

BUILDING MICHIGAN'S
21ST CENTURY ECONOMY

A REPORT FOR GOVERNOR RICK SNYDER

Executive summary

Throughout our nation's history, Michigan has set the pace for America's economic growth. The success of our industries during the 20th century, and the broad participation of our citizens in that success, gave birth to a standard of living that defined the American dream. The fundamental tools of that success—innovation, ambition, skilled labor and investment—are still on display in our communities, but the information age promises to bring significant change in our homes, businesses, and communities. The goal of the Building the 21st Century Economy Commission is to help chart a path that allows Michiganders to own the next century as well.

This Commission held listening sessions across our state's varied geography and gained insights from our diverse population through interviews, panel discussions, and tours. We consulted with local and global academics and experts, and sought input from our small, midsize, and large enterprises as well as diverse groups of residents. While many learnings from our engagement across the state are presented in the pages that follow, one finding stands out: the global economic and cultural landscape has dramatically changed in recent decades, and we cannot advance our standard of living by deploying the approaches that brought us success in the past. Other states and our global competitors are seeing this change and are acting to capitalize on it. We must do the same, or risk great economic and social disruption.

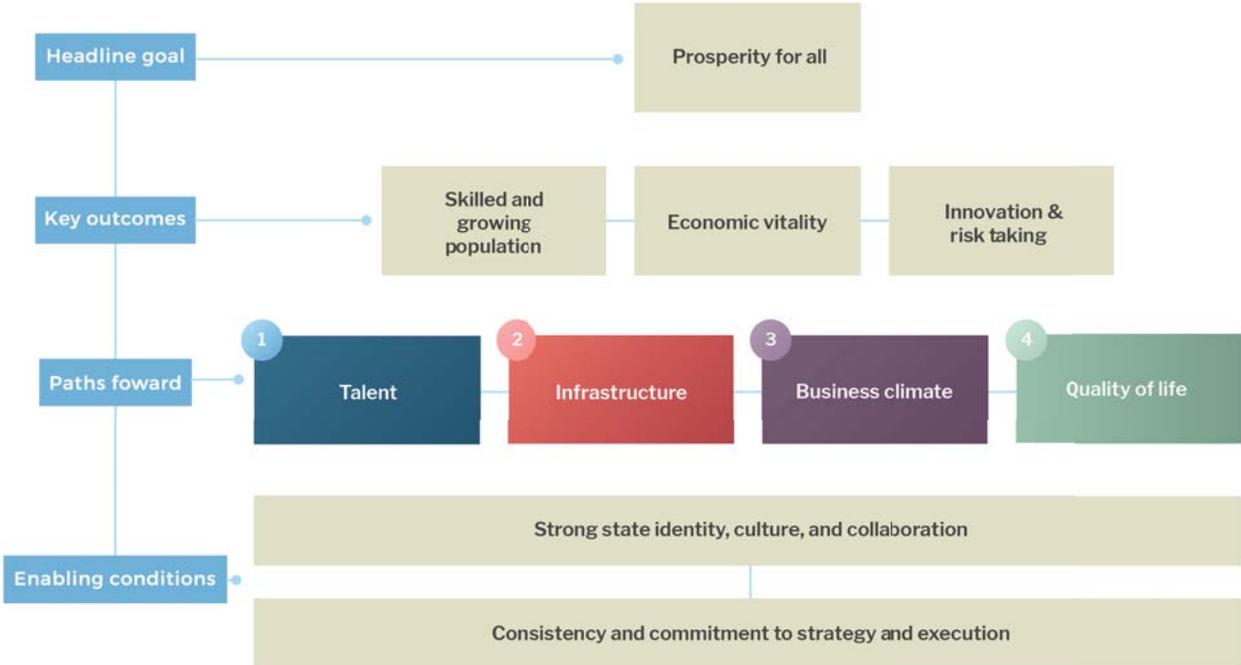
"The foundation of an economy with shared prosperity is a strong commons -- a set of communal assets and institutions that an economy and companies rely on to be productive."

- Prof. Jan Rivkin, Harvard Business School

This Commission, tasked by Governor Rick Snyder with creating an economic blueprint for Michigan's next 20 years, understands that it cannot predict the future. If we attempt to identify the industries and products that will dominate the next half century, the only thing we know for certain is that we will be wrong. What we do know, however, is that the future will be won by the communities that create a foundation for sustained, self-reinforcing economic growth, in the form of a highly skilled work force, leading-edge physical and digital infrastructure, a flexible and efficient business climate, and world class quality of life for their people. As such, this report lays out a path to strengthening Michigan's economic "commons"—those platforms that boost all economic activity.

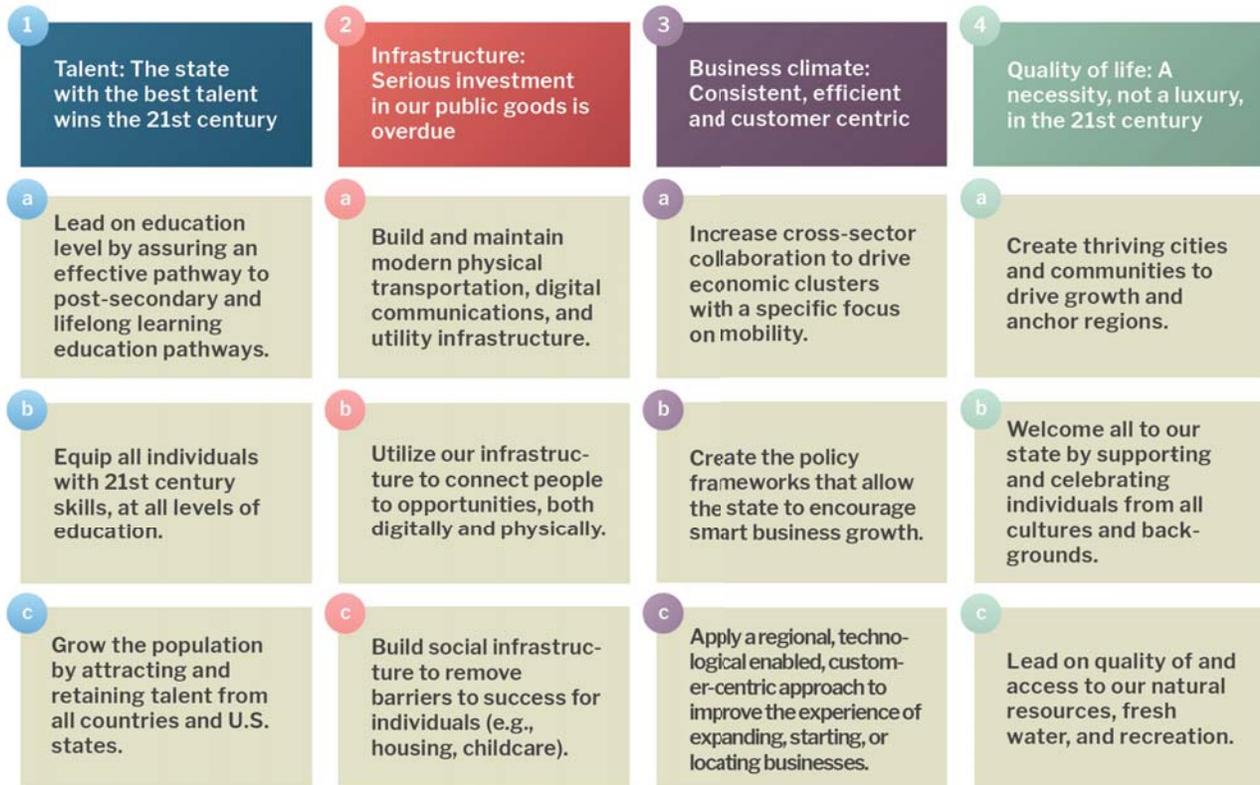
This Commission believes that Michiganders can prosper in the 21st century, and that we can lead the globe with our economic strength. This will require the skills, people, businesses, and innovation to compete in an increasingly global, changing, and technology-enabled world. The Commission challenges the State, its businesses, and citizens to create the platform and conditions for Michiganders to thrive in the 21st century economy. The Commission's recommended overall goals, desired outcomes, paths to success, and key enablers are outlined in the following graphic:

EXHIBIT 1. High level goals and approach



The goal that the Commission has set for Michigan is to sustain an economy that fosters prosperity for all. The outcomes that we seek are a skilled and growing population, economic vitality, and a climate of innovation and risk taking, because these are the metrics that drive overall prosperity. Enabled by our strong state identity and culture, and governed by our commitment to a sound strategy and execution, we have identified the goals and actions required to build the platform for Michigan and our economy to thrive in the 21st century. These recommendations are highlighted in the graphic below.

EXHIBIT 2. Specific recommendations



The Commission's recommendations and accompanying specific actions, the rationale for the recommendations, and the case for action are outlined in our report.

Throughout our journey around the state, we heard people from across the economic, civic, cultural, and academic spectrum describe in vivid detail the way in which the world is changing, and how these changes are upending how we go to market with our products, services, and ideas. Our conversations revealed some trepidation about how these changes will affect the next generation of employers and employees. But what was more evident is that the raw materials for success exist in abundance across the diverse and distinct regions of our state. It is our hope that the actions called for in this report will harness the capacity of Michiganders to win in the 21st century economy.

