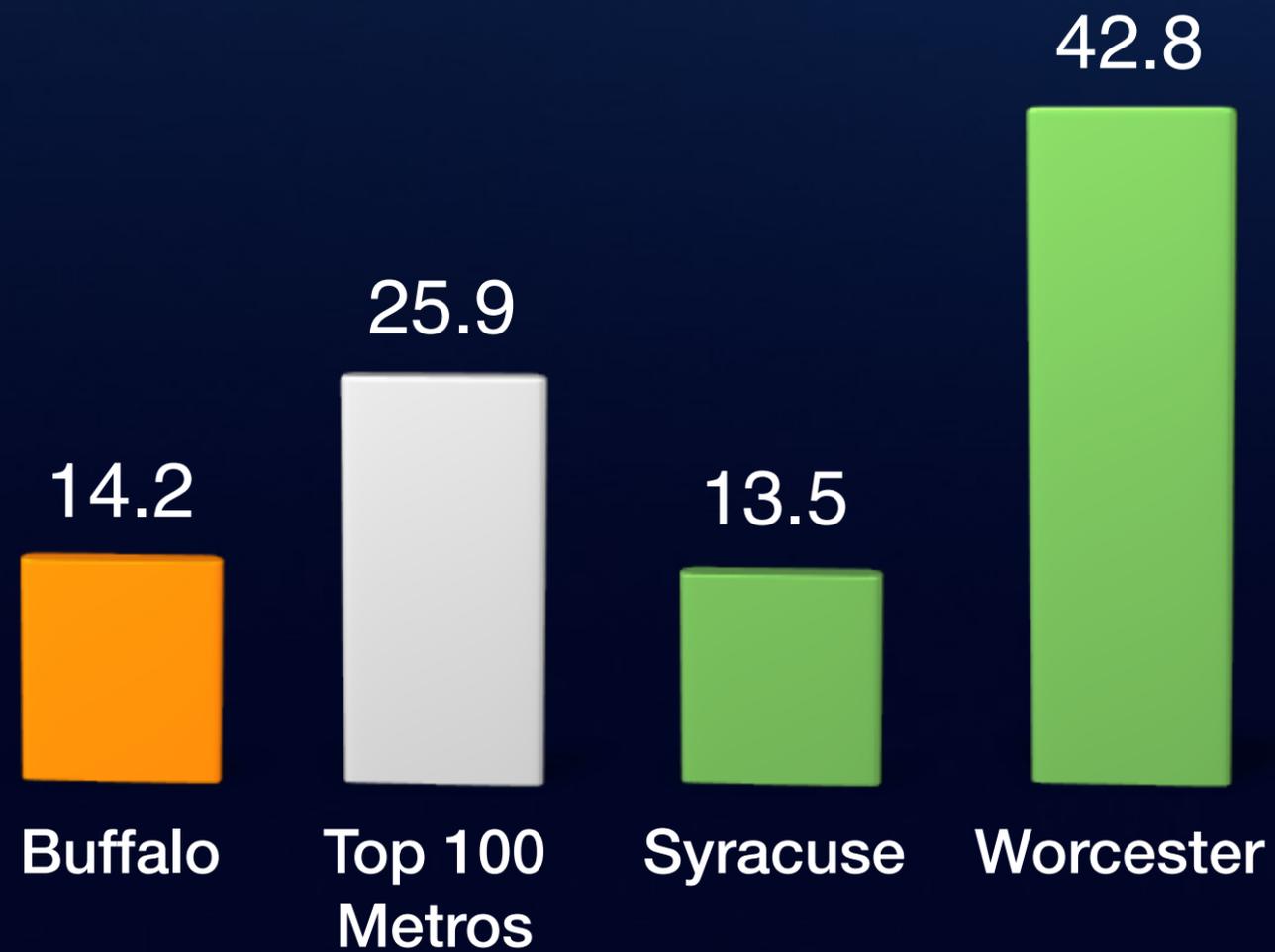


Source: Brookings analysis of National Science Foundation data

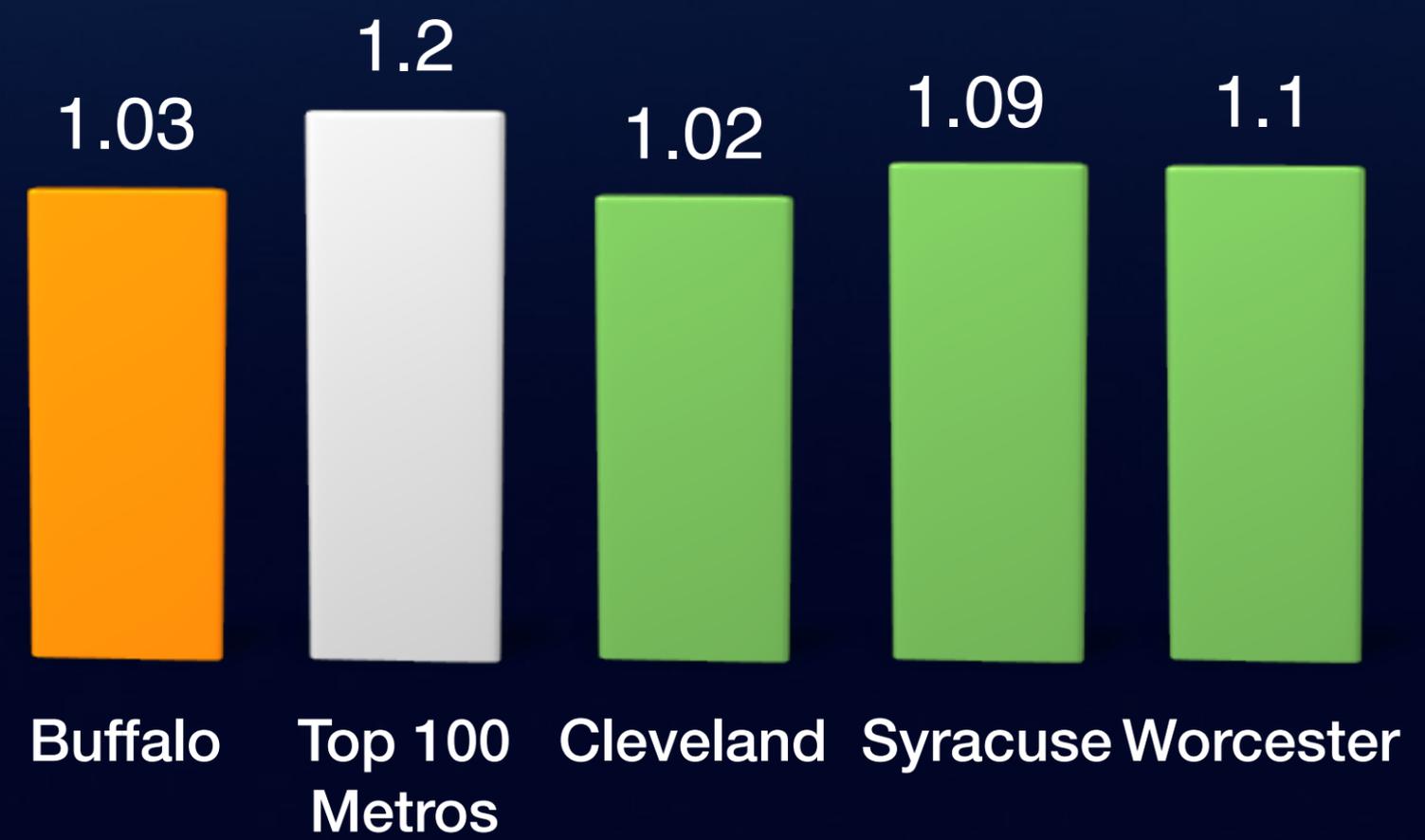
Source: Brookings analysis of Moody's Analytics and Occupational Employment Statistics data.

