

# Assessing the Regional Competitiveness of Southeast Michigan



Executive Summary  
November, 2008

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- **Benchmarking – Background & Key Findings**

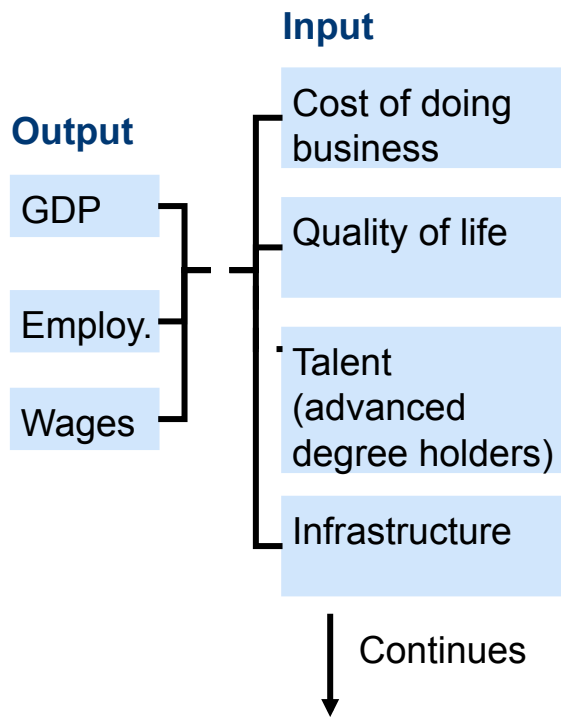
- Implications

## BACKGROUND AND CONTEXT

- Detroit Renaissance recently completed a benchmarking study assessing the regional economical competitiveness of southeast Michigan
- The findings will be used to:
  - Educate Detroit Renaissance leadership and other key leaders and stakeholders in the business arena, policy-making institutions, MI state government, and the broader public on the current competitiveness of the region
  - Help enhance and modify Detroit Renaissance’s work agenda going forward - Road to Renaissance
- We believe the benchmarking effort contains a number of **distinctive elements** vs. similar efforts
  - Disaggregation of **input vs. output benchmarks**
  - Utilization of **peer-based benchmarking**, where we vary the “competitive set” of comparison based on the relevant objective (e.g., compare to Chattanooga, Tennessee for attracting manufacturing industries; compare to Chicago for retaining talent)
  - **Utilization of times-series analysis** to discern which input benchmarks influenced which output benchmarks over time, by region
- While the economic hardship and challenges of the State of Michigan have been widely written about and discussed, we believe our benchmark effort yielded a number of insights that will help advance, rather than repeat, the current dialogue and will drive a set of additional actions or enhance existing ones

# BENCHMARKING EFFORT CONTAINS A NUMBER OF DISTINCTIVE ELEMENTS...

Benchmarks were disaggregated in an input-output method with 8-year time-series to gain implications



Discern implications of improving an input benchmark

Peer regions were selected based on relevant objective (compare Tennessee Valley for auto)

## Manufacturing peers

Tennessee Valley

Alabama

Chicago

Seattle

## Knowledge peers

Houston

Boston

Chicago

Raleigh

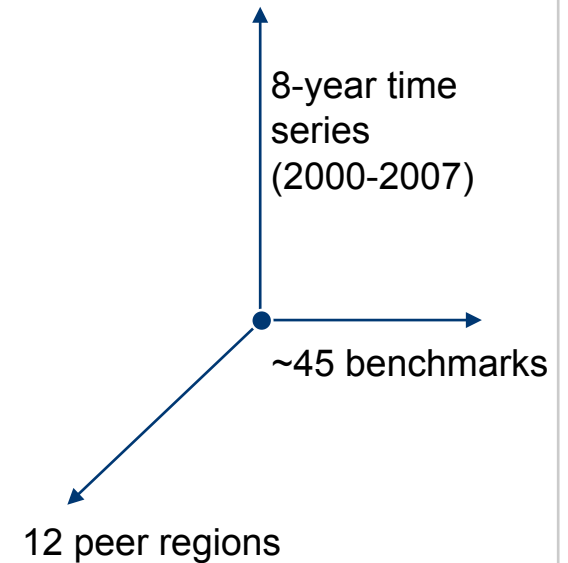
## Talent peers

↓ Continues

Peers chosen considering manufacturing, knowledge and talent competitors, etc.

An 8-year (2000-2007) time-series helped discern which input benchmark drove outputs

