

# Building on Innovation



# America's First Road Trip

*Horatio Nelson Jackson, Sewall K. Crocker & Bud*



HORATIO NELSON JACKSON (driving), SEWALL K. CROCKER, AND BUD IN THE "VERMONT"  
PHOTO CREDIT: UNIVERSITY OF VERMONT, SPECIAL COLLECTIONS



# Five Converging Forces

- Globalization
- Climate Change
- Technological Innovation
- Infrastructure Needs
- Demographics



# Globalization: *Ports*



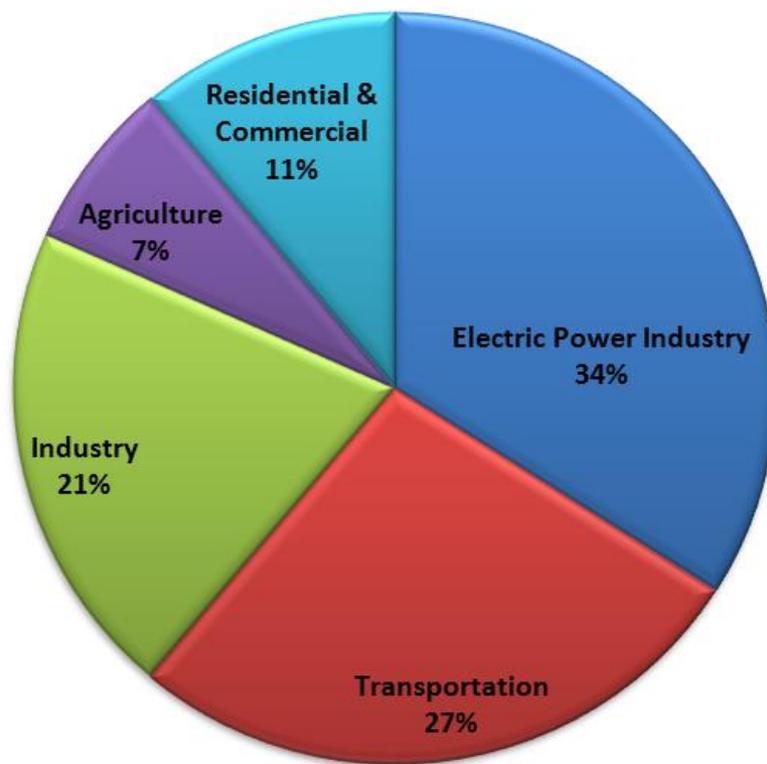
# Employment Changes 1990 -2013

	Manufacturing			Professional and Business Services			Education and Health Services		
	1990	2013	% Change	1990	2013	% Change	1990	2013	% Change
U.S. Metro									
Research Triangle	76.1	61.4	-19%	62.4	137.5	120%	51.6	122.3	137%
Seattle	232.1	190.4	-18%	139	249.2	79%	123.6	222.3	80%
San Diego	123.4	91.6	-26%	124.4	221.3	78%	84.1	157.5	87%
Boston	205.8	92.4	-55%	226.1	330.4	46%	267.2	293.2	10%
<b>PHILADELPHIA</b>	<b>246.9</b>	<b>127.6</b>	<b>-48%</b>	<b>213.6</b>	<b>331</b>	<b>55%</b>	<b>278.3</b>	<b>437.1</b>	<b>57%</b>
Denver	84.8	63.4	-25%	129.5	238	84%	72	156.8	118%
<b>HARRISBURG</b>	<b>36.4</b>	<b>20.4</b>	<b>-44%</b>	<b>19.3</b>	<b>42.6</b>	<b>121%</b>	<b>31.9</b>	<b>50.5</b>	<b>58%</b>
Baltimore	128.5	56.9	-56%	123.1	217.9	77%	145.8	249.2	71%
San Francisco	171.8	115.8	-33%	268.9	405.4	51%	177.1	254.4	44%
<b>PITTSBURGH</b>	<b>130.6</b>	<b>90.6</b>	<b>-31%</b>	<b>126.6</b>	<b>180.2</b>	<b>42%</b>	<b>160.2</b>	<b>241.4</b>	<b>51%</b>
U.S. Total	17395	11965	-31%	10764	18553	72%	11230	20669	84%