The Buffalo Region Struggles to Commercialize and Scale Innovation

Patents Applications Per Capita 2000 to 2010



Business Churn number of establishment births for every death, 2007



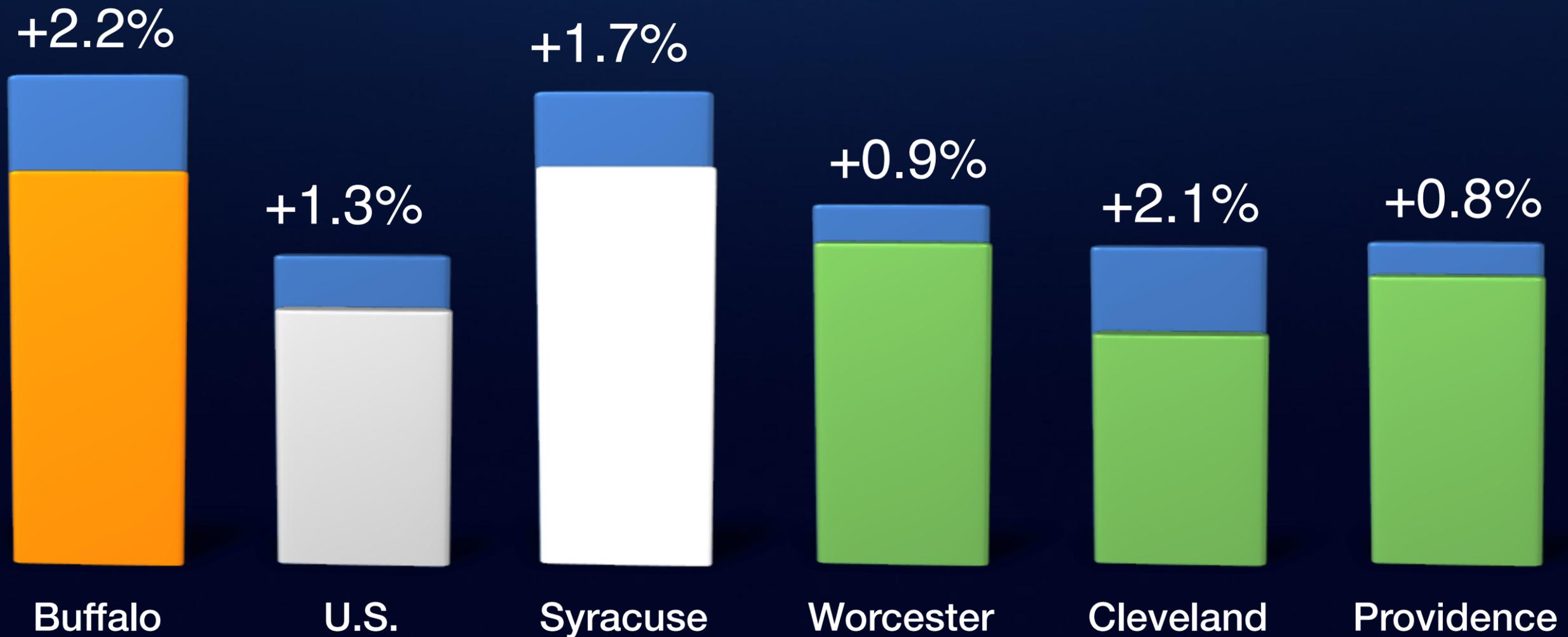
Source: Brookings analysis of U.S. Patent and Trademark Office data.

Source: Brookings analysis of Small Business Administration data.



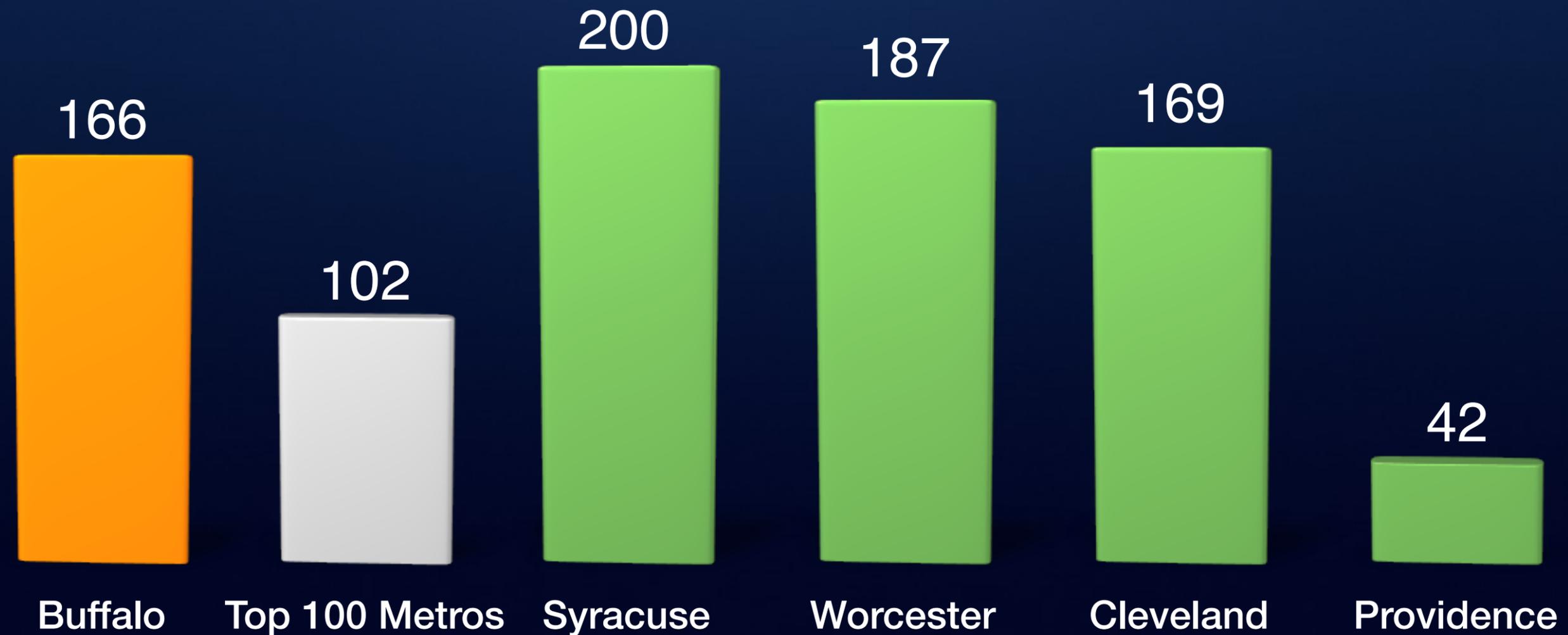
The Buffalo Region Has a High Share of Mid-Skilled Workers