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Letter from the Chair, dedication, and acknowledgements

Along with my fellow Building the 21st Century Economy Commissioners, it was an honor to be charged by Governor Rick Snyder to develop a report that can help all sectors of Michigan's society adapt and win in the 21st century global economy. The Commission is proud of this work, and we have endeavored to create a report worthy of the assignment and something that all Michiganders can use.

Creating a report that prepares one of the largest states in the nation for the challenges and opportunities over the next 20 years and beyond is a major task—and one fraught with peril, as the only thing we know about the future is that no one can predict it accurately. Given this reality, the Commission chose to focus on the broad trends we see in the global economy and society. We could not and did not address every possible development the future might bring.

Our work with prominent state and national academics, consultants, and other leaders allowed us to quickly understand the broad themes for the next 20 years. Our core ethos boils down to two points: First, Michigan is a state with tremendous assets and advantages. We have much to be proud of and a strong base upon which to prepare for a dynamic and uncertain future. Second, unless we take collective action to “grab the tiller” and bend some upcoming demographic and economic trends, our state will not be among the winners in the 21st century global economy.

While this report has many specific recommendations, here are some of the broad themes:

- **Talent rules.** The correlation between educational achievement, especially bachelor's degrees, is highly correlated with per capita income. Michigan will not succeed in the 21st century global marketplace unless we are able to attract more highly educated persons and enhance the education levels of existing residents to meet the skill demands of the future.
- **Michigan is the mobility state.** Michigan defined innovation in the early part of the 20th century with the advent of the automotive industry. Today, our state has the opportunity to lead again in the coming revolution of the connected and autonomous vehicle. Michigan's need to lead in this space must be a shared priority for all Michiganders.
- **The world is a more competitive place.** As recently as the 1980's, the United States was the world's only economic and academic superpower. Today, our competition comes from every corner of the globe, with multiple challengers in every industry and field.
- **Quality of place matters.** Whether large or small, urban or rural, having attractive and compelling communities that leverage their natural assets is critical. The trend towards people choosing where they live based on quality of life as opposed to job considerations will continue to accelerate.
- **The speed of change will only accelerate.** The pace of changes in technology, and in societal norms and business practices, will only increase over time. The key to success in this rapidly evolving environment is not to try to predict these trends, but to develop the capacity for flexibility in our population and institutions.

To accomplish this, Michigan will need to take a different approach to investment in public goods—“the commons”—than we have for the last generation.

The Commission acknowledges the strong work done by the Governor's 21st Century Infrastructure and Education Commissions, and our work is aligned with theirs. Finally, the Commission expresses deep gratitude to the individuals and organizations who contributed to our work as well as the strong guiding hand provided by our partners at PwC.

Let's face Michigan's future together with confidence and a shared sense of purpose.



Sandy K. Baruah, Commission Chair

In memory of Dr. Tom Pleger

The Commission would like to dedicate this report to our fellow Commissioner, Dr. Tom Pleger, who passed away during its creation. Dr. Pleger was a leader, intellectual, and friend. As president of Lake Superior State University and resident of the Upper Peninsula, his perspective influenced the Commission on wide-ranging issues including the future of education, the needs of communities across the state, and the necessity of developing a human-centric vision for the future economy. We hope the Commission's work will honor his memory.



Acknowledgements

This report would not have been possible without the time and talent of many individuals across the state. Commissioners would like to thank everyone who participated in the process; your perspective was invaluable.

In particular, the Commissioners would like to thank those who hosted listening sessions: Rick Baker and the Grand Rapids Chamber; Ron Kitchens, Southwest Michigan First; Commissioner JoAnn Crary and Saginaw Valley State University; Commissioner Tom Pleger, Lake Superior State University, and Staybridge Suites; Commission Chair Sandy Baruah and the Detroit Regional Chamber. Additional thanks to those stakeholders who met with Commissioners during these meetings

Commissioners are grateful for the state and national experts who helped frame and guide our work, including Dave Camp, PwC; Gabriel Ehrlich and George Fulton, University of Michigan Department of Economics; Amity Millhiser, PwC; Jason Palmer, Michigan Bureau of Labor Market Information and Strategic Initiatives; Jan Rivkin, Harvard Business School; Doug Rothwell, Business Leaders for Michigan; Jeff Strohl, Georgetown Center on Education and the Workforce; and Paul Traub, Federal Reserve Bank.

Commissioners also want to acknowledge the help of Jon Allan, Director of the Office of the Great Lakes; Evan Weiner, Edw. C. Levy & Co., and Chair of the 21st Century Infrastructure Commission; Tom Haas, Grand Valley State University, and Chair of the 21st Century Education Commission. Department Directors: Valerie Brader (Michigan Agency for Energy), David Behen (Department of Technology, Management & Budget), Keith Creagh (Department of Natural Resources), and Polly Kent (on behalf of Director Kirk Steudle, Michigan Department of Transportation), and the many other individuals including administrators, assistants, and support staff who made this possible.

Building the 21st Century Economy Commissioners

The Building the 21st Century Economy Commission was composed of individuals with a broad cross-section of skills across a variety of locations. The members included:

Members Appointed by the Governor

Sandy K. Baruah, Detroit Regional Chamber (Chair)
JoAnn Crary, Saginaw Future, Inc.
Kathleen Dobies, Ford Motor Company
Jim Holcomb, Michigan Chamber of Commerce
Joe Lauer, Greenback, Inc.
Jason McCormack, National Heritage Academies
Timothy Nelson, Northwestern Michigan College
Sandy Pierce, Huntington National Bank
Thomas Pleger, Lake Superior State University
Nedda Shayota, Sigma Associates, Inc.
Jessica Ann Tyson, JA PR Group, LLC.

Legislative Appointees

Matthew Cullen, Rock Ventures
Bob DeVries, Michigan Senate
Matt Sweeney, Michigan Senate
Kathy Wilbur, Central Michigan University
Lou Glazer, Michigan Future, Inc.

Department Directors (or their designees)

Jamie Clover Adams, Michigan Department of Agriculture and Rural Development
Steve Arwood, Michigan Economic Development Corporation
Patrick McPharlin, Department of Insurance and Financial Services
James Robert Redford, Michigan Veterans Affairs Agency
Kirk Steudle, Michigan Department of Transportation

Designees

Peter Anastor, Michigan Department of Agriculture and Rural Development
Mike Kapp, Michigan Department of Transportation

Supporting Consultants

Britt Harter, PwC
Judith Margolin, PwC
Amity Millhiser, PwC
Chris O'Brien, PwC
Ramesh Telang, PwC

Governor's Staff

Michael Brownfield
Sarah Dickinson
Therese Empie
Tyler Sawher
John Walsh

CHAPTER 1.

Case for action



Case for action

The Commission heard from many economists, analysts, demographers, and economic developers who presented their research on Michigan's current economy and projections for its future. The data, from different voices and perspectives, communicated a single message: the economy of the 21st century will be very different from that of the 20th century, and Michigan must "grab the tiller" and steer our state toward future prosperity or risk being left behind.

Data focused on five megatrends

The data that we evaluated can be summarized in five megatrends, originally identified by PwC, that are shaping businesses and societies globally. While the effects of these megatrends can be debated, their role in shaping our world is broadly accepted. These megatrends—changing demographics, technological breakthroughs, increased urbanization, shifts in global economic power, and environmental change and resource scarcity—greatly impact how Michigan competes in a global marketplace and drives expanding opportunity and improved quality of life at home.



Demographic shifts

Demographic shifts: Explosive population growth in some areas is offset by serious declines in others, contributing to everything from shifts in economic power to resource scarcity to changes in societal norms. Here in Michigan, our population is aging and declining, placing strains on our state and local budgets and reducing the pool of available labor. Economic growth is closely tied with population growth, and talented workers are essential inputs for employers, so the decline of the potential workforce is a issue for the state.



Technological breakthroughs

Technological breakthroughs: Breakthroughs in technology are increasing productivity potential, creating new markets, and opening up new investment opportunities. These effects can be seen in the automotive industry: the automobile has become a computer on wheels, and autonomous vehicles are quickly becoming a reality, but automation has dramatically decreased the number of workers required to assemble a car.



Accelerating urbanization

Accelerating urbanization: As of 2015, the United Nations estimates that there are 22 mega-cities—those with populations of 10 million or more—with 17 located in developing economies. As populations flock to the benefits and scale of urban living, these centers are predicted to grow. The same survey showed 400 cities with a million or more and none of them is located in Michigan.



Shift in global economic power

Shift in global economic power: The emergence of Brazil, Russia, India, China, and South Africa as economic powers has created new markets and competitors; unlike in past generations, the United States is not the only game in town. Michigan's industries—notably agriculture, automotive, and manufacturing—are competing in global markets, with companies moving production and other value-added services closer to these new economic centers.