# Climate Change

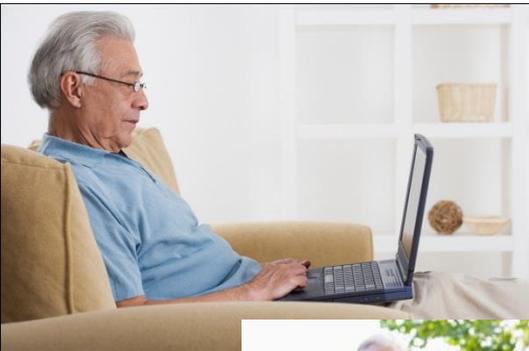
## US Greenhouse Gas Emissions by Sector, 2010

U.S. Greenhouse Gas Emissions by Sector 2010



# The Trend Setters

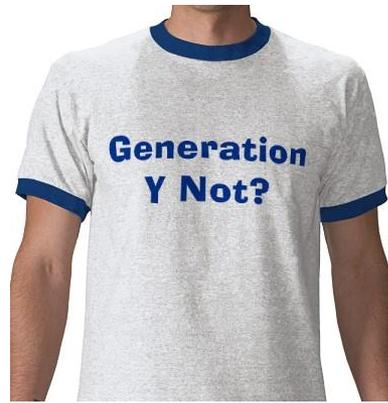
- Seniors from 65-75 will be the fastest growing group this decade
- Will grow from 28 to 42 million – a 50% growth



- Children of the 60s, have redefined every age they entered
- When will they retire? For most, not for years

# Millennials

- Late teens to early 30s - 83 million
- The largest generation in US history
- On average texts 1,300 times a month
- Six times less likely to have a car than their parents

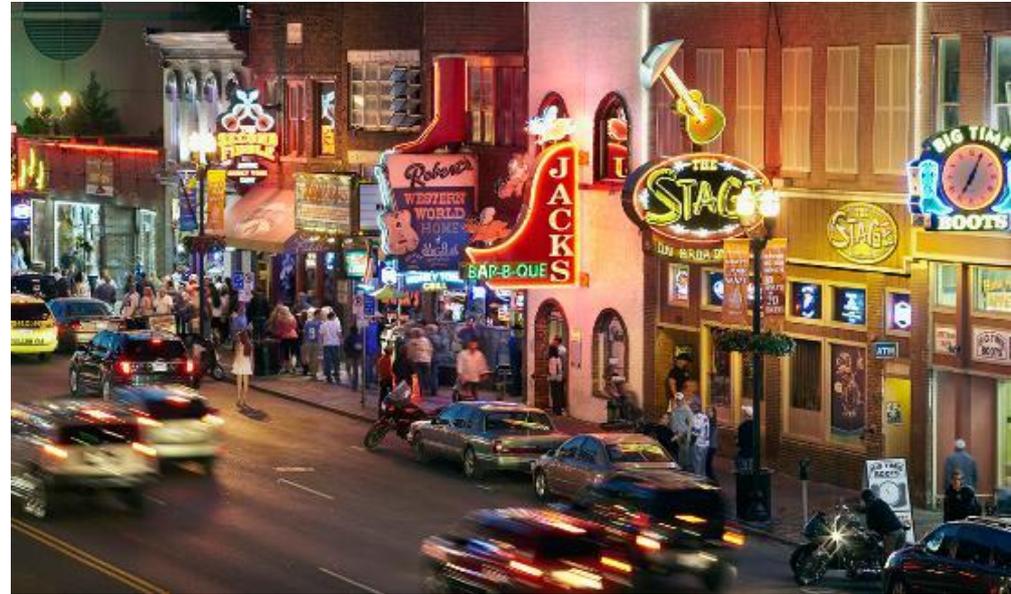


# Percentage of New Housing that is Infill

Metropolitan Region (population one million or greater)	2000-2004		2005-2009	
	Total	% Infill	Total	% Infill
Research Triangle	76,870	8.0%	28,508	8.6%
Seattle	131,137	39.7%	46,878	40.1%
San Diego	89,633	37.0%	26,280	42.1%
Boston	75,886	29.9%	28,841	35.0%
<b>Philadelphia</b>	<b>118,366</b>	<b>17.1%</b>	<b>39,573</b>	<b>25.5%</b>
Houston	291,138	26.6%	119,777	21.6%
Denver	121,894	24.7%	36,911	20.8%
Chicago	258,848	40.2%	93,667	43.3%
<b>Harrisburg</b>	<b>14,315</b>	<b>13.3%</b>	<b>5,044</b>	<b>11%</b>
Baltimore	70,880	14.4%	22,795	18.4%
San Francisco	77,510	55.6%	24,433	58.4%
<b>Pittsburgh</b>	<b>42,789</b>	<b>13.6%</b>	<b>13,052</b>	<b>15.6%</b>