## Time-series cube



Gauge which input benchmark moved in the 8 years resulting in an output change

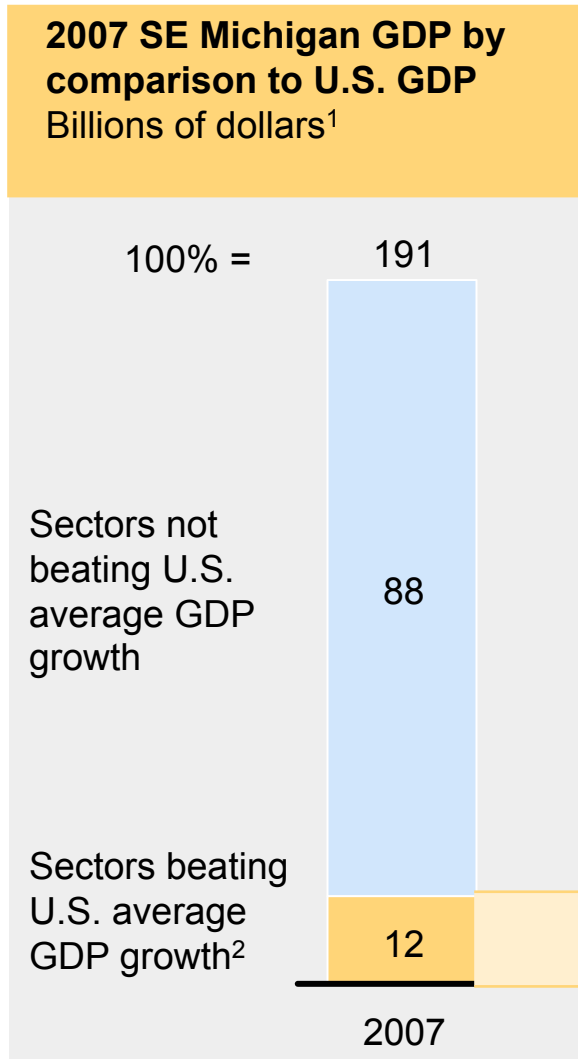
# ...ANALYZING A LARGE SET OF BENCHMARKS IN AN INPUT-OUTPUT MANNER

		Benchmark roll-up	Description
Output	Economic and demographic benchmarks	<ul style="list-style-type: none"> <li>• GDP</li> <li>• Employment</li> </ul>	<ul style="list-style-type: none"> <li>• GDP by sector, growth rate</li> <li>• Employment by sector, growth rate</li> <li>• Unemployment rate</li> </ul>
		<ul style="list-style-type: none"> <li>• Productivity</li> <li>• Demographic characteristics</li> </ul>	<ul style="list-style-type: none"> <li>• Productivity</li> <li>• Population flows by age</li> <li>• Education levels</li> <li>• Distribution of age level</li> <li>• Average income; income distribution</li> </ul>
Inputs	Quality of life benchmarks	<ul style="list-style-type: none"> <li>• Cost of living</li> </ul>	<ul style="list-style-type: none"> <li>• Cost of living</li> <li>• Cost of housing</li> <li>• Crime rate</li> <li>• Quality of mass transit; congestion</li> <li>• Personal tax environment               <ul style="list-style-type: none"> <li>– Government services per capita</li> </ul> </li> <li>• Quality of educational systems               <ul style="list-style-type: none"> <li>– Primary education</li> <li>– Secondary education</li> <li>– Private</li> </ul> </li> <li>• Quality of healthcare</li> <li>• Cultural index</li> <li>• Natural resources (climate, land availability)</li> <li>• Public perception of SE Michigan/Detroit</li> </ul>
		<ul style="list-style-type: none"> <li>• Quality of life indicators</li> </ul>	
	Business climate benchmarks	<ul style="list-style-type: none"> <li>• Workforce characteristics</li> <li>• Tax/regulatory environment</li> <li>• Infrastructure</li> <li>• Energy costs</li> <li>• Overall competitiveness</li> <li>• Availability of capital</li> <li>• Real estate</li> <li>• R&amp;D</li> <li>• Government spending</li> </ul>	<ul style="list-style-type: none"> <li>• Skills, costs, unionization</li> <li>• Business tax environment</li> <li>• Legislative/regulatory environment (tort system, regulatory rules environment, permitting and licensing)</li> <li>• Transportation infrastructure (air, rail, trucking, shipping, roads)</li> <li>• Energy costs (electric, natural gas)</li> <li>• VC flows/PE activity</li> <li>• Investment from inside and outside the state</li> <li>• Corporate rent per square foot</li> <li>• R&amp;D funding</li> <li>• Government expenditure by area</li> </ul>

## KEY FINDINGS OF BENCHMARK REPORT

- **Michigan’s decline pervades nearly all industry sectors and regions of the State, highlighting a cross-cutting set of input benchmarks where we are not competitive, relevant to all industries**
  - While the headlines give disproportionate weight to the automotive sector and southeast Michigan, our benchmarking effort suggests a more cross-cutting set of issues related to competitiveness
    - Compared to U.S. GDP growth of 2.4% per year since 2000, SE Michigan (58% of economy) has shrunk at 0.5%, while the rest of Michigan’s GDP was flat (0%). This suggests a far larger gap between *the entire State* and the U.S. average, rather than *among regions* in Michigan
    - Analysis of Michigan’s growth in 300 subsectors reveals that we had lower growth than the U.S. average in 90% of them (e.g., there are few, if any, pockets of “bright spots” vs. the U.S. averages)
    - We are similarly uncompetitive in knowledge-based industries (40% of MI economy) such as finance and information, as we are in manufacturing industries (only 19% of MI economy) such as automotive
  - A scan of input benchmarks highlight 3 root causes:
    - **(1) A high cost of doing business** (both in manufacturing and knowledge industries), grounded in higher than average wages and high business, personal, and property/local taxes;
    - **(2) A talent base that has pockets of select expertise, but overall is relatively less educated** than our peer regions competing to attract growing knowledge-based industries (for example, only 27% population of SE Michigan over age 25 having bachelors degree and higher compared to Raleigh-Durham at 38%)
    - **(3) A quality of life index that is much better than its perception: however, hurt by a high crime rate and a perception (but not reality) of lack of cultural offerings**
  - Case studies of other regions (e.g., Raleigh-Durham) confirm that a deep understanding of input-based metrics and their potential impact were critical drivers of the region’s economic transformations
- The benchmark effort also revealed a number of promising competitive strengths. Most noteworthy are
  - **(1) Pockets of specialized talent and expertise** (e.g., manufacturing engineering) that could serve as the foundation for value propositions to attract specific industries/clusters
  - **(2) A “flow” of annual top-tier University graduates**, second-to-none in the U.S.
  - **(3) An extraordinarily advantaged level of R&D activity**, both by corporations and University Research Corridor (combined #2 in U.S.)

# ANALYSIS OF MICHIGAN'S 300 SUBSECTORS REVEALS WE HAD LOWER GROWTH THAN THE U.S. IN ~90% OF THEM, WITH FEW BRIGHT SPOTS



**Bright spots: Top 5 sectors beating U.S. average GDP growth<sup>3</sup>**

Sector name	2007 GDP \$ Millions	SE Michigan CAGR	U.S. CAGR <sup>4</sup>
Industrial machinery manufacturing	392	13%	(1%)
Bakeries	318	7%	(2%)
Specialized design services	394	12%	4%
Business support services	665	10%	3%
Gambling industries	349	1%	(5%)