Change in Share of Population
with Associates Degree
2010



The Region Benefits from a Small but Relatively High Skilled Set of Immigrants

Number of High Skilled Immigrants per 100
Low-Skilled Immigrants
2009

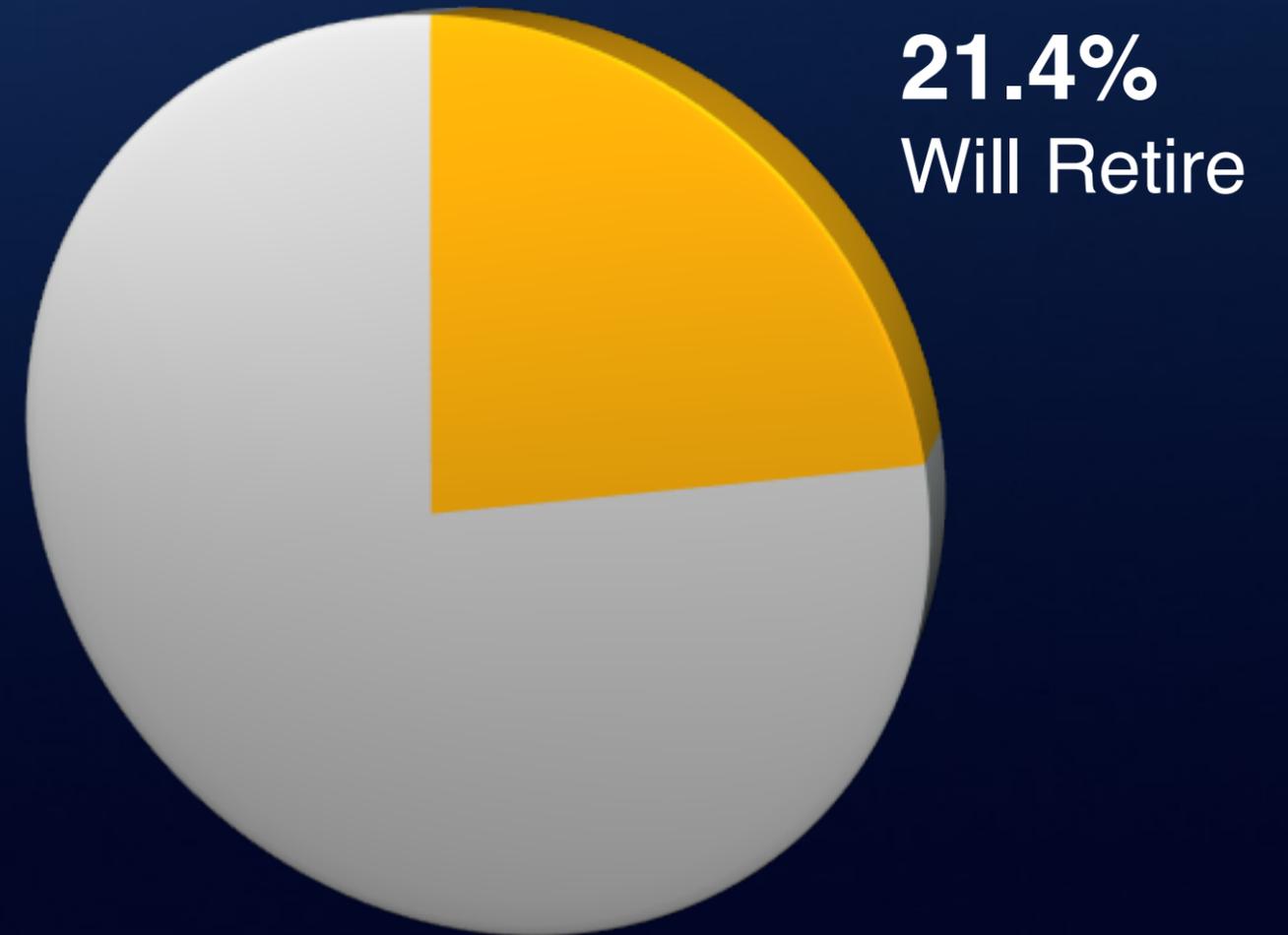


Source: Singer, Audrey, "The Geography of Immigrant Skills," 2011, Brookings.

Buffalo Will Face a Shortage of Skilled Workers



Buffalo's Industrial Workforce 2020

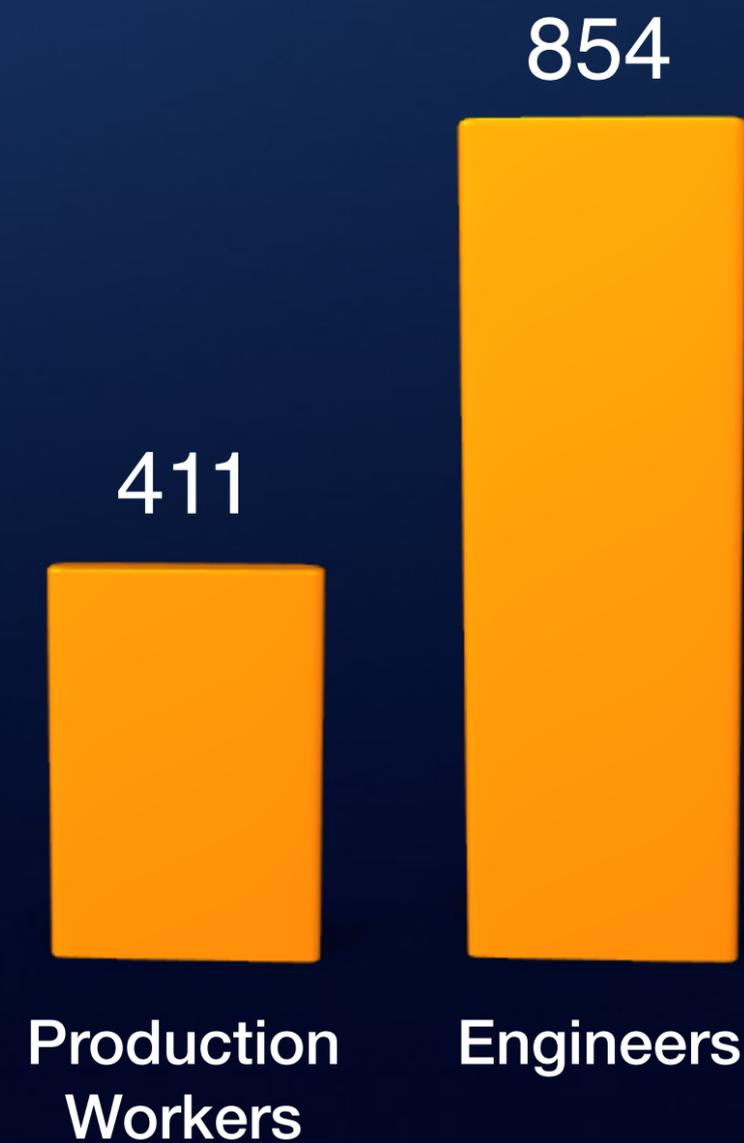


Source: Brookings analysis of data provided by Buffalo Niagara Partnership and QWI