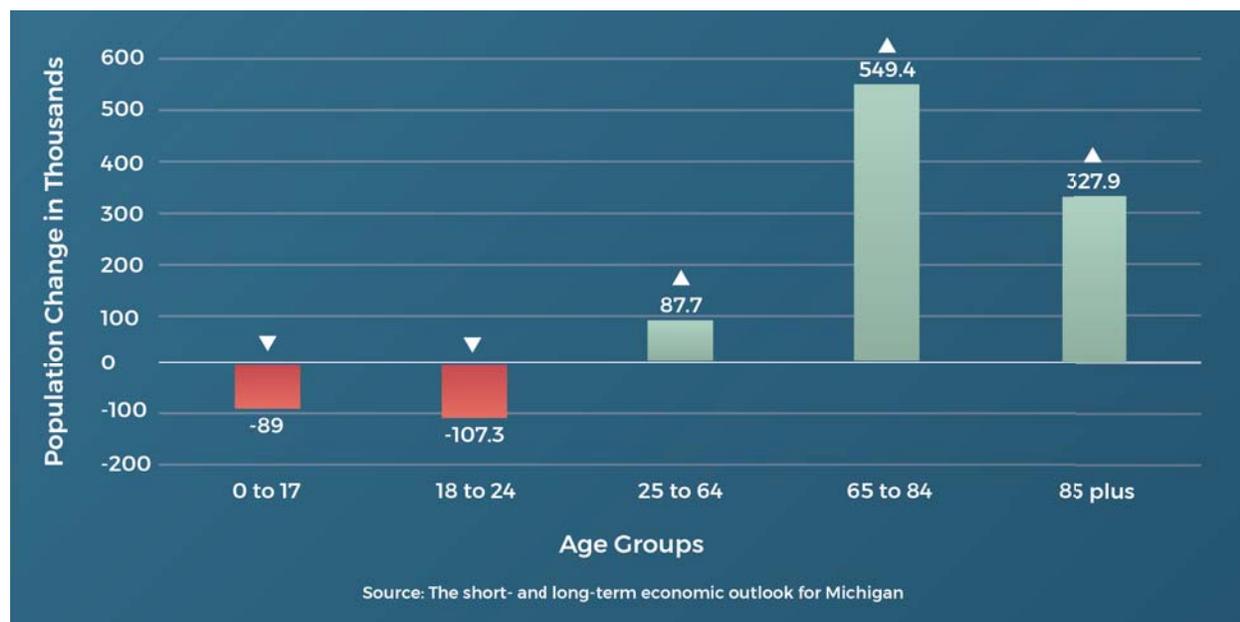
Environmental change and resource scarcity

Environmental change and resource scarcity: Globally, demand for energy is forecast to increase by as much as 50% by 2030, and water withdrawals by 40%. Environmental change includes increases in extreme weather and rising sea levels, which could make traditional methods of farming, hunting, and fishing difficult or impossible in some places. Changes in weather may impact Michigan's agricultural industries, while our access to the world's largest supply of fresh water surely presents opportunities.

Managing this economic change will impact the lives of all Michiganders. A healthy, growing economy means a better life for all—more jobs, more potential customers, more opportunities, and more funding for education, arts, and outdoor spaces. Conversely, a stagnant economy hurts everyone.

But to achieve future economic success for Michigan, we must act decisively now to manage some serious challenges.

EXHIBIT 3. Population change by age group in Michigan from 2015 to 2045



The Commission has seen data outlining the most pressing challenges for Michigan. Expert projections from the University of Michigan show Michigan’s population continuing to age and native Michiganders continuing to leave. How can we reverse this trend and turn Michigan into a thriving economic and population hub?

Employment opportunities for those lacking a college degree or highly skilled professional certificate will continue to dwindle, locally and globally. Since the Great Recession, 8.4 million new jobs requiring a bachelor’s degree or higher have been created in the United States, while only 80,000 jobs requiring a high school degree have been created. This trend is expected to continue. How can we create the talent to meet and exceed these new demands and provide opportunities to all residents?

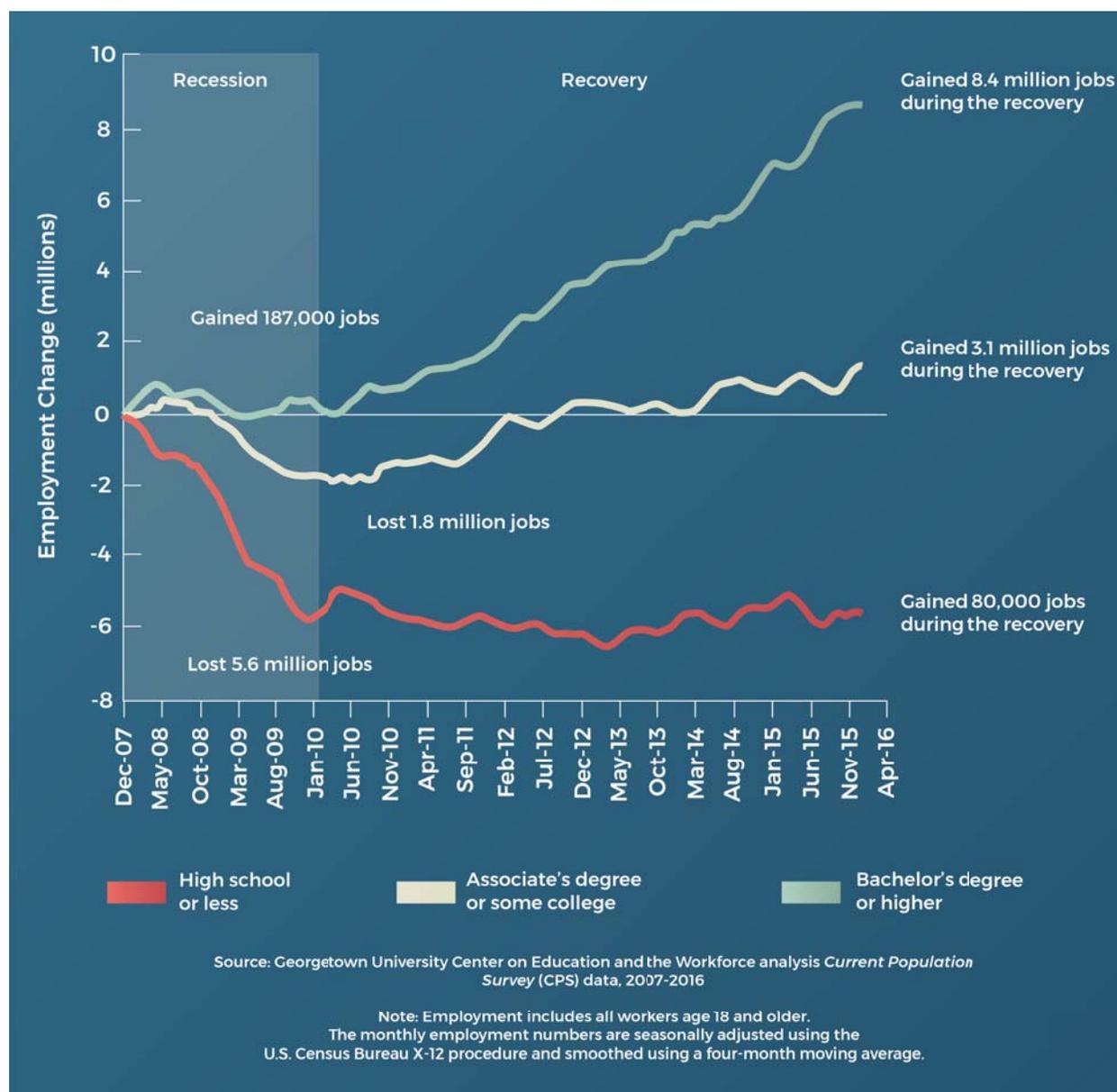
Ninety percent of the gross domestic product and 86 percent of the jobs are created in three percent of the continental United States, namely our cities. Expert projections suggest that most of Michigan’s future growth will come from urban areas. How can we sustain these economic growth engines and connect our regions so that all Michiganders share in and enhance that growth?