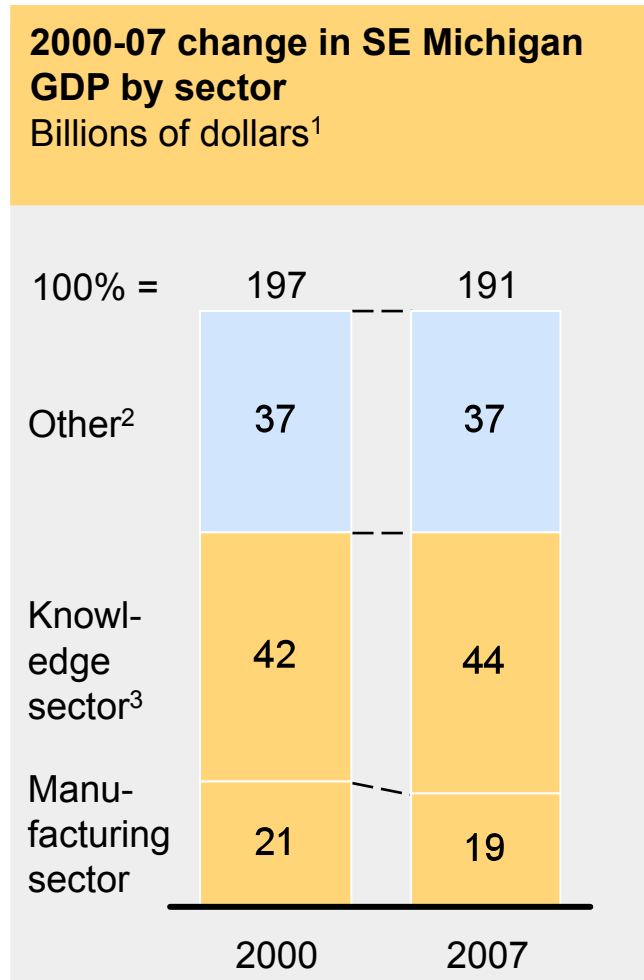
1 Inflation adjusted 2000 dollars

2 Includes only sub-sectors with >\$100 Million in 2007 GDP

3 Out of 46 total sub-sectors with >\$100 million in 2007 GDP and CAGRs greater than the 2006 U.S. average

4 Based on 2000-06 U.S. GDP; SE Michigan CAGR is based on 2000-07 SE Michigan GDP

# WE ARE SIMILARLY UNCOMPETITIVE IN KNOWLEDGE-BASED INDUSTRIES AS WE ARE IN MANUFACTURING



SE Michigan CAGR, 2000-2007	U.S. CAGR <sup>4</sup>
-0.5%	3%
0.2%	1%
-1.8%	2%
<b>-0.5%</b>	<b>2.4%</b>

- Manufacturing sector GDP in SE Michigan shrunk even as it grew nationwide
- While knowledge sector GDP grew in SE Michigan, it did not keep pace with the rest of the U.S.

1 Inflation adjusted 2000 dollars

2 Includes Government, construction, natural resources, agriculture, mining, leisure/hospitality, and trade, transportation, and utilities sectors

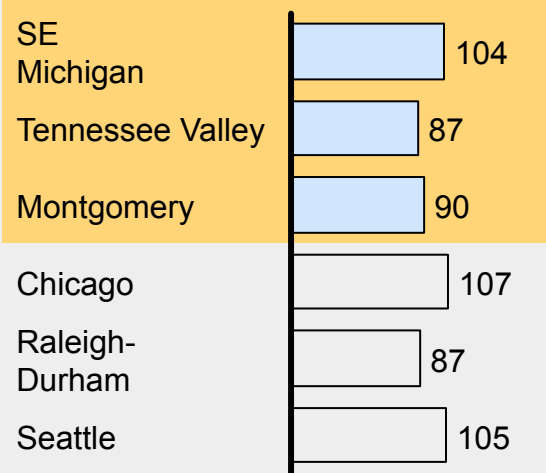
3 Includes information, finance, insurance, health care, education, professional/scientific, technical services, real estate/rental, and management of companies/enterprises

4 Based on 2000-06 U.S. GDP

# A SCAN OF RELEVANT INPUT BENCHMARKS HIGHLIGHTS 3 MAJOR ROOT CAUSES

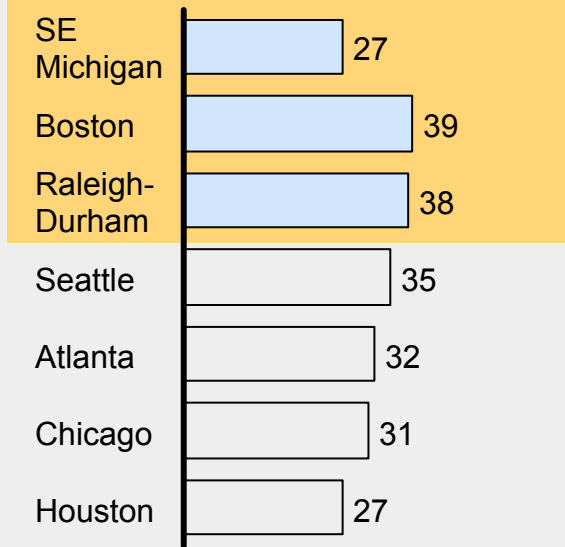
**1** Michigan's cost of doing business is high, especially compared to manufacturing peers such as Tennessee Valley (auto)

**Cost of doing business\***, 2005  
Index 100 = U.S. average



**2** SE Michigan lacks the talent pool available at peers (esp. knowledge industry peers such as Raleigh-Durham and Boston)

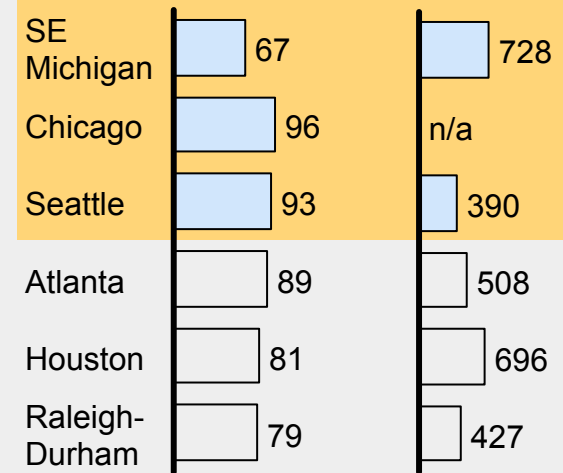
**Population of age above 25 with a bachelor's degree or higher, 2006**  
Percent