Buffalo Will Face a Shortage of Skilled Workers



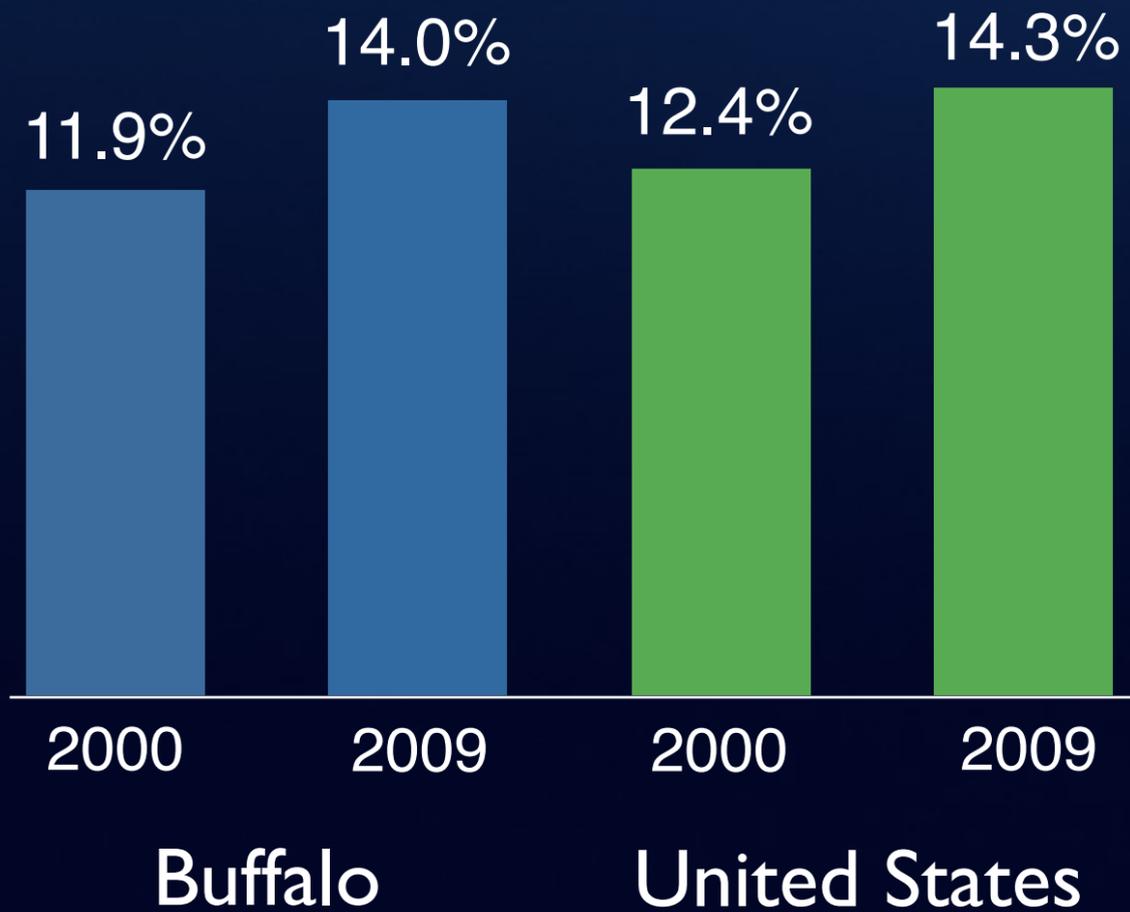
Buffalo Graduates Per Year



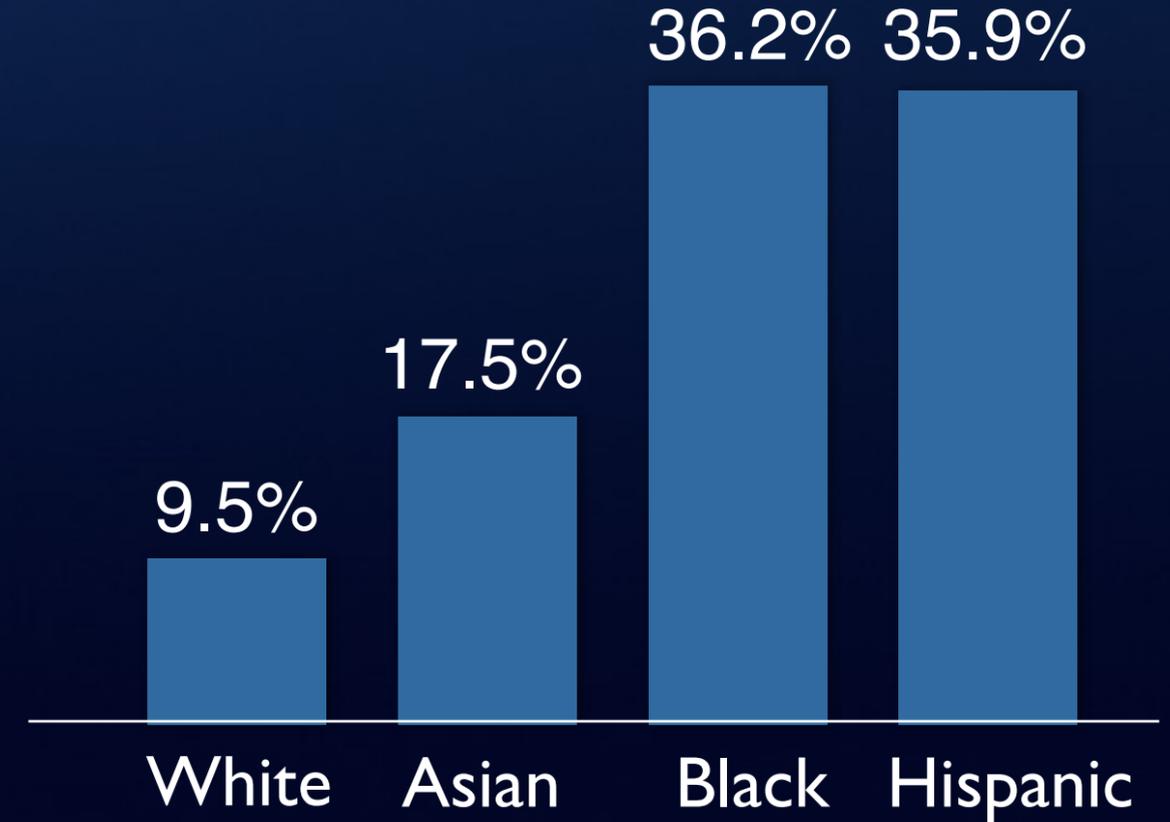
Source: Brookings analysis of data provided by Buffalo Niagara Partnership and QWI