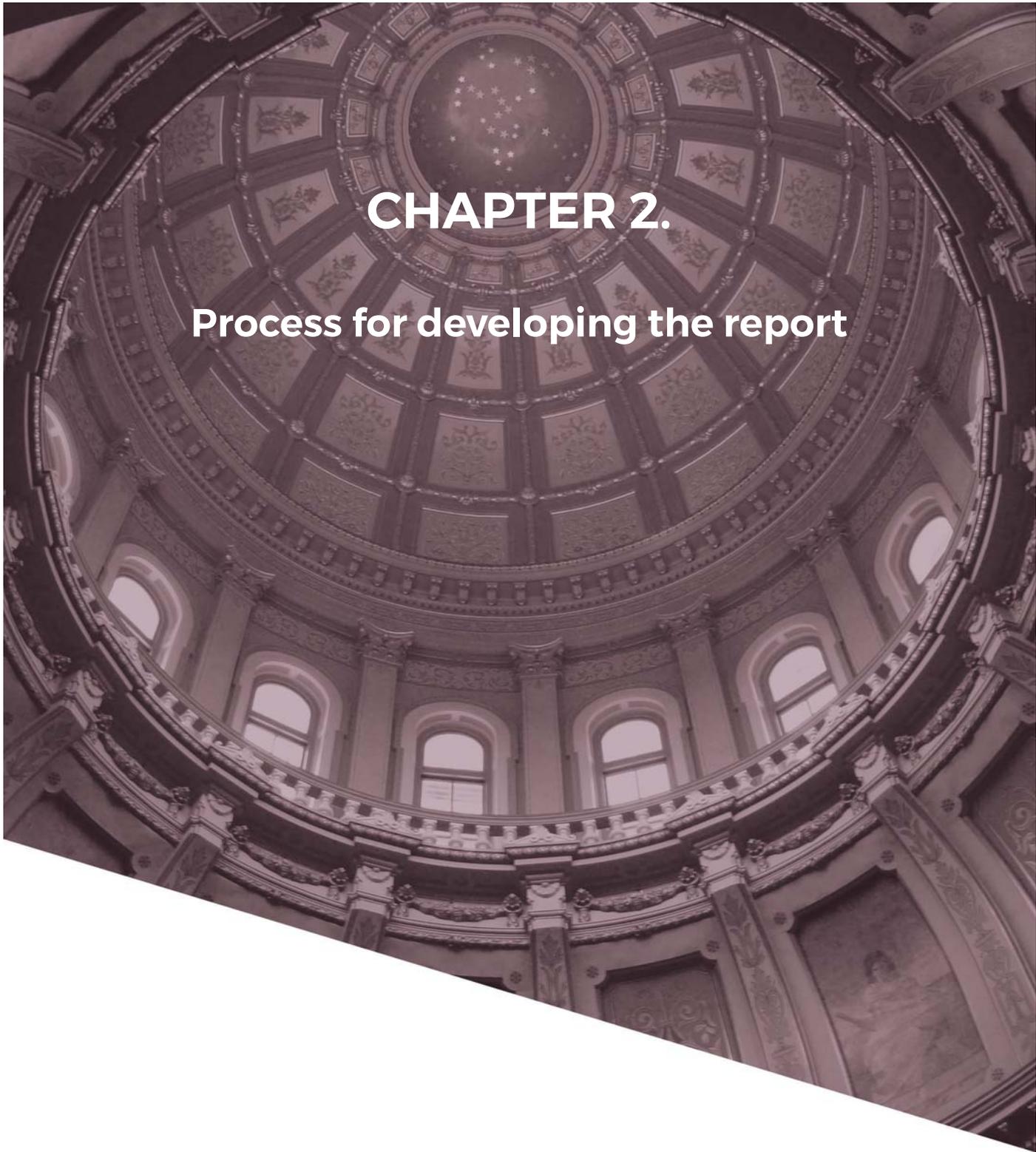
Michigan has harnessed the future before. One hundred years ago, our state defined the future, put the world on wheels, and was a global birthplace of innovation and industry. Michigan harnessed the megatrends of the 20th century, including mass production and the rise of the American middle class, allowing our economy to grow and thrive as a global leader of the 20th century. The concentration of opportunity in Michigan made our state a magnet for people of all walks of life: innovators who wanted to try new ideas, families looking for newly created middle-class jobs, and industry leaders who capitalized on the opportunity to support the booming Michigan business market. This growth was underpinned by strong public infrastructure that fueled Michigan’s success story for almost 100 years.

Michigan must lead in the mobility revolution. Just as Michigan led the way to prosperity in the 20th century, the state has the opportunity to be the global center for innovation and industry in the 21st. We are at the dawn of the intelligent vehicle and mobility revolution. These advancements will fundamentally change the way our society, industries, and economy function in ways we cannot know. It's critically important for Michigan to take the lead in the mobility revolution. Connecting the regulatory framework, infrastructure, and talent, and supporting the connectivity of Michigan's existing research, development, and manufacturing via public-private partnerships, will be the keys to success.

It is time for Michigan to seize the opportunities in the new economic future and position ourselves to thrive in the 21st century. The challenge of this Commission is not to help the state prepare for a future that is a copy of our glorious past, but to position Michigan for an even better future in the new century.

EXHIBIT 4. Employment change based on education level since recession





CHAPTER 2.

Process for developing the report

Process for developing the report

Through this report, the Commission seeks to outline a path toward a thriving future for the state of Michigan and its residents. This document is a synthesis of all the Commission has learned, and outlines how we believe the state must proceed. It includes broad context, key goals, and specific recommendations based on real-world concerns and expert perspectives on the future.

We want the report to build a sense of purpose across all Michiganders, clearly placing the challenges and solutions front and center.

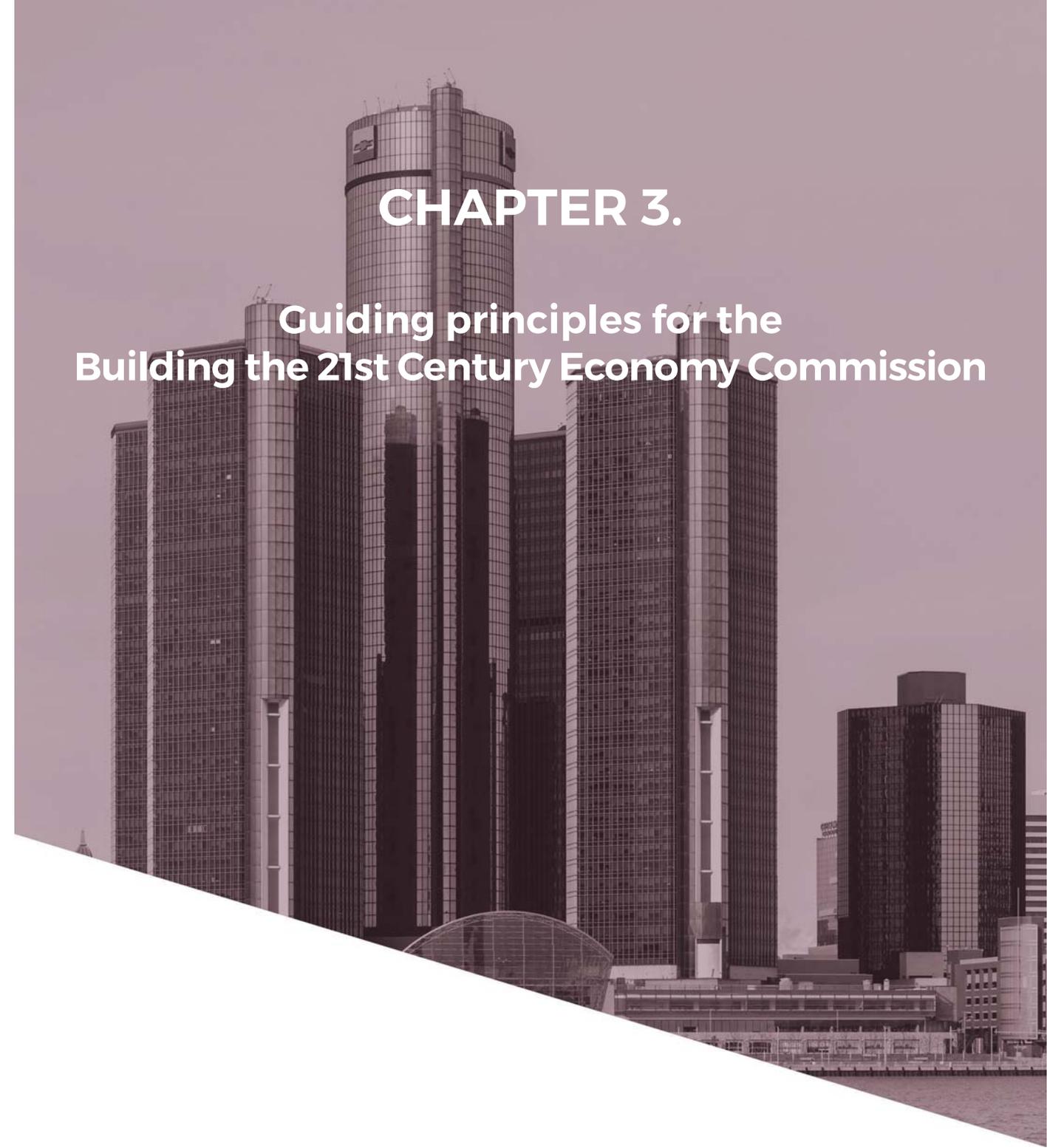
To reach our conclusions, the Commission sought to ground our report in the needs of a diverse set of Michiganders and marry that with the best expert analysis about the current and future economy. We engaged a broad range of perspectives across the geographic, economic, and social spectrums of Michigan. The Commission conducted extensive listening tour across the state, with sessions in the West, Southeast, Upper Peninsula, greater Kalamazoo, mid-Michigan, and Great Lakes Bay area. In our work we also heard from individual commissioners based in locations across the state, including Traverse City, Saginaw, Williamstown, Sault Ste. Marie, Portland, Mount Pleasant, the Detroit metro region, Haslett, and Kentwood.

One of the Commission's goals was to capture the views of a broad swatch of Michiganders. We engaged with millennials, rural residents and industries, urban communities, health care professionals, manufacturing owners and workers, post-secondary education leaders, engineers, immigrants, social service professionals, business leaders, entrepreneurs, veterans, regional economic development agencies, and diverse individuals across the geographic political and social spectrum. We also consulted on key issues with expert individuals and researchers within Michigan, nationally, and globally. These included individuals from University of Michigan, Georgetown University, and Harvard University as well as leading think tanks within the state.

This broad perspective revealed to the Commission both the deep commonality of experience across the state and the unique specifics of individual regions, industries, and institutions. We see our task as combining these perspectives into an integrated whole.

EXHIBIT 5. Geographical representation





CHAPTER 3.

Guiding principles for the Building the 21st Century Economy Commission

Guiding principles for the Building the 21st Century Economy Commission

After processing the breadth of information it received, both on global and local topics, the Commission agreed upon a common set of principles that guided our approach to the Building the 21st Century Economy report. The principles that emerged strike a necessary balance between the known and the unknowable. We recognize that many factors are unknown or out of our control, but that we know enough about the shape and needs of the future economy that we can create a meaningful, actionable economic plan. For example, the history of centrally planned efforts to “pick winners” is littered with failure, and attempts to hold back the megatrend changes from the outside world have an equally poor track record. However, the Commission was adamant that it would not simply allow Michigan to be buffeted by economic forces, receiving rather than shaping the future.