**3** SE Michigan's low cultural perception (but not reality) and high crime reduces the overall quality of life attractiveness

**Cultural index\*\***  
Weighted avg; 100 = best

**Crime rate**  
Violent crimes per 100,000 residents



\* Cost of doing business is a weighted average of the unit labor cost (75%), the energy cost index (15%), and the state and local tax index (10%)

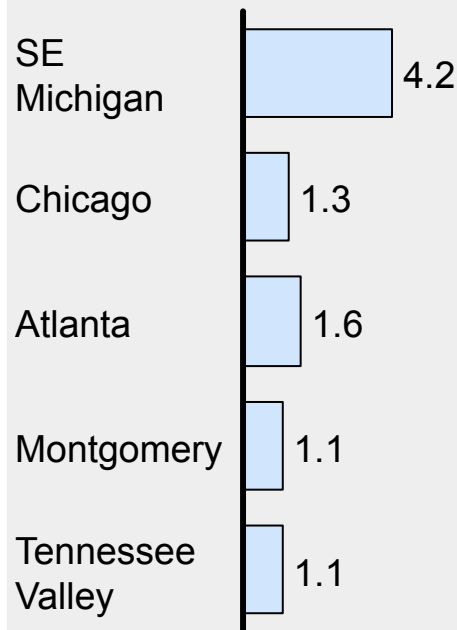
\*\* Composite score based on quality of life (physical and cultural attractiveness, heritage, overall ease of living); arts and culture (museum ratings, performing arts ratings, libraries); and leisure (outdoor sports, amusements, national parks, professional/college sports, and shopping)

Source: Moody's Economy.com; American Community Survey, U.S. Census, North American Business Cost Review, 2006, Cities Ranked and Rated, FBI Crime Statistics

# BENCHMARKING REVEALED A NUMBER OF PROMISING COMPETITIVE STRENGTHS

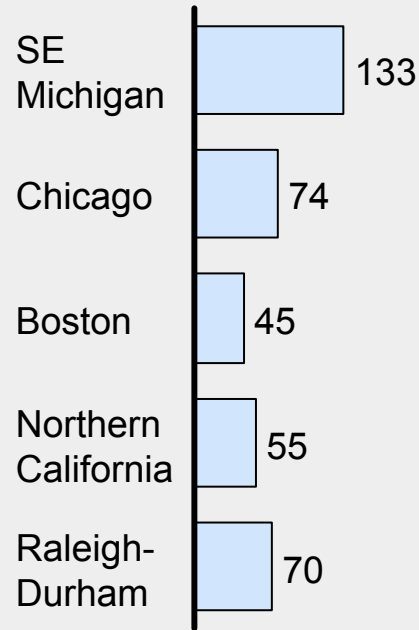
## a Pockets of specialized talent and expertise

**Concentration of engineers**  
Engineers as percent of workforce



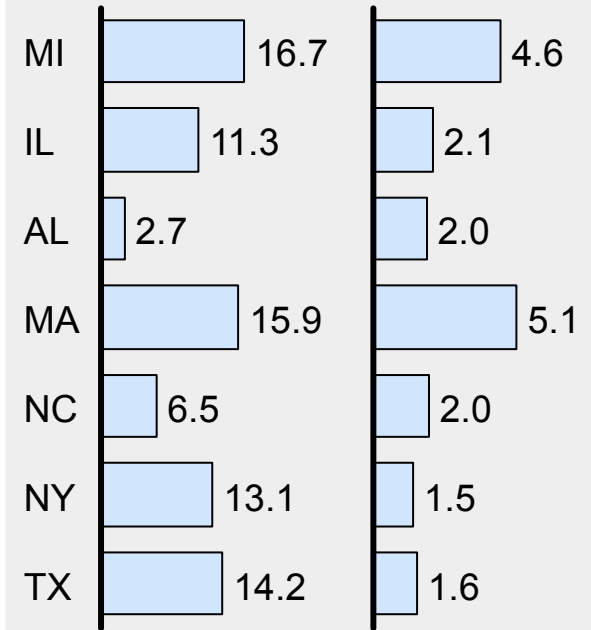
## b A flow of annual top-tier University graduates, second to none in the U.S.