Yet a Portion of Residents Remain Economically Marginalized

Change in Poverty Rate



Poverty Rate By Race, 2009

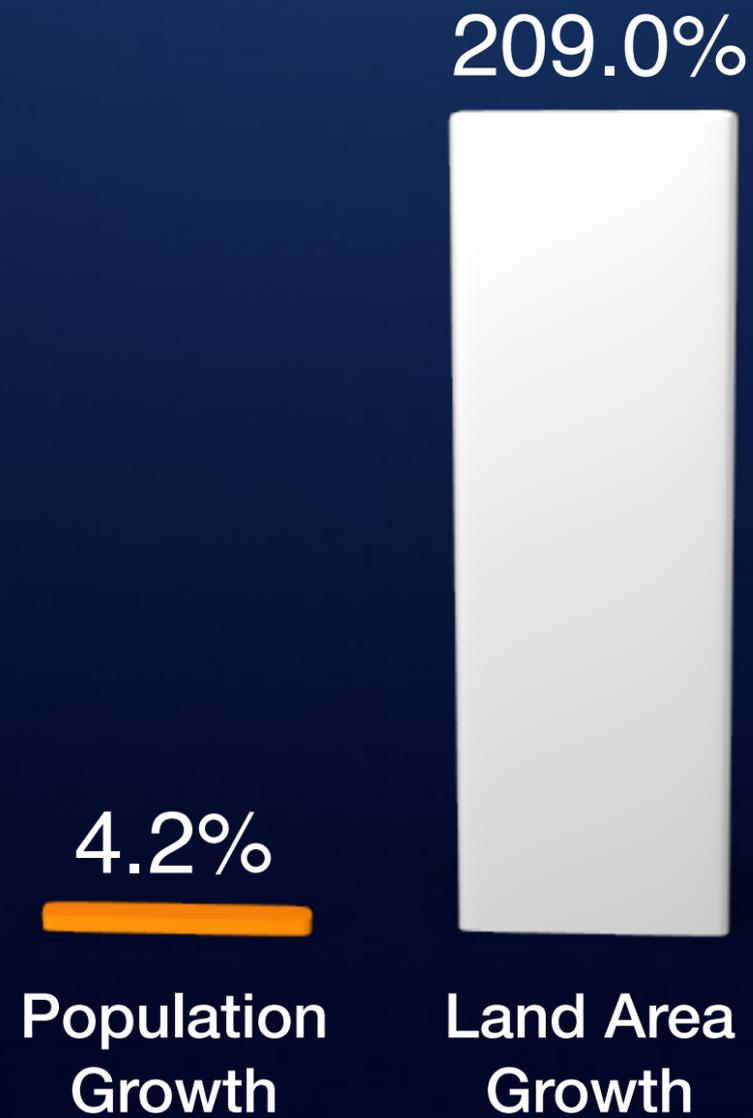




Spatial
Efficiency

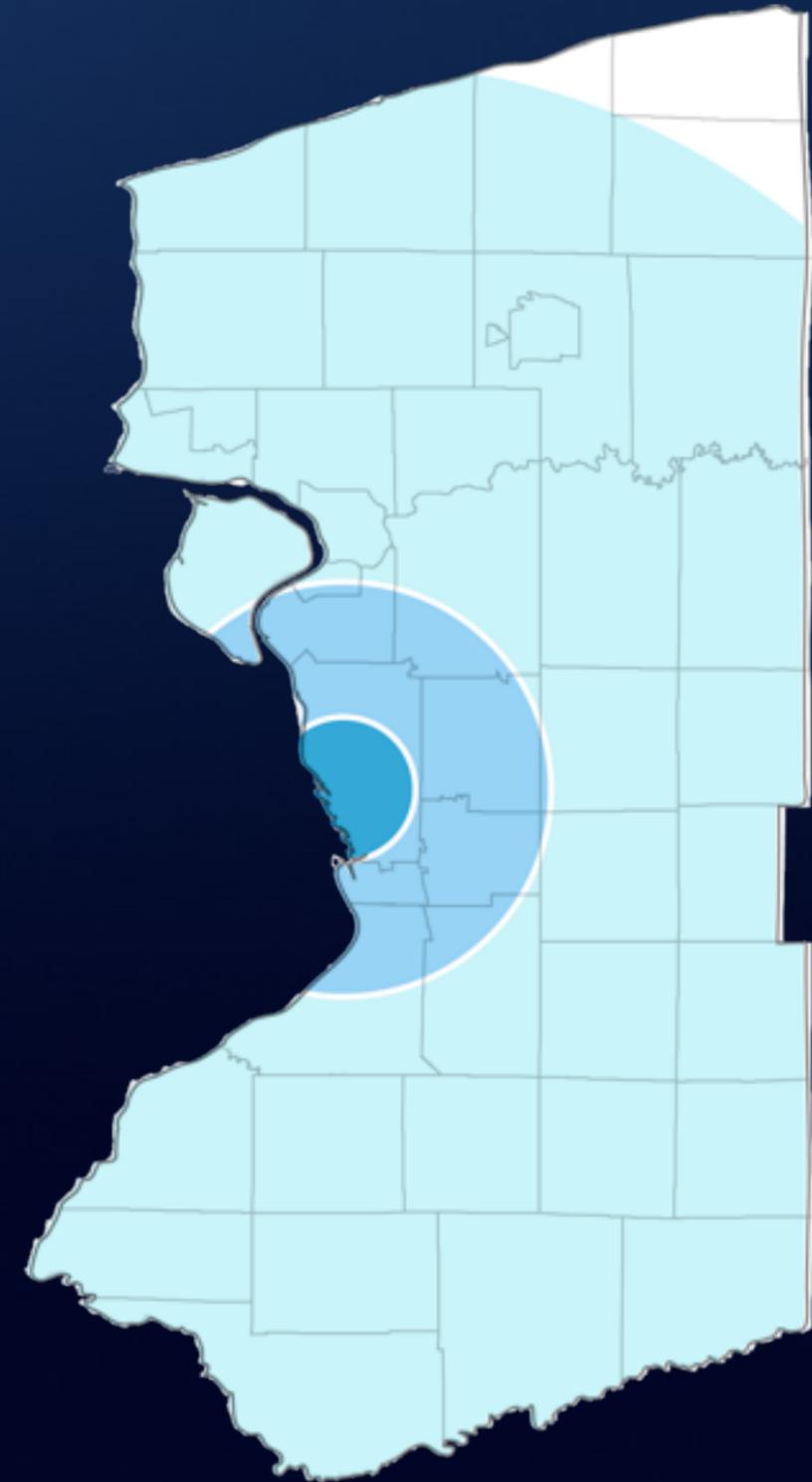
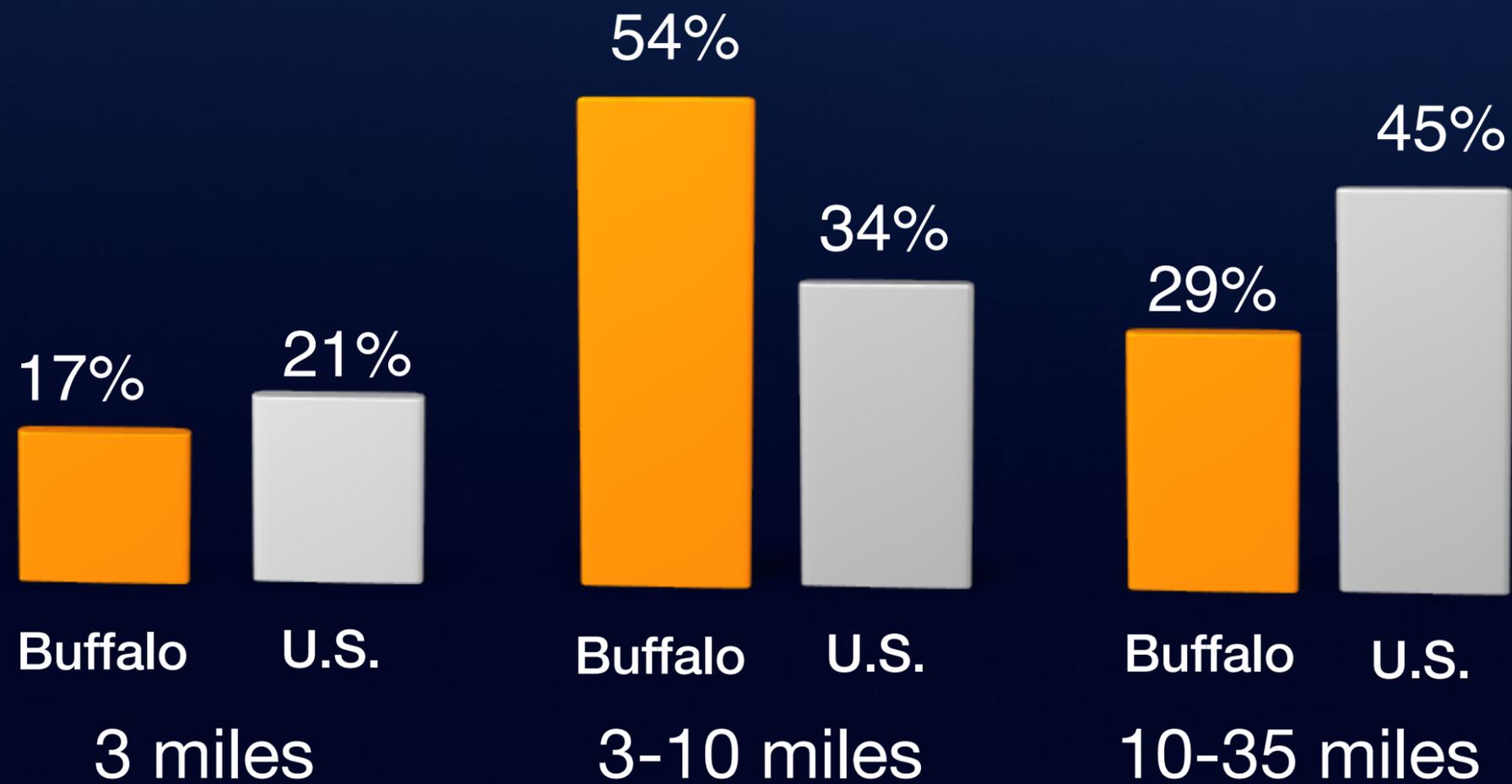
Buffalo's Metro Area Has Sprawled With Little Population Growth