# Building a 21st Century City

- Well Managed
- Vibrant
- Entrepreneurial
- Educated
- Partnerships



# Denver: Bond Issue

- In 2004, Fastrak Referendum
- \$2 Billion Bond Approval
- 119 miles of light rail
- 7 Counties & 32 Municipalities



# Vibrant



*Millennium Park, Chicago*

An aerial rendering of a park development. The scene is set at night, with a dark sky filled with colorful fireworks in shades of purple, blue, and red. In the foreground, there's a large green lawn with a circular fountain in the bottom left corner. A winding path or stream flows through the park, surrounded by dense green trees. In the middle ground, there's a large, multi-story building with a prominent tower, possibly a museum or administrative building. To the right, there's a colorful, abstract structure that looks like a playground or a modern art installation. The overall atmosphere is vibrant and celebratory.

- MAPs3:

- Passed with 54% of vote in Dec 2009
- Funds new central park, 27 miles of new trails, other projects
- \$777 million, collected over 8 years

- Third in MAPs series

Parks in Oklahoma City

# High-tech industry is a bright spot in an otherwise gray economic picture



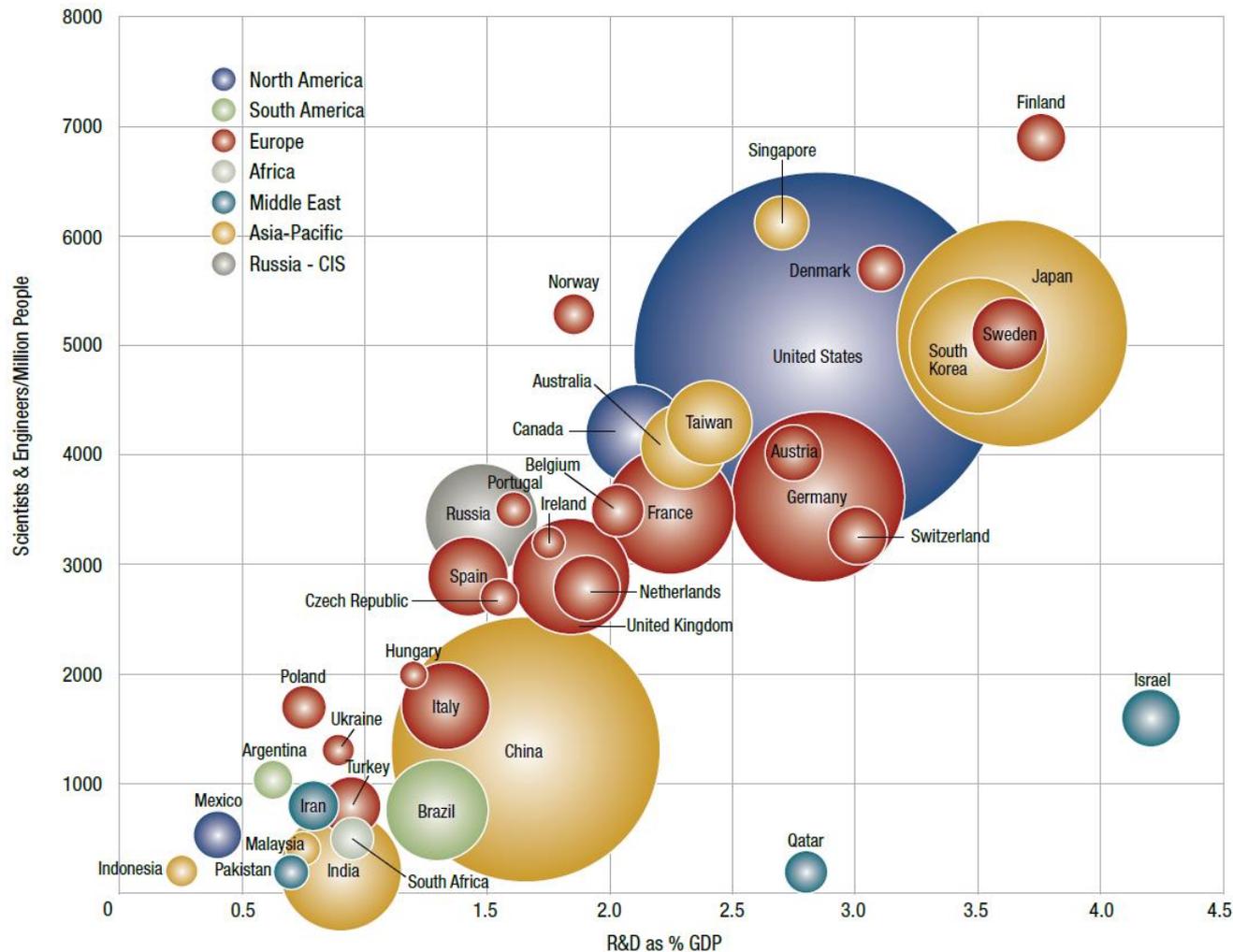
*High-tech jobs have grown nearly four times faster than overall economy during the past 18 months.*