**Student enrollment, fall 2005\***  
Thousands



## c Extraordinarily advantaged level of R&D activity, by corporations and university research corridor

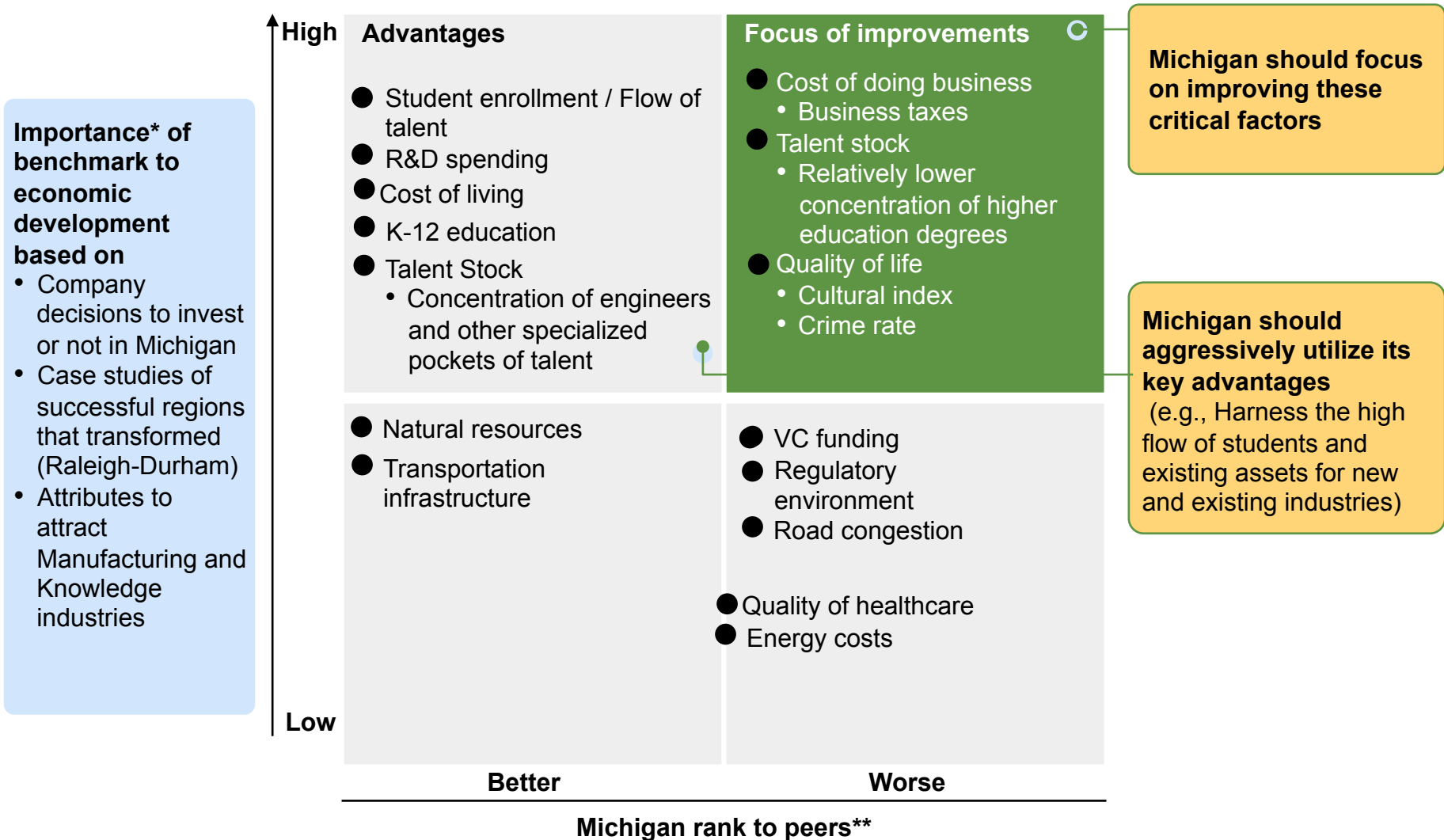
**Total R&D 2004, \$ Billions**      **R&D intensity Total R&D/GDP, Percent**



\* Enrollment based on the following clusters: SE Michigan- University of Michigan, Wayne State, Michigan State; Chicago- University of Chicago, University of Illinois at Urbana, Northwestern; Boston- Harvard, MIT, Tufts; Northern California- University of California at Berkeley, University of California at San Francisco, Stanford University; Raleigh-Durham- Duke, University of North Carolina at Chapel Hill, North Carolina State

Source: Moody's Economy.com; American Community Survey; U.S. Census; university websites, Anderson Economic Consulting; National Science Foundation; Occupational Employment Survey

# INPUT BENCHMARKS WERE PLOTTED INTO A MATRIX BASED ON THEIR CAPABILITY TO ATTRACT INDUSTRY AND TALENT TO MICHIGAN



\* Importance: Factors chosen based on reports of compilation of company decisions to invest or not in Michigan, case studies, benchmarks impact on competitiveness, productivity and attractiveness in Knowledge and manufacturing industries

\*\* Michigan rank to peers: Factors chosen based on SE Michigan's performance relative to benchmark set.

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- Benchmarking – Background & Key Findings

- **Implications**

# IMPLICATIONS: POTENTIAL ECONOMIC GROWTH TRANSFORMATION PLAN EMERGING FROM BENCHMARKING AND PRIORITIZED BY BOARD

**Enablers** – address the underlying cross cutting factors that trigger and create conditions conducive to economic growth

- ① Reduce **cost of doing of business**
  - Explore turbo-charging government performance transformation for greater efficiency and effectiveness to reduce tax rate
- ② Increase attractive employment opportunities and **retain talent**
  - Re-allocate specialized talent to industry attraction efforts (initiative B)
  - Capitalize on talent “flow” from universities
- ③ Improve **quality of life**
  - Perception improvement through enhanced marketing of cultural assets
  - Continued efforts to reduce crime rate



**Initiatives** – form initiatives to pursue specific growth opportunities

- Ⓐ **Identify and drive university-business partnerships**
  - Leverage research university strengths in funding to pursue distinctive joint research and commercialization opportunities
  - Ensure high “flow” of research university graduates is matched to business partners (e.g., internships, work study, etc.)
- Ⓑ **Expand and attract target industries based on distinctive asset/skill base of region**
  - E.g., leverage engineering talent base to create “hub” for alternative powertrain technology development

**Need to create balanced portfolio of short-term, mid-term, and long-term actions in pursuit of plan**

## POTENTIAL IMPLICATIONS OF BENCHMARK REPORT (1/2): ENABLERS

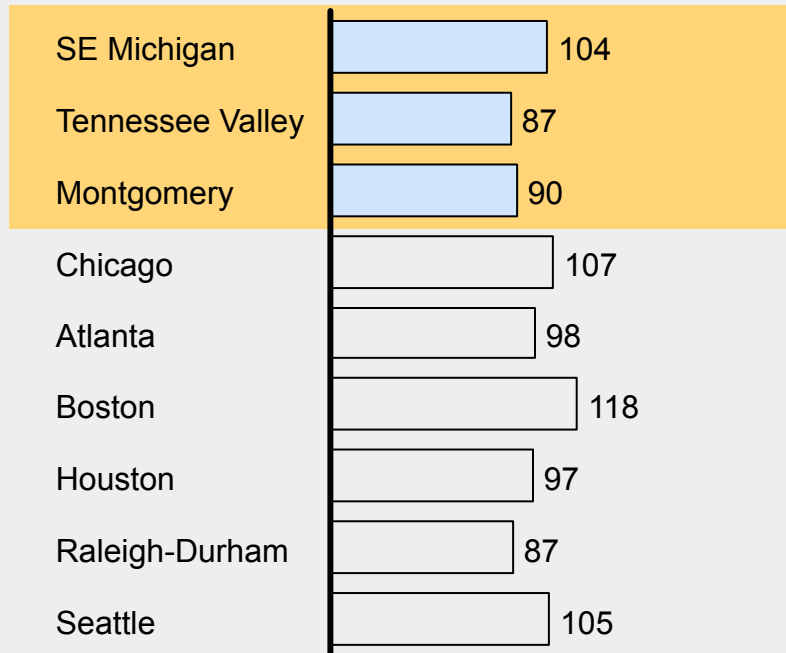
- **A meaningful reduction in the cost of doing business in the State is required (enabler #1)** with tax reform at its core
  - One option is a State Government performance transformation, by increasing efficiency and effectiveness
  - More direct private sector support, such as via Detroit Renaissance member organization expertise, could potentially accelerate this effort (e.g., advisory board of executives to management leaders in government)
- **Increase attractive employment opportunities and better retain the strong talent flow (enabler #2)** emerging annually from Michigan's universities
  - To increase the retention of students, existing talent initiatives should continue and new initiatives launched that create a "pull" for students to stay in Michigan (tuition incentives, connecting students with local employers, etc.)
- **For enabler #3, quality of life:** the region could gain from putting greater emphasis on marketing cultural assets and with continued efforts to reduce crime