Population Growth,
1950-2000



Buffalo's Jobs Have Migrated Away from the Core...

Share of Jobs Near Central Business District 2009



Frank Lloyd Wright's Martin House



H.H. Richardson Complex



Niagara Falls



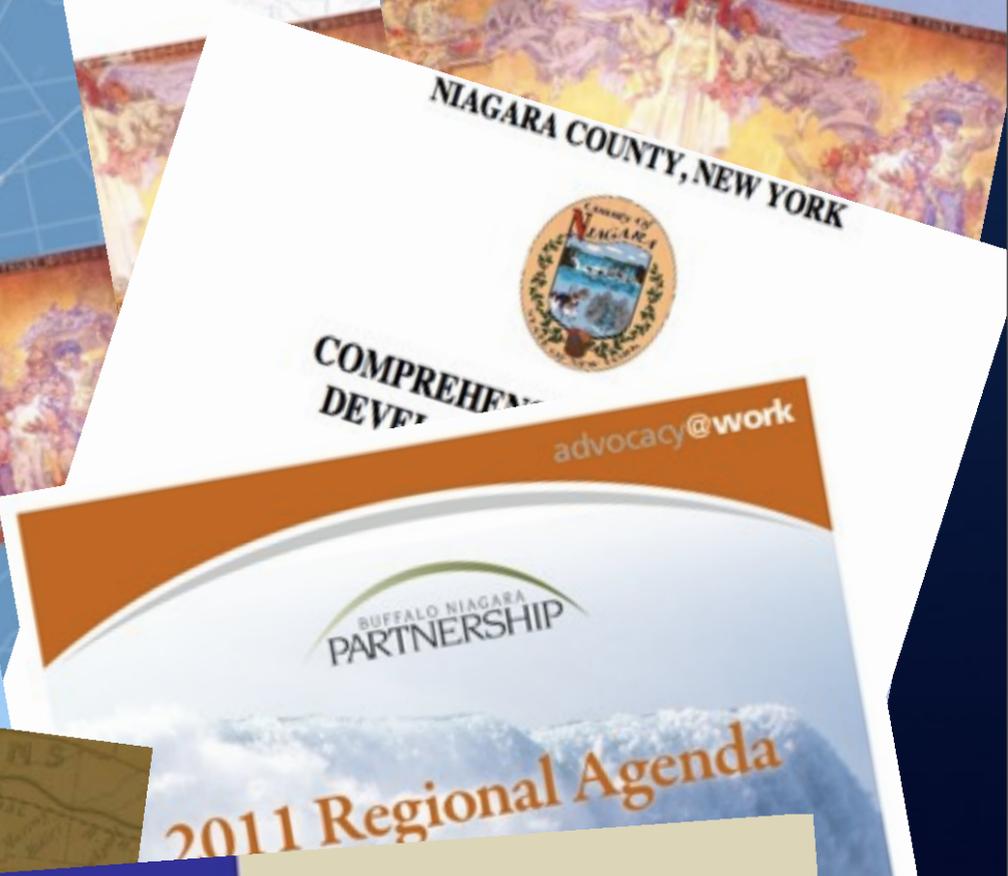
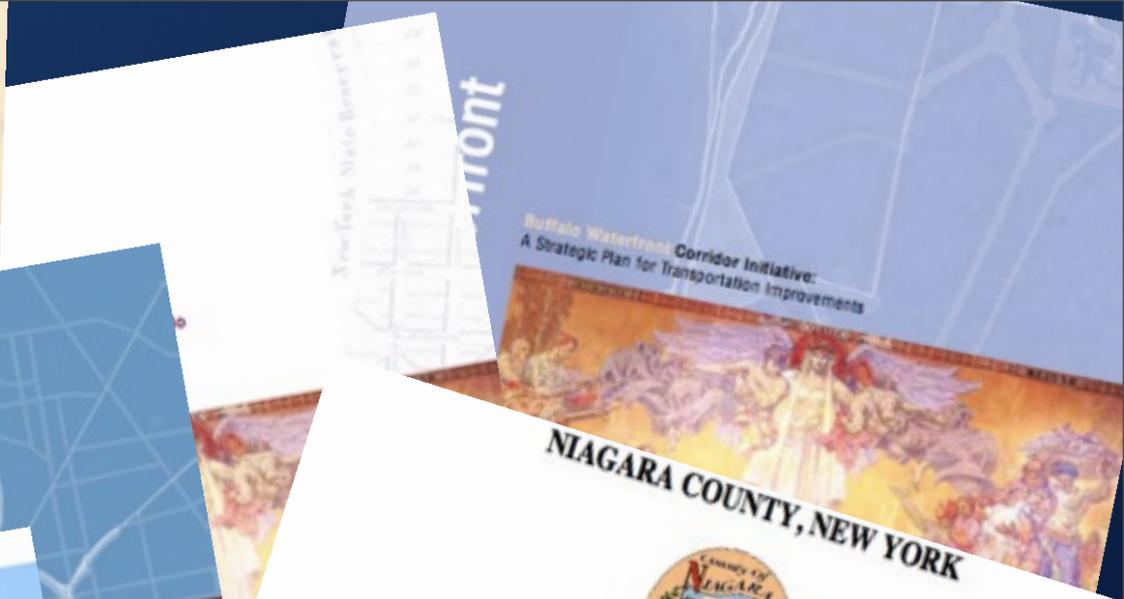
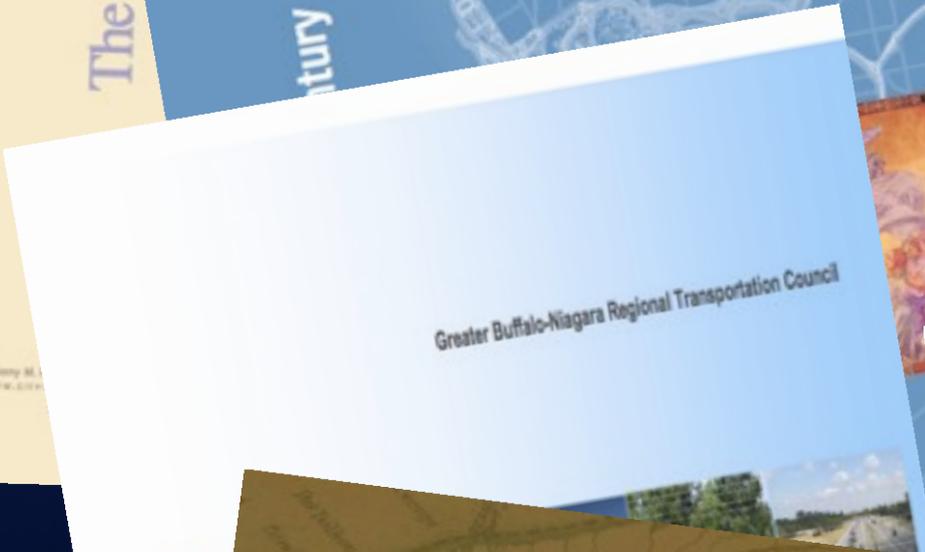
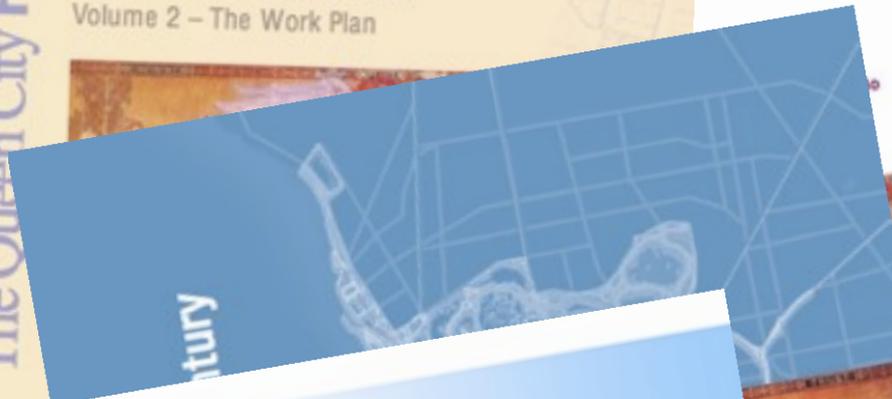
Olmsted Parks