# Entrepreneurial: Raw Materials

## *Annual R&D Spending by Country*

**World of R&D 2012**

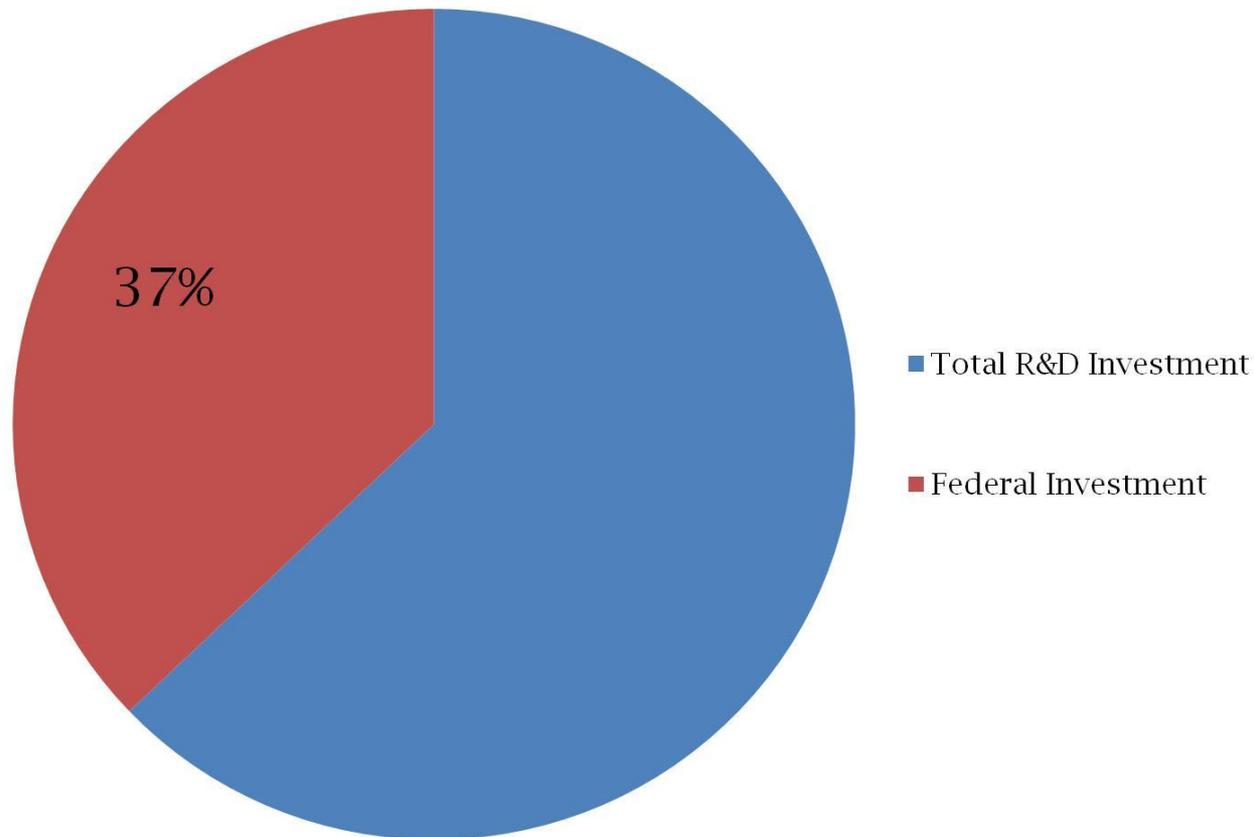
Size of circle reflects the relative amount of annual R&D spending by the country noted.