# 1 ENABLER #1 – A MEANINGFUL REDUCTION IN THE COST OF DOING BUSINESS IN THE STATE IS REQUIRED

Manufacturing peers

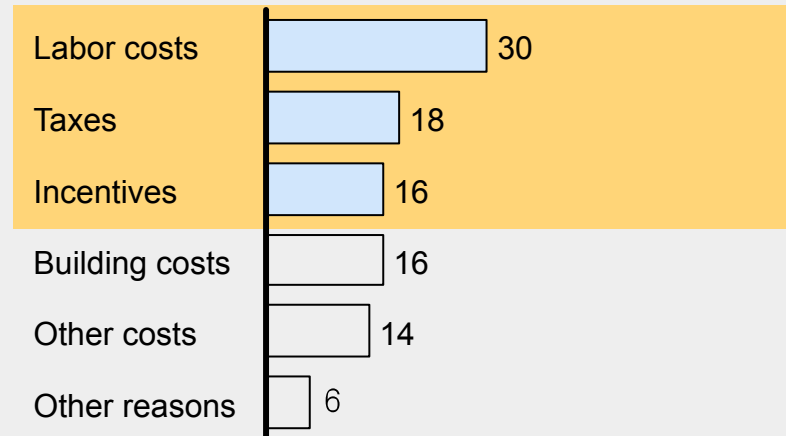
Relatively high cost of doing business compared to peers is evident from benchmarking . . .

Cost of doing business\*, 2005  
Index 100 = U.S. average



Furthermore, most companies cited high business costs as a reason not to invest in Michigan

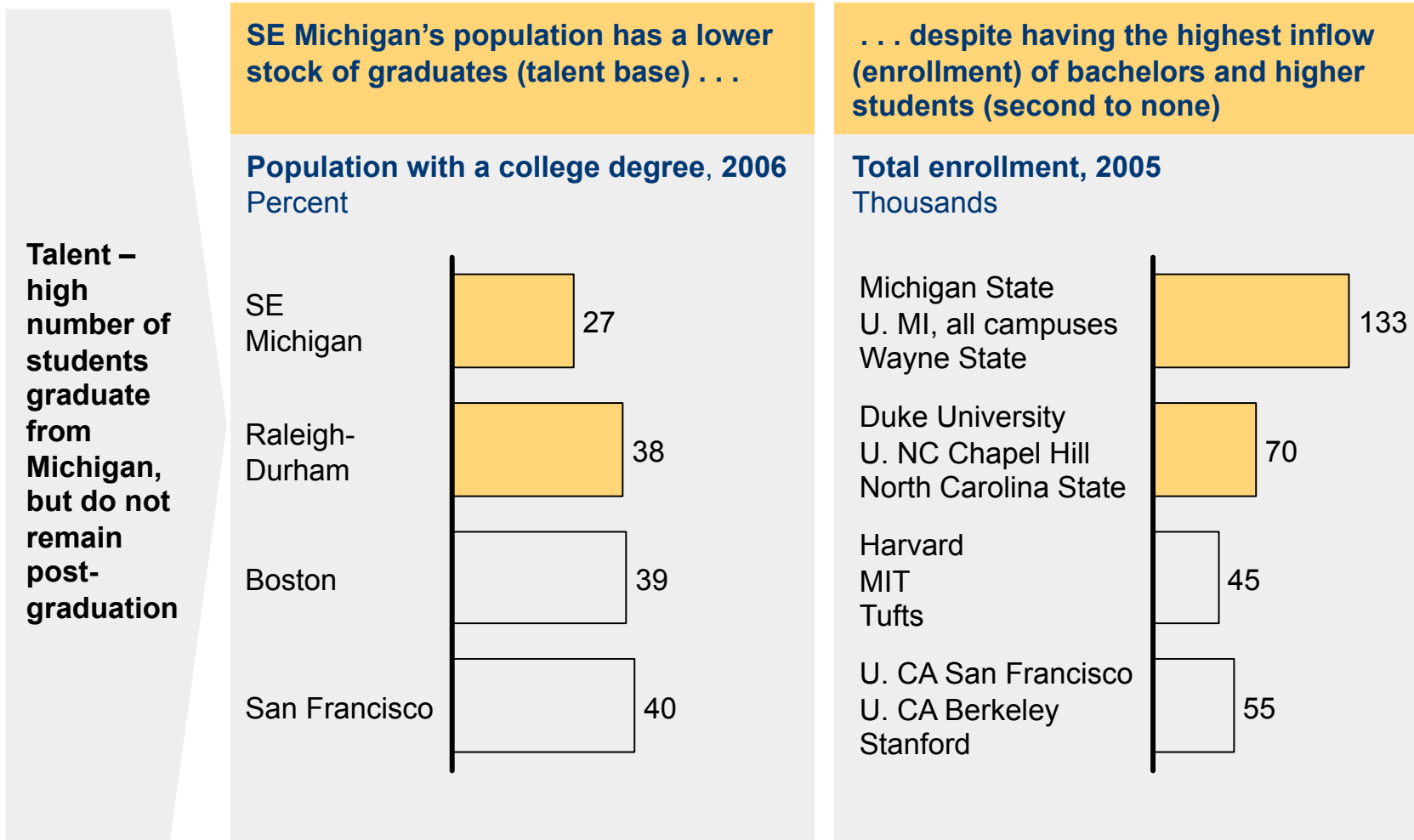
Reasons why companies might locate or expand outside the state of Michigan\*\*  
Percent