With that in mind, the Commission developed the following core principles:

- **Predicting the future is impossible.**

Selecting the industries and products that will thrive in the coming years is not a viable strategy. We may know the general changes, but we cannot know the specificity of how they will interact. But we do know that the future will be vastly different from our past, and that the skills needed for success in the 21st century are different than what drove Michigan’s success in the 20th century.

- **We need to leverage our unique strengths.**

Our strategy for the economy must be Michigan-specific, not generic. A strategy that chases after industries in which Michigan has no competitive advantage is destined to fail. The strategy must be grounded in our strengths and tested against future changes so that it can be applied to create a customized economic plan.

- **We must stay focused on the most important goals.**

Without long-term goals, we will find ourselves running from one short-term project to the next, each with a small promise of economic gain but none connected to a strategic whole. Because states have limited resources and are competing against a large field of rivals, Michigan must stay focused on the most important changes that will position it for success in the 21st century: a skilled and growing population; the development and support of effective clusters to drive a vibrant economy; and the creation of the culture and collaborations required to make it work.

- **We recognize that government alone is not enough, but that it can help create the platform for success.**

Michigan cannot expect actions by the State alone to achieve its goals. If one could legislate sustainable, broad-based economic and population growth, every elected official would already have done so. Leading thinkers acknowledge that government cannot drive success on its own, but it can play a crucial role in creating the conditions for business and civil society to collaborate, innovate, invest, and ultimately deliver the desired outcomes to benefit all residents. Therefore, Michigan must restore the core services and enabling conditions required for all sectors of society to achieve their goals.

- **We will address short-term issues while orienting toward the future.**

We know there are long-term changes coming to the economy, and that we must steer the right

course. But as we move forward, we need to support our existing industries and individuals in the short term as they prepare to succeed in a changing world. They will be the core of any future for Michigan. We must build a bridge from today's challenges to tomorrow's needs.

Following these five principles will create the structure of the Commission's cohesive plan laid out in this report. The detailed recommendations highlighted in this report flow from these principles, bringing an actionable strategy to a complex and uncertain future.

CHAPTER 4.

Michigan's current strengths



Michigan's current strengths

A key point for the Commission in anchoring the Building the 21st Century Economy report was customizing our approach to incorporate Michigan's current strengths. We have a broad base of market-leading assets on which to build our plan for the future. Michigan has clusters and industries that lead the world, nationally recognized pools of talent, and institutions to create more skilled individuals, entrepreneurs, and innovators. Our location, infrastructure base, and culture can help us thrive in a connected world. We will be most effective at competing globally in areas where we are differentiated. It is more efficient to leverage our strengths to grow existing and adjacent sectors than to create entirely new ones. This approach will also help create bridges to the future for existing firms and individuals.

Below are some of the key strengths that the Commission recognized as part of our research. Each one will play an important role in helping Michigan compete in the future economy.

- **Higher education institutions**

Postsecondary education is a critical factor in 21st century economic success. Michigan's institutions give the state a strong platform for success. They include a public university among the very top in the United States and a strong network of regional public and private colleges and community colleges. These institutions draw in skilled individuals, generate innovative ideas, and raise our profile while serving as regional anchors placed across the state.

- **Engineering talent and regional culture**

Michigan has the highest per-capita density of engineering jobs of any state. We also have a high percentage of engineering patents, and generations of manufacturing excellence. This speaks to our long history and culture of making and innovation, and gives us a platform to achieve future economic success. Many states aspire to be the "next Silicon Valley," but we already have the talent in place to compete effectively in emerging industries.

- **Mobility hub**

Rapid shifts are already transforming the automotive industry, into the mobility industry. Michigan holds a dominant position, currently leading the nation in patents and testing in this growing field of autonomous and other forms of transportation. This positions us to reap new jobs and industries related to mobility as they emerge. This interplay of brand, innovation, academia, and business positions us to compete in this rapidly-evolving industry against well-funded competitor firms and regions across the globe.

- **Natural resources**

Michigan is widely known for its natural resources—leading the continental United States in freshwater coastline, among other strengths. This provides opportunities both for recreation and potential economic innovation as environmental change and other megatrends reshape access to fresh water and other natural resources. Michigan's natural diversity and beauty also contribute to a high quality of life.



- **Diverse agricultural economy**

Michigan has the second-most diverse agricultural economy in the United States, after California. With a temperate climate and access to abundant water, our agricultural economy supports everything from dairies to cherries. Given the growing demand for fresh foods, a rising middle class in Asia, and environmental challenges in California, Michigan's agriculture can provide a strong base for economic growth.

- **Infrastructure links**

Infrastructure links are an underappreciated driver of business location and growth. Michigan possesses some world-class assets, including a gateway to Canada, Mexico, and beyond by water, land, and rail, as well as one of the top-ranked airports in the nation, and the critically important Soo Locks. As firms increasingly seek the ability to move people and goods regionally and globally, ensuring the continued quality of such infrastructure links will be increasingly important.

- **International connectivity**

Michigan has strong international connectivity, especially among Midwest peers. Globally focused Fortune 500 firms are headquartered here, as well as overseas suppliers. We rank highly in exports, higher education institutions attracting foreign talent, and people and goods flowing freely throughout the NAFTA region.

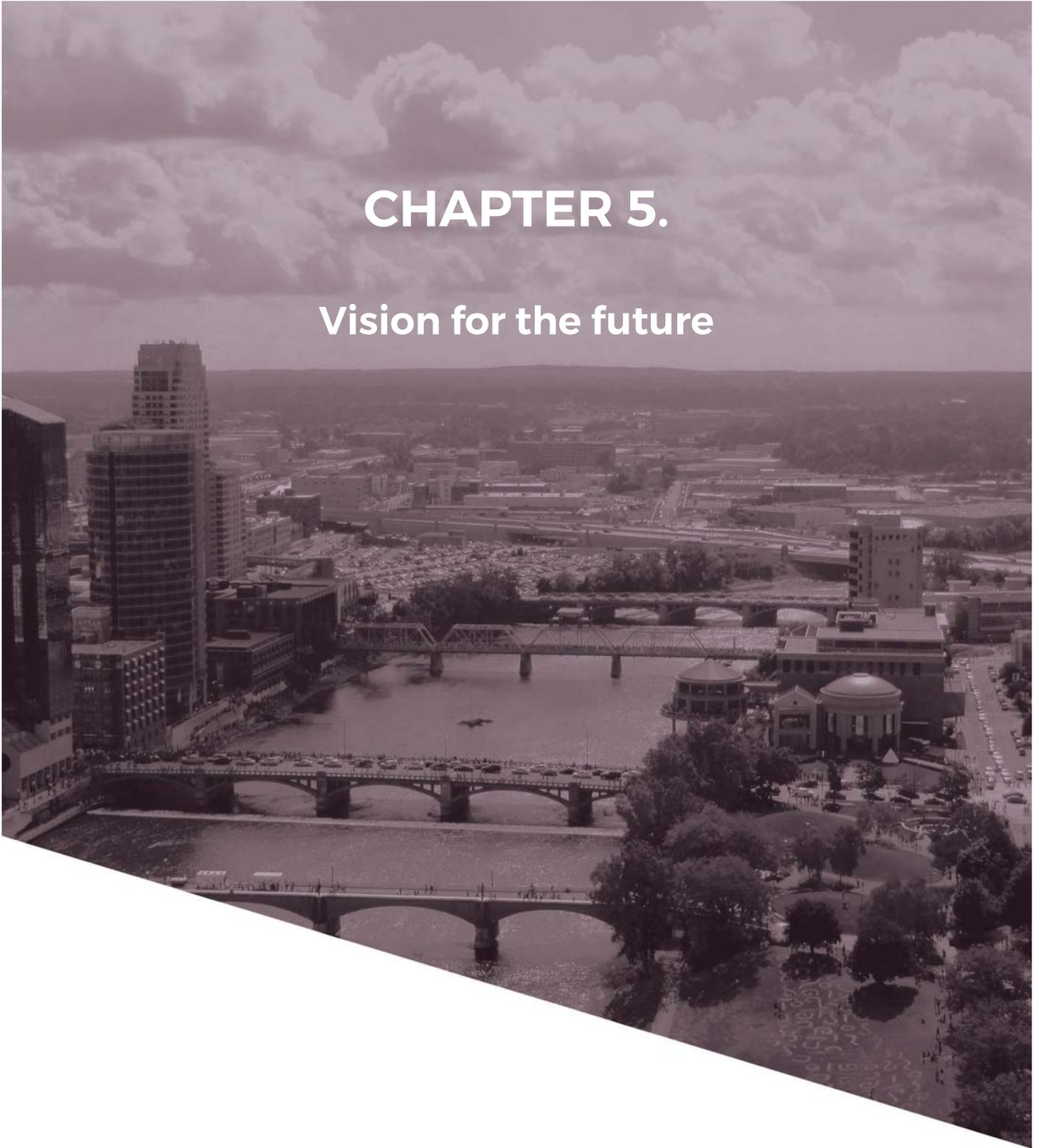
- **Economic momentum**

Coming out of the recession, Michigan is enjoying short-term economic momentum, experiencing some of the country's steepest declines in unemployment and most dramatic recoveries in Detroit and across the state. While these trends will not be enough to carry us through the 21st century, they do provide opportunities to build on the momentum we've gained since the recession, and some time and space to execute long-term plans.