Source: Source: Battelle, R&D Magazine, International Monetary Fund, World Bank, CIA World Factbook, OECD

# Entrepreneurial: Raw Materials

TOTAL 2010 U.S. R&D INVESTMENT: **\$395,800,000,000**



# Entrepreneurial: *Regional Capital Availability*

Region	Venture Capital Investment By Millions
USA	\$ 26,652.4
Silicon Valley	\$ 10,907.4
New England	\$ 3,237.4
NY Metro	\$ 2,334.6
LA/Orange County	\$ 2,067.2
Midwest	\$ 1,386.7
San Diego	\$ 1,116.7
Northwest	\$ 1,076.0
Texas	\$ 930.5
Southeast	\$ 796.2
Dc/Metroplex	\$ 727.4
Colorado	\$ 564.2
Southwest	\$ 558.4
Philadelphia Metro	\$ 399.0
North Central	\$ 355.8
South Central	\$ 95.7
Upstate NY	\$ 48.7
Unknown	\$ 29.5
Sacramento/N.Cal	\$ 20.1
AK/HI/PR	\$ 0.7

# Education:

## *Changes in Educational Attainment, 1990-2012*

MSA	% HS		% Bachelors		% Grad Degree	
	1990	2009	1990	2009	1990	2009
Research Triangle	82%	89%	20%	26%	12%	16%
Seattle	88%	92%	21%	24%	9%	14%
San Diego	82%	86%	16%	22%	9%	13%
Boston	81%	91%	17%	24%	11%	19%
<b>PHILADELPHIA</b>	<b>76%</b>	<b>89%</b>	<b>14%</b>	<b>21%</b>	<b>8%</b>	<b>13%</b>
Houston	75%	81%	17%	19%	8%	10%
Denver	86%	90%	20%	26%	9%	14%
Baltimore	75%	89%	14%	21%	9%	16%
San Francisco	82%	88%	22%	27%	13%	18%
<b>PITTSBURGH</b>	<b>77%</b>	<b>92%</b>	<b>12%</b>	<b>19%</b>	<b>7%</b>	<b>12%</b>
U.S. Total	75%	86%	13%	18%	7%	11%

# Partnerships: *Research Triangle*

It is now the largest high-tech research park in North America, boasting 20 million sq. ft. of developed space, and home to 157 companies, employing 39,000 people. It is a center of innovation.



# Partnerships:

## Central Florida: “Medical City”

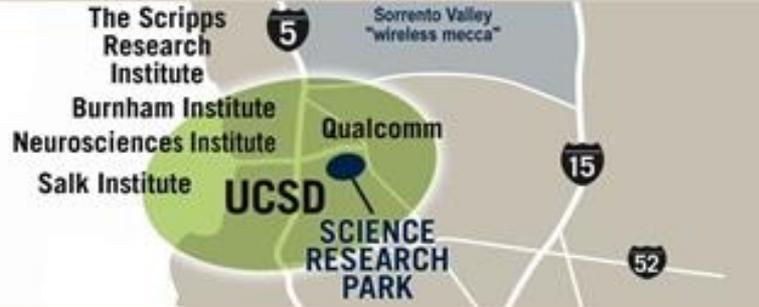
- Sanford-Burnham Research Institute biomedical research facility, Florida: \$310M Public Funds
- Since 2006, 5,000 jobs created
- University of Florida's Research and Academic Center
- Nemours Children's Hospital
- Orlando Veteran's Affairs Medical Center
- UCF College of Medicine



# Partnerships: UC, San Diego

## *Torrey Pines Mesa*

**Torrey  
Pines  
Mesa**



# Pittsburgh



# Transforming Pittsburgh

“Pittsburgh is certainly not going to escape a national recession. But it can provide lessons for how to survive it: invest in knowledge, compete globally, rewrite the old rules of business.” - *Time Magazine* **“Finding One Economic Bright Spot on Main Street”**, 10/09/2008



“Deindustrialization in Pittsburgh was a protracted and painful experience. Yet it set the stage for an economy that is the envy of many recession-plagued communities...”