1 2 3

3 Goals for the Buffalo \$1 Billion
Challenge Grant

**\$1
Billion**





Goal 1: Accelerate innovation, commercialization, and production

PRISM | CLEVELAND/NORTHEAST, OH



\$2.4 million

start-up costs

MAGNET, State of Ohio,
NIST

2011 (ongoing)

**Restore the innovation
capacity to small- and
mid-sized
manufacturers so they
can better serve
growing global markets**

Provides access to business, technical and financial expertise at universities, research centers, government labs, financial institutions and economic development organizations

Assists in acceleration of commercialization process

Connects to potential other product development and supply chain partners

Outcomes

8 companies in portfolio to date

\$353,000 in contracted services; \$97,000 is funded by clients

2,500 number of jobs projected

\$100 million in new payroll projected

\$300 million in new capital projected





SUNY-ALBANY CNSE NANOTECH COMPLEX | ALBANY, NY

\$1 billion

State of New York

\$13 billion

300+ affiliated firms

1997-present

800,000 sq ft

integrated research,
development, prototyping
and educational facilities

The College of Nanoscale Science & Engineering's NanoTech Complex provides support to on-site corporations through outreach, technology acceleration, business incubation, pilot prototyping, and test-based integration support.



SUNY-ALBANY CNSE NANOTECH COMPLEX | ALBANY, NY

Outcomes

2,600 semiconductor-related research and development jobs on the site

University at Albany-SUNY students work both alongside and for private companies

Focus on nanotechnology “cluster” is attracting major manufacturers, suppliers and engineering facilities to region - including a \$4.6 billion investment from G10alFoundaries in Saratoga County



22@BARCELONA | BARCELONA, SPAIN

€180 million

Barcelona City Council
2001-present

494 acres

New zoning regulation to redevelop former industrial district along Barcelona waterfront into a science, tech, and innovation center

Allocate land within district to: public sector for use as R&D center, workforce training (10%); parks and green space (10%); subsidized housing (10%)

Focus on five innovation clusters: ICT, Media, Medical Technology, Energy and Design



22@BARCELONA | BARCELONA, SPAIN

Outcomes

117 total development plans approved, 78 of which have been led by the private sector

1,502 companies established between 2000 and 2010

44,600 workers in these 1,502 companies; projected to reach 150,000.