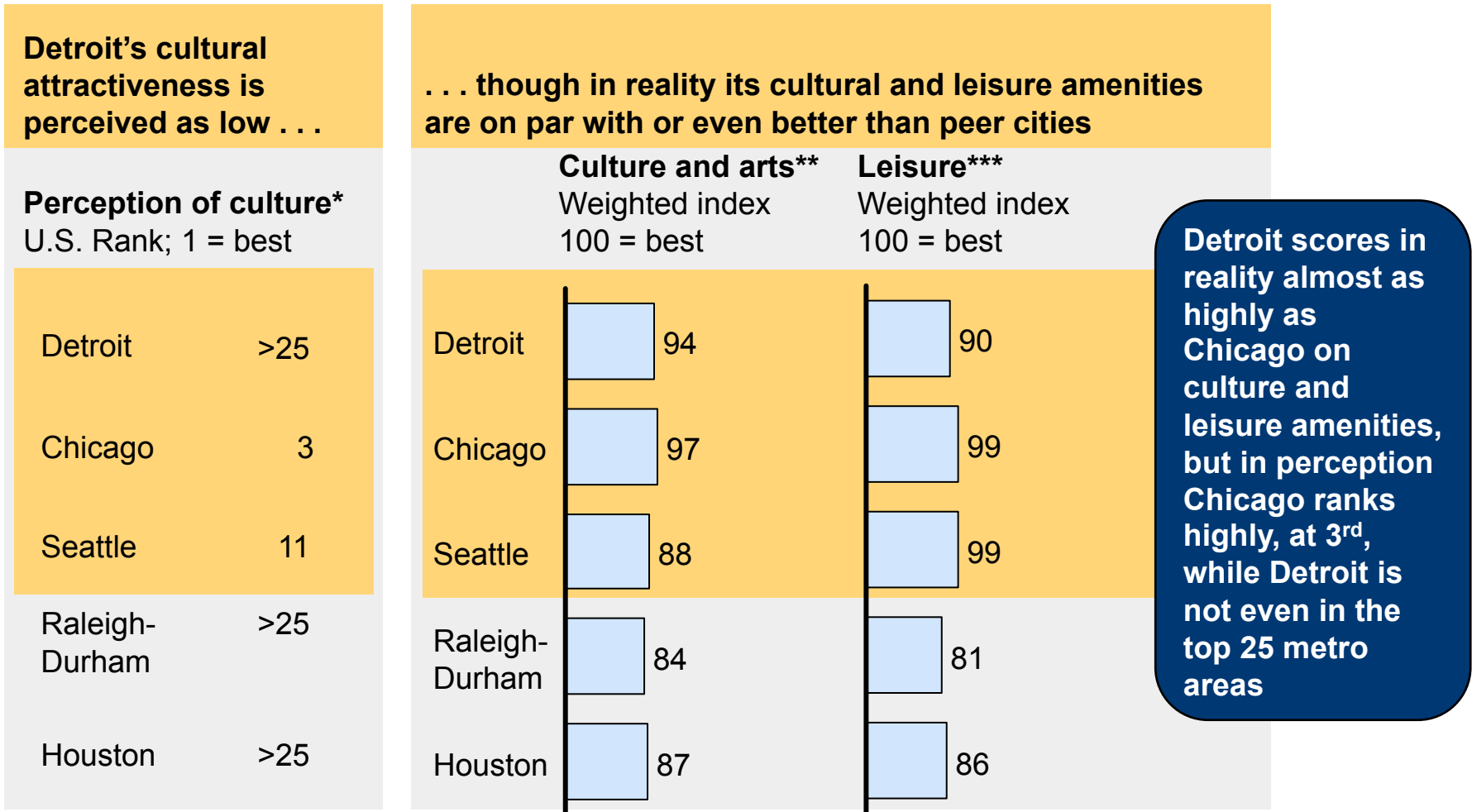
\* Cost of doing business is a weighted average of the unit labor cost (75%), the energy cost index (15%), and the state and local tax index (10%)

\*\* Based on analysis of 264 companies who considered investing in Michigan and submitted applications to to MEDC between 1995 and 2005

## ② ENABLER # 2 – SE MICHIGAN HAS A RELATIVELY LOW ‘STOCK’ OF TALENT, BUT A VERY HIGH ‘FLOW’ TO POTENTIALLY CAPITALIZE UPON



### ③ ENABLER #3 – CURRENT INITIATIVES THAT MARKET THE REGION CAN BENEFIT FROM GREATER EMPHASIS ON CULTURAL ASSETS, WHERE PERCEPTION IS MUCH LOWER THAN REALITY



\* Perceived culture score based on a 2007 survey by Travelandleisure.com and CNN Headline News of which cities had the best culture

\*\* Score based on weighted scores of museum ratings, professional performing arts (e.g., Classical music and theater) ratings, and library facilities ratings

\*\*\* Score based on weighted availability of outdoor sports, amusements (zoos, aquariums, and amusement parks), national parks and coastline, professional or college-level spectator sports, and shopping

## POTENTIAL IMPLICATIONS OF BENCHMARK REPORT (2/2): INITIATIVES

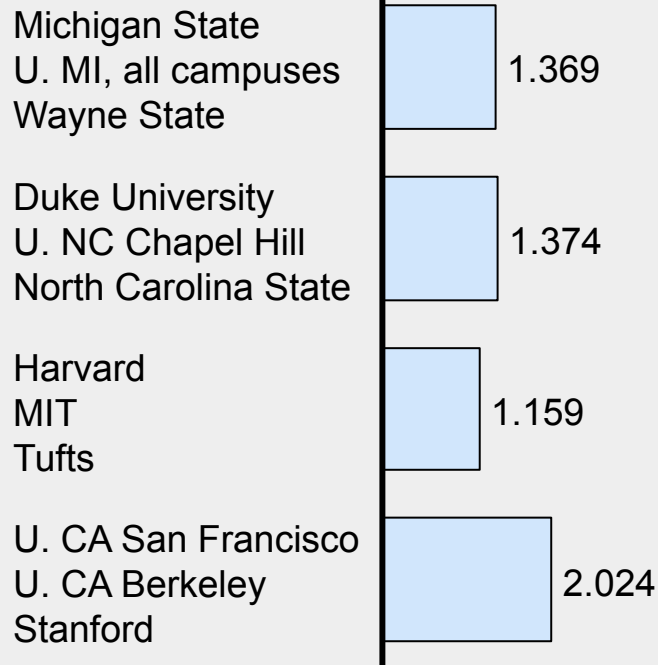
In addition to enablers, two targeted initiatives could help proactively grow the SE Michigan economy:

- **(A) An initiative to increase university-business partnerships**
  - E.g., Raleigh/Durham region’s transformation by Research Triangle Park
  - E.g., joint research efforts, enhanced student recruitment
- **(B) A parallel initiative to attract new and existing industries on the basis of Michigan’s specialized pockets of assets and skills**
  - Use Michigan’s specialized pockets of assets and skills (e.g., manufacturing engineering) to attract specific industry clusters
  - Identify target industries, using market attractiveness and whether Michigan has the “right to play” (e.g., alternative powertrain technology “hub”/industry)
- All of these potential initiatives could augment and enhance the Detroit Renaissance agenda
  - Augmentation of other initiatives (e.g., growth accelerators, business attraction, talent, marketing)
  - Potential introduction of 1-2 new initiatives (e.g., state government reform, university-industry collaboration)

# A HARNESS UNIVERSITY-BUSINESS PARTNERSHIPS TO ALLOW THE URC TO REACH FULL ECONOMIC IMPACT POTENTIAL

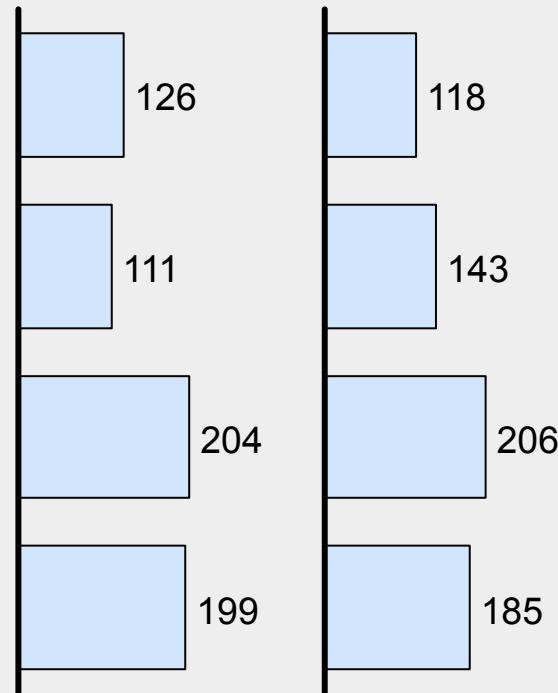
Michigan's university cluster invests more in R&D than all peer clusters, except for Northern California...

Total R&D expenditures, 2005  
\$ Billions



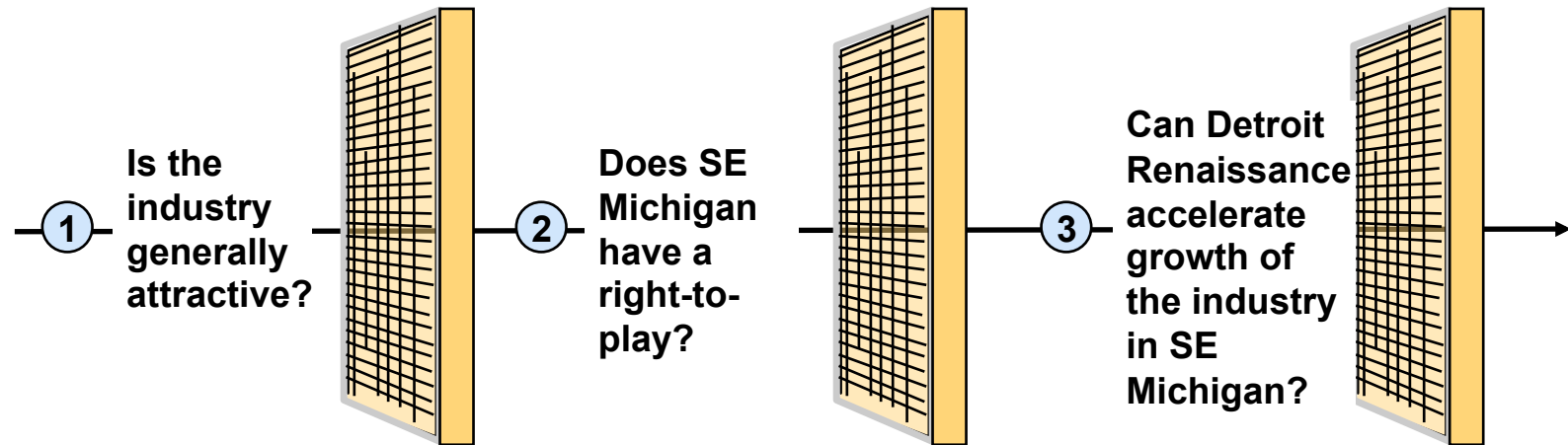
... but output from R&D investment, based on patents and licenses, lags behind peer clusters

Patent Grants 2002-06      Licenses/options 2002-06



Source: National Science Foundation, Association of University Technology Manager, university Web sites, Anderson Economic Group's "Michigan's University Research Corridor"

## B ASSET/ SKILL BASED INDUSTRY ATTRACTION REQUIRES SELECTION OF THE MOST ATTRACTIVE INDUSTRIES FOR THE REGION



### Additional questions to answer

- Is the industry growing quickly?
- Is the market size big enough?
- Is the market profitable?
- Is there already an industry presence in SE Michigan?
- Does the industry leverage any of SE Michigan's natural assets?
- Can Michigan be as competitive as other regions?
- Would the industry benefit from additional investment or public / private collaboration?
- Is there a distinct role that Detroit Renaissance can play?

### Examples of industries to consider

- Alternative Powertrain
- Alternative Energy Technologies (Solar, Wind power)
- Aerospace Components and services
- Machine tools manufacturing