-*New York Times*, 01/07/2009

# The Collaborative Innovation Center at Carnegie Mellon

## JOBS

To be Created: 489

## NEW PROPERTY TAXES

Collected During TIF: \$239,000

Collected After Expiration: \$598,000

## SPURRED INVESTMENT

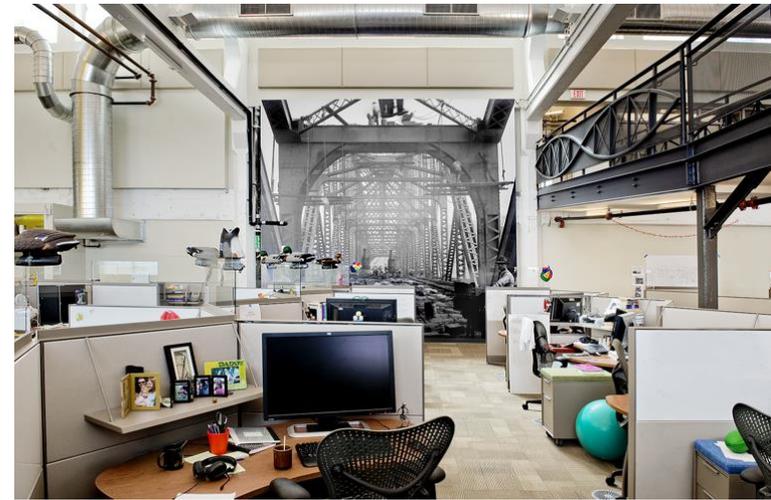
\$55 Million



State of the Art facility adjacent to Carnegie Mellon University that will:

- Attract Private technology firms to expand research and education collaborations
- Accelerate development of new technologies
- Support growth of region's technology industry base