This list of Michigan's key strengths is by no means exhaustive. The state has many strong industries, institutions, assets, and cultural norms. The Commission has highlighted the strengths that it saw as most relevant to the future economy, but all parts of the state have a role to play.

CHAPTER 5.

Vision for the future



Vision for the future

A clear vision for Michigan's future as a desirable place for individuals and families is fundamental to creating a strong roadmap for success. The uncertainty of the global economic future makes this task challenging, but all the more important. Having concrete anchor points helps to frame our approach and indicates how to measure success. It also provides a valuable cross-check on the rest of the report; the Commission's recommendations should provide a path to achieve this vision. The following goals will be hallmarks of Michigan's success.

- **Educated**

Michigan will reach the top quartile of states in the percentage of 25-35-year-olds with bachelor's degrees. There is strong evidence that education levels correlate with state and individual success. Michigan must increase the level of educational attainment in the 21st century.

- **Formidable**

Michigan will lead the world in the tech-enabled revolution of the mobility industry and other key industries. Possessing strong clusters, particularly in mobility, to anchor our economy and differentiate it from those of neighbors and other competitors will be crucial to creating prosperity.

- **Attractive**

Michigan will be rated as a top place to start and continue a career and raise a family. We will battle the serious demographic trends we face by growing our younger population, both by retaining Michiganders and attracting new people to our state. By becoming a vibrant place filled with opportunity, enhanced by high quality of life, we draw in new people.

- **Connected**

Michigan's physical and digital infrastructure will be world class. The core industries of the future will require world-class infrastructure to move people and ideas. With physical and digital systems to connect our businesses and individuals, we will provide a platform for a diversity of businesses to thrive.

- **Innovative**

Michigan will establish itself as a leader in commercializing its innovation and patents. Experts predict that intellectual capital will become increasingly valuable, so Michigan will need to maintain and expand its strong pipeline of innovative ideas to generate long-term economic growth.

- **Unified**

Michiganders will share sense of purpose and view the overall economic vitality of the state as a priority. Many individuals we interviewed desired an increased sense of collaboration across sectors and geographies. Michigan will mirror leading practices from other states to develop a shared identity among its residents and business who are proud to be a recognized leader.

- **Consistent**

Michigan's sustained commitment to its economic plan will inspire confidence, create a stable platform for investments, and deliver results. Leading states have developed consistent approaches to their economic plans, allowing the plans time to develop and key messages time to be widely accepted. We will move Michigan forward on a consistent path, away from a history

marked by inconsistency and shifting priorities when it comes to managing the economy.

- **Risk Taking**

Michigan will become known as a place where bold individuals try new things. We will build a culture and ecosystem that encourages new ideas, supports entrepreneurs, and creates the conditions to build the great businesses of tomorrow.

- **Sustainable**

Michigan's environment will be rated as a leader in the health of its ecosystems. Between our impressive natural resources and the industries and communities that rely on them, we must steward our environment to manage long-term impacts and keep ecosystem-related opportunities available for future generations.

- **Home**

Michigan will be known for its welcoming culture and will provide opportunities for individuals to establish roots in the community. Attracting and retaining individuals is a crucial goal for the state, but it is more than a mechanical exercise. Individuals across the state agree that Michigan's unique culture is an attractive asset, creating the bonds of community as well as commerce.

When the Commission looks at this integrated, achievable vision of the future, we want all Michiganders to be proud to be a recognized leader – one that builds a bridge from who we are today to a future where we all can thrive economically and individually.

CHAPTER 6.

Detailed discussion of topics
and specific recommendations



1. Talent

The state with the best talent wins the 21st century

Case for action

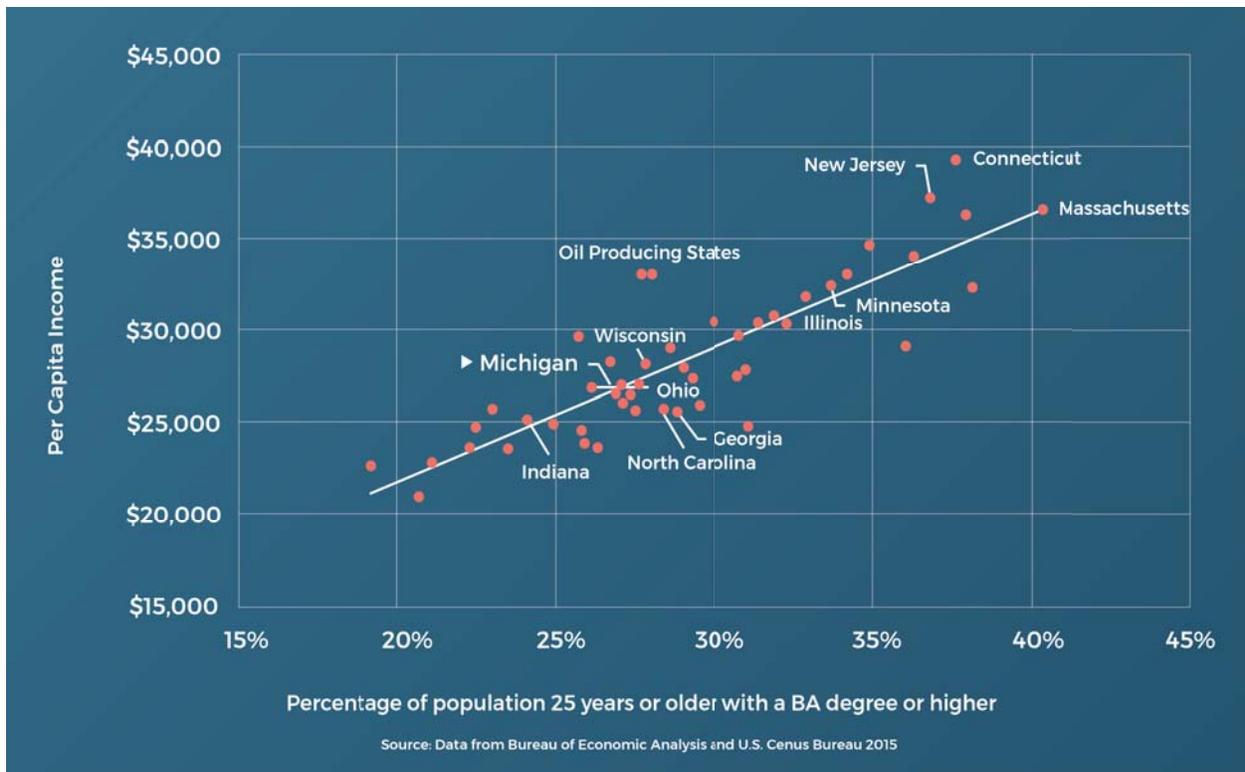


**colored and underlined icons indicate most relevant megatrends impacting this topic*

Educational attainment is the greatest predictor of state and individual economic growth. Michigan currently ranks 34th in per-capita bachelor’s degrees, and our attainment in primary and secondary school is similarly concerning. Michigan’s decline in educational attainment has been matched by its decline in per-capita income.

In a future typified by economic uncertainty, having a large pool of skilled, educated, creative, and connected individuals is the best recipe for success—a recipe that Michigan must pursue to attract and grow businesses.

EXHIBIT 6. Per capita income vs. percentage of population 25 years and older with a BA degree or higher



Other states and nations are taking bold steps to improve educational attainment, recognizing that companies will relocate to regions that are able to supply the high-skilled talent needed for them to succeed in the 21st century economy. If Michigan does not act to increase the level of education of its residents, our citizens will lose out.

Michigan faces some sobering projections about its talent pool that make it crucial for us to address the issues of talent aggressively. Demographic experts project that our population will age and decline over time.

If we maintain our current path, per-capita income and other measures of economic health will stagnate. We must take action to correct this, or Michiganders will suffer or leave the state, leading to widespread economic decline.

Summary of approach

To thrive in the 21st century, Michigan must continue to grow the size and quality of its talent pool. The need to increase the education level in the state has been well documented by Michigan's 21st Century Education Commission. We largely defer to them on specific actions, while echoing that the goal of enhancing education is absolutely essential for the 21st century economy. In addition, we must grow the total population, using both direct and indirect means to retain our young people and attract new ones, by offering a combination of opportunity and quality of life.

Talent requires creating talent, retaining skilled individuals, and attracting new individuals to our state. We can create talent using our world-leading educational institutions. Retaining talent requires creating the vibrant economic and quality of life opportunities that will draw people to the state and help them put down roots.

Specific recommendations

1a. Ensure that all Michiganders have a path to advancing their education levels.

The single most effective thing that individuals can do to increase their economic outlook is to increase their level of education. According to the U.S. Census Bureau, Michiganders with only a high school diploma have an unemployment rate that is three times higher than those with a bachelor's degree, and earn nearly 50 percent less. And historically, those with bachelor's degrees have been better insulated from the negative impacts of economic downturns. In addition, states and regions with higher education levels are more prosperous and economically resilient. Clearly, education benefits both individuals and the State.

In fact, today's economy requires most individuals to have higher levels of education in order to succeed; 99 percent of the jobs that have returned to our nation's economy since 2010 have required some level of postsecondary education.