10 universities with more than 25,000 students

12 R&D and technology transfer centers



Goal 2: Become the vanguard of the clean economy future

Copenhagen
Carbon Neutral
by 2025

Copenhagen Climate Plan

The short version



COPENHAGEN CLIMATE PLAN | COPENHAGEN, DENMARK

\$453 million

City of Copenhagen

\$3.4 billion

Private Sector

2012 - present

50 initiatives

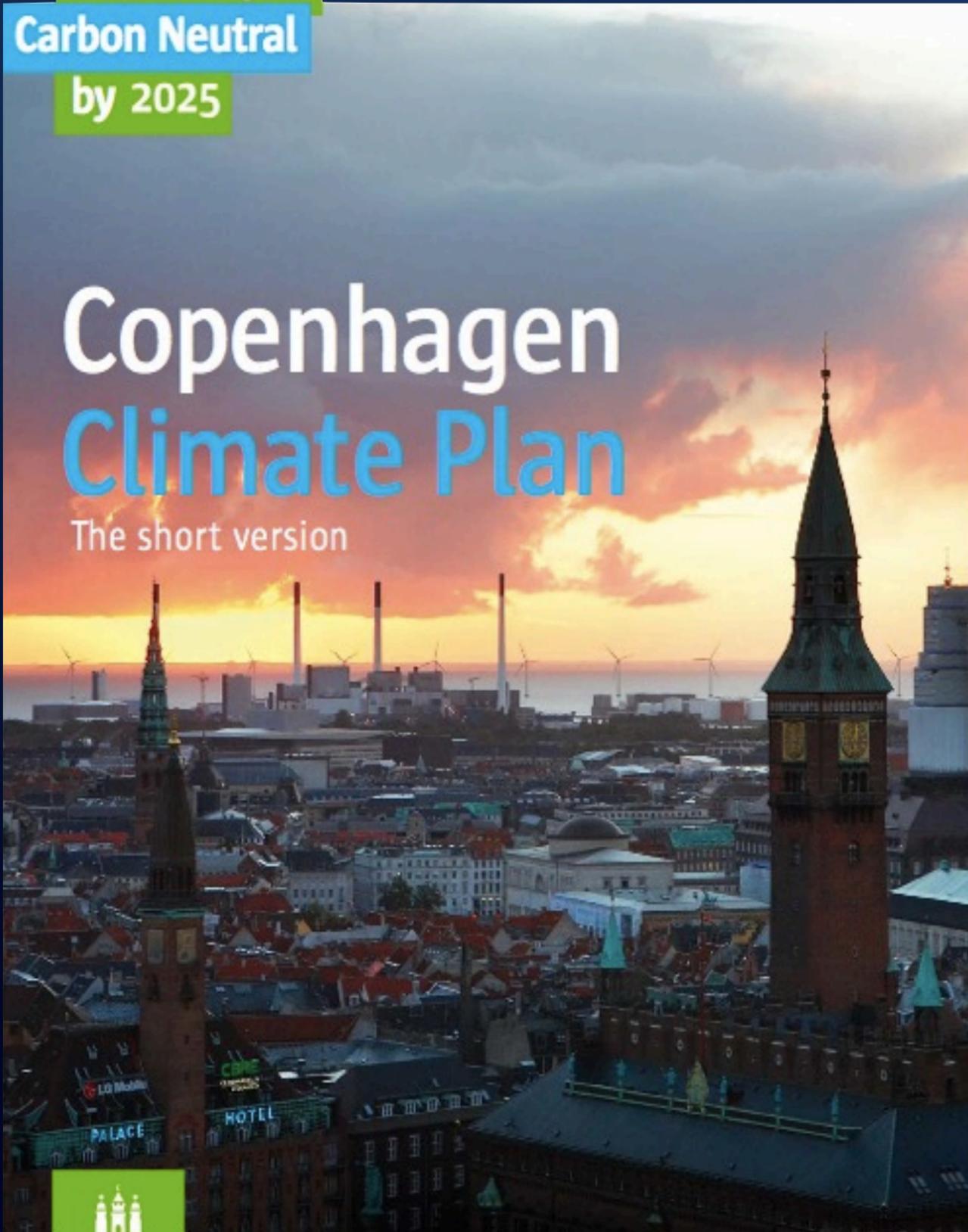
outlined in the
Copenhagen Climate Plan
aimed at drastically
reducing the city's carbon
emissions

The Copenhagen Climate Plan sets goals in five areas - transport, energy, urban development, buildings, and Copenhagen citizens - aimed at reducing the city's carbon emissions, creating green jobs, and promoting economic growth.

Copenhagen
Carbon Neutral
by 2025

Copenhagen Climate Plan

The short version



COPENHAGEN CLIMATE PLAN | COPENHAGEN, DENMARK

Outcomes (projected)

2025 the year Copenhagen aims to be a carbon-neutral city

20% reduction in Copenhagen's carbon dioxide emissions by 2015, based on 2005 emission levels

35,000 new jobs in Copenhagen by 2025

\$58 average per capita savings on monthly heating and electricity bills by 2025



Goal 3: Become a hub of global trade and investment

CHINA SF | SAN FRANCISCO, CA



旧金山市驻华办公室

\$1 million

City of San Francisco
Mayor's Office, San
Francisco Center for
Economic Development

2008-present

**Support increased
business and policy
exchange between the
San Francisco Bay Area
and China**

Match up overseas organizations to reduce transaction costs

Create strong partnerships with green technology firms

Partnership with SF Made to help manufacturers export

Outcomes

3 regional offices, including Beijing, Shanghai, and San Francisco, with plans to expand to Guangzhou

15 Chinese companies have set up offices in the San Francisco Bay Area





Goal 4: Match supply of skills with demands of industry

AUSTIN POLYTECHNICAL ACADEMY | CHICAGO, IL



**Austin
Polytechnical
Academy**

Chicago Public Schools
Chicago Manufacturing
Renaissance Council

\$1 million

Private partners & grants
2007-present

65

local industry partners
provide students with
mentoring, field trips, and
internship and job
opportunities

Chicago's only high school dedicated to educating
the next generation advanced manufacturing
workforce.

Curriculum covers all aspects of industry, from
skilled production and engineering to management
and company ownership.

AUSTIN POLYTECHNICAL ACADEMY | CHICAGO, IL



Austin
Polytechnical
Academy

Outcomes

\$100,000 industry-funded, state-of-the-art manufacturing technology center located within the school

110 students at Austin Polytech have earned a total of 148 manufacturing industry-recognized certifications

The only Illinois high school with an accreditation from the National Institute for Metalworking Skills



Goal 5: Link physical transformation to economic transformation



JOHNS HOPKINS MEDICAL CENTER | BALTIMORE, MD

\$1.8 billion

State of Maryland

City of Baltimore

Johns Hopkins University

2002-present

88 acres

community redevelopment
project for East Baltimore
area that includes retail
space, offices, housing,
and a new biotech park

East Baltimore Development Inc, a non-profit development agency, oversees redevelopment efforts to transform the neighborhood into a thriving mixed-income community for families, businesses, and public institutions.



JOHNS HOPKINS MEDICAL CENTER | BALTIMORE, MD

Outcomes

1,500 - 2,000 new and renovated mixed-income residential units planned or already completed

1.7 million square feet of laboratory, commercial, and retail space planned or already completed

\$300 million worth of construction projects currently underway, including a state health lab, a graduate student housing facility & a life sciences building

1 new public school built to serve growing neighborhood

HUNTERS POINT | SAN FRANCISCO, CA



\$2.7 billion

City/County of San Francisco, San Francisco Redevelopment Agency, Lennar Urban
2000 (ongoing)

800 acres

Transform former military brownfields and underutilized land into a clean technology hub or “green zone”

3 million square foot plan “Clean Technology Hub” and urban R&D campus

\$83 million in Community Benefits Agreement and funds

HUNTERS POINT | SAN FRANCISCO, CA

Outcomes (Projected)

12,200 number of permanent jobs created across the board within 25 years

31 percent of new 12,100 residential units that will be offered at below market rates

Reinforce San Francisco's vision for an innovation corridor or cluster



Positioning Buffalo-Niagara for the Next Economy

Leveraging the \$1 Billion Opportunity