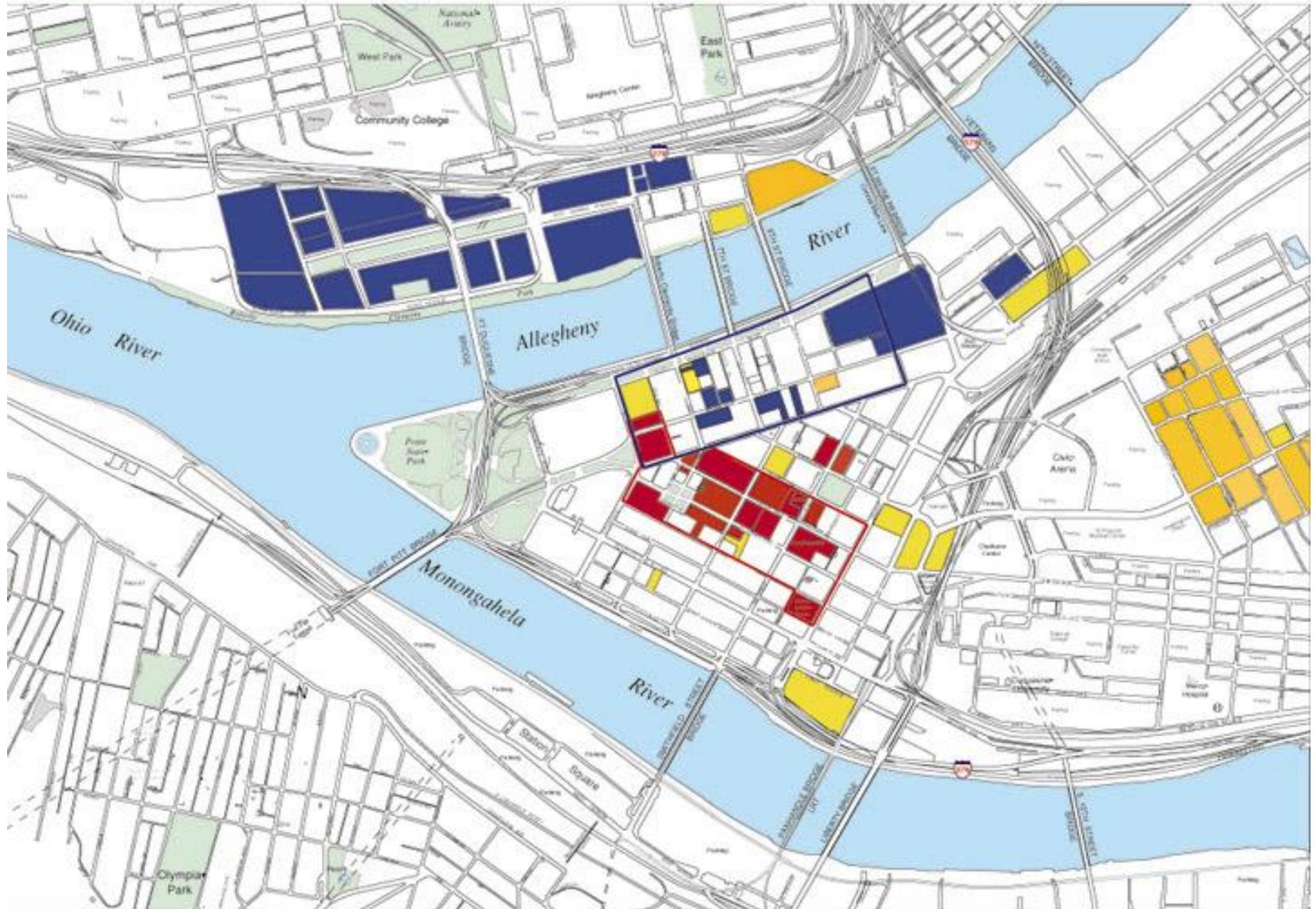
# From Vacant Nabisco Building to Google Offices



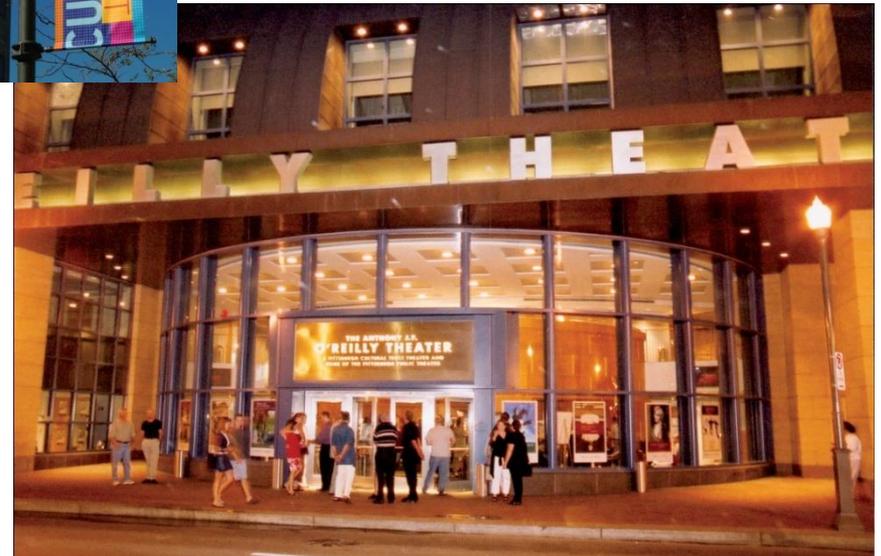
# Transforming a University Campus: *Schenley Plaza Before and After*



# Downtown Pittsburgh



# The Cultural Trust



# Three Rivers Stadium



# Three Rivers Stadium



# Heinz Field



# PNC Park



# David L. Lawrence Convention Center



# North Shore Development



# Principles of Success



1. Leadership
2. Strategy
3. Institutional Capacity



4. Financing  
Infrastructure

5. Education

6. Design  
Excellence



*Highline Park, New York City*

# Where Will the New Roads Lead...