While education is critical, it's also important to recognize that students have different interests and skills. As a result, the State should support all its residents with multiple pathways to move up the income and education ladder while helping its businesses to meet their short and long-term talent needs. The Commission's recommendations to address this issue include:

1
Talent: The state with the best talent wins the 21st century

a
Lead on education level by assuring an effective pathway to post-secondary and lifelong learning education pathways.

b
Equip all individuals with 21st century skills, at all levels of education.

c
Grow the population by attracting and retaining talent from all countries and U.S. states.

- **Accelerate attainment of postsecondary education by helping individuals receive college credit for their high-quality experiences and credentials.**

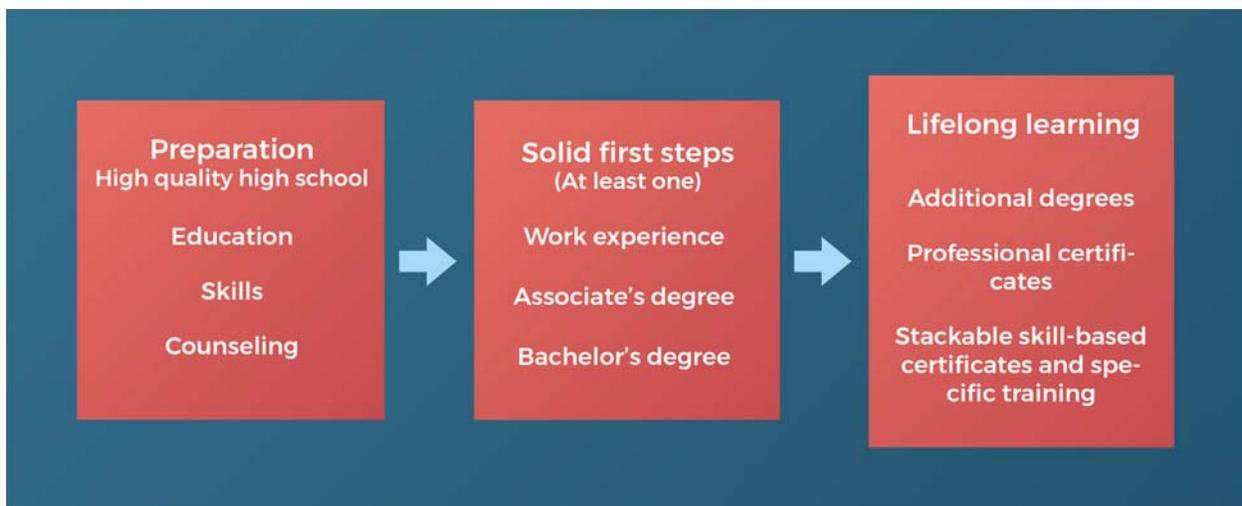
Ease the transition between high school and college through more early college programs in high school and standard access to Advanced Placement (AP) and other college credit-earning programs. Execute innovative accreditation for post-high school students, including reverse transfer of credits from bachelor degree programs to associate’s degrees, and awarding appropriate credits for military service, course work, and other forms of work experience.

- **Support the 21st Century Education Commission’s recommendation focused on increasing access to postsecondary education, with an emphasis on bachelor’s degrees.**

Bachelor’s degrees must be affordable for students who demonstrate merit. Control tuition costs and debt burdens generally, and identify barriers to completion that can be addressed by individuals and institutions. Support universal access to community college. Ensure that all students have counselors skilled in career and postsecondary guidance, and provide support and mentoring for at-risk students.

- **Recognize that professional trades are a path to postsecondary education and lifelong learning.**

EXHIBIT 7. Pathways to lifelong learning



Create skill-matching programs and social network-based platforms to connect short-term business needs and individuals in professional trades. Expand high-quality career technical education (CTE) experiences available in high schools that set up students for high-mobility and high-salary careers. Engage the private sector to be more involved in the classroom, via mentorships and apprenticeships, and ensure that students benefit from these relationships and experiences.

1b. Increase the attainment of 21st century skills.

Increasingly rapid technological evolution and other global changes will put pressure on individuals to adapt to new expectations in both the jobs of today and the new ones of tomorrow. These changes will require Michigan residents to have skills that are valued across multiple industries. The state must prepare its residents to collaborate, adapt, and thrive in this new economy, no matter what education level they reach. Key recommendations include:

- **Support the 21st Century Education Commission’s recommendations to increase the**

attainment of 21st century skills.

Focus on developing the “4 Cs”—critical thinking, communication, cooperation, and creativity. Convert the State’s education system to a competency-based learning/instructional model. Update the State’s accountability model to include 21st century skills (including adopting alternatives to standardized tests as a measurement model). Enhance teacher preparation to include training in delivering these skills.

- **Provide State support to schools for teaching 21st century skills.**

Update the State’s model curriculum to include a focus on these skills. Provide support for transitioning to the new curriculum. Provide physical devices and training to ensure that technology is part of the platform. Grant funding and curriculum assistance to schools adopting new skills programs.

Ic. Attract and retain talent.

The world will be increasingly global and mobile, with job opportunities existing across the world and an exchange of people and ideas globally. Michigan will need to “bend the curve,” attracting and retaining individuals to create a thriving population and economy. Key recommendations include:

- **Use the strengths of the postsecondary education system as a lever to attract and retain talent.**

Encourage international and out-of-state students to attend Michigan institutions of higher education. Develop specific programs to transition students (both in-state and out-of-state) into post-graduate Michigan workforce. Build a profile of Michigan in key inbound talent markets via messaging and marketing efforts.



- **Build career opportunity and quality of life for individuals and families.**

Encourage business engagement and partnerships to create apprenticeships. Support and fund the recommendations of this report generally, to generate the growth and opportunity required to create a positive feedback cycle of career opportunities.

21ST CENTURY ECONOMY

CORE INDUSTRY SUMMARY: AUTOMOTIVE

In addition to identifying key strategies for Michigan's future success, the Commission was charged with making specific recommendations for the state's core industries. The first of those industries is

Michigan's automotive industry - a world-recognized asset.

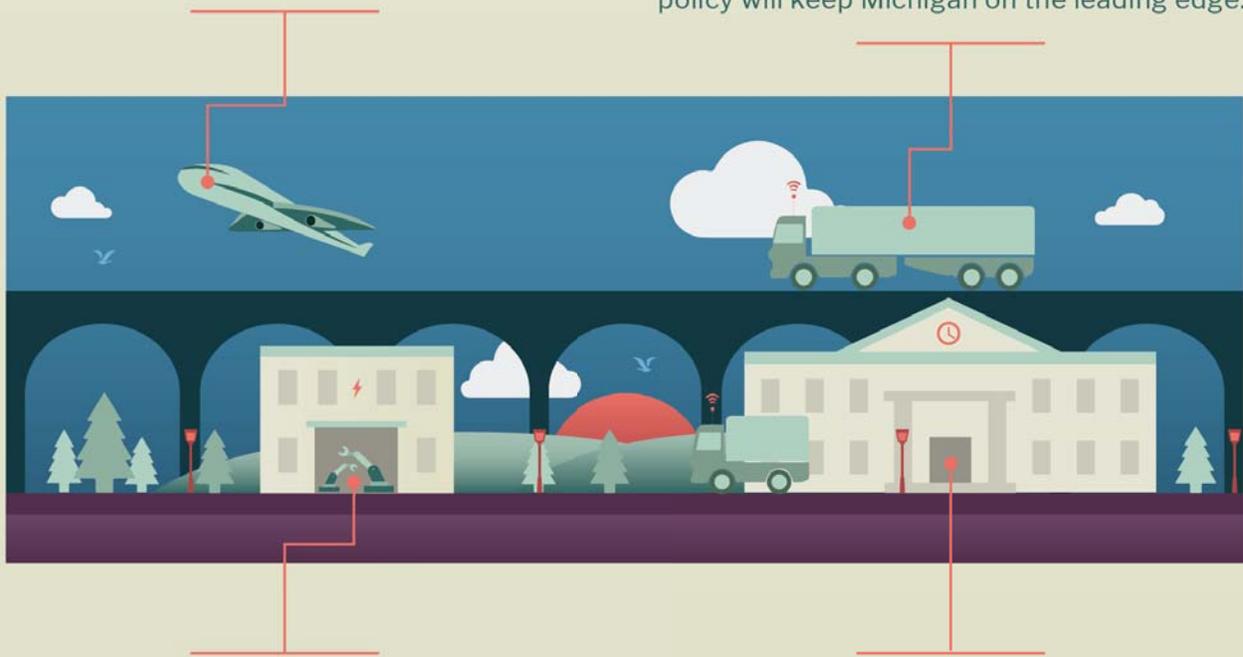
The nature of the automotive industry is projected to change with the rise of autonomous vehicles, resource scarcity, new fuel sources, and increasing reliance on software and technology. Michigan must lead this change, not just adapt. Future success will require:

GLOBAL CONNECTIVITY

As cultures become more diverse and more economic power shifts to Asia, Michigan will need to stay open and connected to this changing world to maintain its leadership position.

AUTONOMOUS VEHICLES

As the industry shifts to new forms of mobility requiring new skills, it is imperative that Michigan stay at the forefront of these changes. Supporting autonomous vehicles via testing, collaboration, technology transfer, and policy will keep Michigan on the leading edge.



CROSS-SECTOR

COLLABORATION AND CLUSTERS.

As the core functions of the automotive industry change and competition increases from other regions, Michigan needs to maintain its position as the essential location for automotive innovation.

TALENT

The raw material of innovation is talent, and generating/attracting creative, experienced, and educated people will be essential to the continued success of the industry. Michigan can leverage its universities as short-term talent drivers, but this report's talent-attraction strategies are necessary for long-term success.

2. Infrastructure

Serious investment in our public goods is overdue

Case for action



**colored and underlined icons indicate most relevant megatrends impacting this topic*

Economies require strong infrastructure, and the condition of Michigan’s physical and digital infrastructure is not world class. In a global economy, we need to connect Michigan’s businesses, individuals, and institutions to key markets, including urban mega-cities, developing world markets and the rest of the state. If not, physical industries like agriculture and manufacturing, as well as digital-based ones cannot grow. They, and all other industries, will require rail, air, water, road, and digital connectivity capacity and quality.

Despite an increasing reliance on digital connectivity, our current networks require upgrades to reach national and international standards. Talent and companies will be drawn to the places where ideas can move rapidly to customers and suppliers. In Michigan, the trend toward large-scale urbanization will strain our cities and risk alienating our rural areas, as linkages between communities, individuals, and opportunities fray.

Similarly, with social infrastructure, the basic systems that allow people to work, find homes, and have children are strained, lowering our overall economic output.

Investment from the 1920s to 1960 served the state well through the 20th century, paying a dividend to the economy later. But neglect since then has taken its toll, and our economy today is paying price the for that deficit – creating a \$4 billion annual gap that we must close.

Summary of approach

We see infrastructure as including, but not limited to, physical infrastructure systems. Social infrastructure, like physical infrastructure systems, enables citizens to fully participate in our economy, allowing them and our businesses to be their best.

For our physical systems, Michigan’s 21st Century Infrastructure Commission has produced a comprehensive review and numerous recommendations – the most comprehensive in the nation. The Building the 21st Century Economy Commission strongly echoes the need for world-class physical infrastructure highlighted by the previous Commission.

We add that utilizing our infrastructure systems to connect people to opportunities is crucial to economic success. Improving the connection between people and opportunity, both physically and digitally, is essential to removing barriers that prevent full participation in our economy. This is especially true in the 21st century, as opportunity clusters into cities and around technology.

2 Infrastructure: Serious investment in our public goods is overdue

a Build and maintain modern physical transportation, digital communications, and utility infrastructure.

b Utilize our infrastructure to connect people to opportunities, both digitally and physically.

c Build social infrastructure to remove barriers to success for individuals (e.g., housing, childcare).

Individuals willing to participate should have the opportunity to shape their destiny to allow the state to harness talent to achieve prosperity for all.

Specific recommendations

2a. Physical infrastructure systems

In order to grow our current businesses and prepare for the businesses of tomorrow, we must take steps today to modernize our infrastructure systems. Partners at all levels of government and key stakeholders should build and maintain infrastructure systems aimed at providing excellent service and supporting economic development efforts in our communities.

“The poor condition of Michigan's road infrastructure is preventing business expansion - produce is damaged and delays in delivery cause waste.”

-Agriculture listening session member

Our infrastructure systems include transportation (road, rail, ports, transit, bicycle links, airports); water (clean water, wastewater, storm water, sewer); and private entities (gas, electric, digital connectivity, communications). Key Michigan industries like agriculture and manufacturing rely on well-functioning infrastructure, and knowledge-based services rely on connectivity of people and ideas.

In addition to the recommendations in the Infrastructure Commission's final report, The Building the 21st Century Economy Commission puts an additional focus on some future-oriented and economy-based aspects of these recommendations.

- **Strengthen asset management.**

Employ asset management principles across the state to better coordinate, plan, implement, and make strategic investments across all asset types (e.g., road openings can be coordinated across local and state agencies to ensure digital, sewer, and gas maintenance are all executed before resurfacing). Develop the Michigan Infrastructure Council in statute so that such decisions can be made on an ongoing basis.

- **Develop new funding models for new and existing transportation infrastructure.**

Work to identify and enact revenue options that provide sustainable funding that returns most higher-level roads to good or fair condition. Find alternative ways to fund bus transit, passenger rail, and rail freight system upgrades in order to leverage available matching funds at the federal level.

- **Leverage and expand our international connectivity.**

Leverage the Gordie Howe International Bridge project and reconstruct the Soo Locks to ensure reliable capacity for the future. The Gordie Howe project will catalyze the creation of an internationally competitive transportation hub that is projected to revolutionize the logistics industry in Michigan, spurring economic growth and competitiveness at our doorstep. In addition, the project will enable Michigan to receive approximately \$2.2 billion in federal transportation matching funds, improving the state's transportation infrastructure for years to come. Likewise, the Soo Locks are critical to Michigan and the nation's economy. Ensure that Congress appropriates funds to construct a new lock immediately to avoid an unscheduled closure of the locks. A six-month unanticipated closure of the Poe Lock would result in 11 million job losses in the United States, major disruptions in key U.S. industries, and a \$1.1 trillion decrease in GDP.

- **Invest in our water systems.**

Enhance the state’s revolving loan fund program to increase local investments in clean water, sewer, and storm water infrastructure for both planned capital improvements and preparedness for emergency situations. Sustainably fund cleanup efforts of contaminated properties that threaten public health and drinking water supplies, while also preparing these properties for redevelopment.

- **Upgrade energy capacity and flexibility.**

Update and prepare energy infrastructure for the 21st century by adapting the portfolio of available energy sources to be efficient, sustainable, reliable, and affordable. Ensure adequate capacity resources so that Michigan residents and businesses never experience massive outages. Attract new businesses and energy-intensive industries by offering competitive energy prices, flexible rate structures, and programs that help companies control their energy costs.

- **Increase high-quality digital connectivity access (Broadband).**

Expand on current efforts by the state in the Upper Peninsula to ensure digital access for all—as crucial now as telephone and electricity access was in the 20th century. Drive fiber-grade connectivity to every home in the state to enable economic opportunity. Ensure connectivity to lower-density areas via legislative actions, simplified regulations, and support of lower-capital technology development and deployment. Bring fiber-grade connectivity to any area that seeks to attract or retain information-oriented businesses during street construction and rezoning.

2b. Applying our physical infrastructure to deliver benefits.

A world-class physical infrastructure alone is not enough. We must apply that infrastructure to deliver our key economic outcomes. Linking individuals and areas to opportunities can support broader economic growth and empowerment for regions and individuals. It is essential that we find innovative ways to give residents across the state access to jobs and educational opportunities. We need to prepare our infrastructure so that we can participate in new forms of mobility to enhance the competitiveness of that key industry.



In addition to physical mobility, we need to increase digital access for all Michigan residents. Leading-edge digital connectivity is now central to our economy and civic experience; it is no longer an amenity, but a necessity. This central role will only increase as more and more applications and opportunities shift online. We must start taking steps now to ensure that all residents and businesses can participate in this technological advancement. Recommendations include:

- **Be the global leader on intelligent vehicle technology.**

We must maintain a leading regulatory framework to pilot new vehicle types (e.g., autonomous and intelligent) and technologies safely, including on public roadways, state property, and other public spaces. We need to partner to develop roadway data architecture to support intelligent vehicles, and expand digital connectivity to support equitable deployment. (See “3a Business climate” for additional detail on the collaboration and innovation piece of the mobility cluster.)

- **Increase connections to opportunity.**

Focus on transportation infrastructure that connects rural individuals and businesses to markets. Expand public and employer-sponsored transportation options, with an emphasis on job

centers. Look into creative forms of transportation connectivity, such as buses to job sites, that can increase employment opportunities for Michiganders across the state. Help individuals use new technology-based mobility forms like ride-hailing to bridge transportation gaps.

- **Drive digital connectivity and applications.**

Close the digital divide to ensure that low-income individuals receive not just affordable connectivity access, but the tools, devices, and engagement to allow them to thrive in the 21st century. Provide affordable access to fast digital connections via market strategy and policy mandates. Partner with hardware firms and non-profits to create access to devices. Collaborate with schools and libraries to provide cultural and linguistically-appropriate training. Support “Internet of Things” (IoT) research in academic settings.

2c. Eliminating barriers to success via social infrastructure.

Urbanization and automation contribute to economic inequality. To compete in a global world, Michigan needs to tap into the full potential of the populace by reducing barriers to opportunity. Eliminating these barriers is a shared responsibility among communities, state and local government, the private sector, non-profits, the foundation community, and other stakeholders. Recommendations include:

- **Build obtainable housing.**

Create obtainable, diverse housing stock located near key jobs centers. Commit to build and preserve affordable housing, and use zoning laws to encourage impactful development. Leverage public-private partnerships to deliver additional obtainable housing. Use policy levers to stabilize existing housing and minimize eviction. Mirror national best practices that seamlessly integrate mixed income housing into developments that create diverse and multifaceted communities which are welcoming to all.

- **Provide access to child care.**

Build on the reputation of Michigan as a family-friendly state by strengthening approaches to accessible, affordable, reliable child care as a means to increase workforce participation, business consistency, and access to opportunity. Help employers to provide onsite child care. Encourage innovation in child care solutions and participants, and expand access to affordable child care for low-income families.

21ST CENTURY ECONOMY

CORE INDUSTRY SUMMARY: AGRICULTURE

In addition to identifying key strategies for Michigan's future success, the Commission was charged with making specific recommendations for the state's core industries. The second of those industries is

Michigan's strong and diverse agriculture industry.

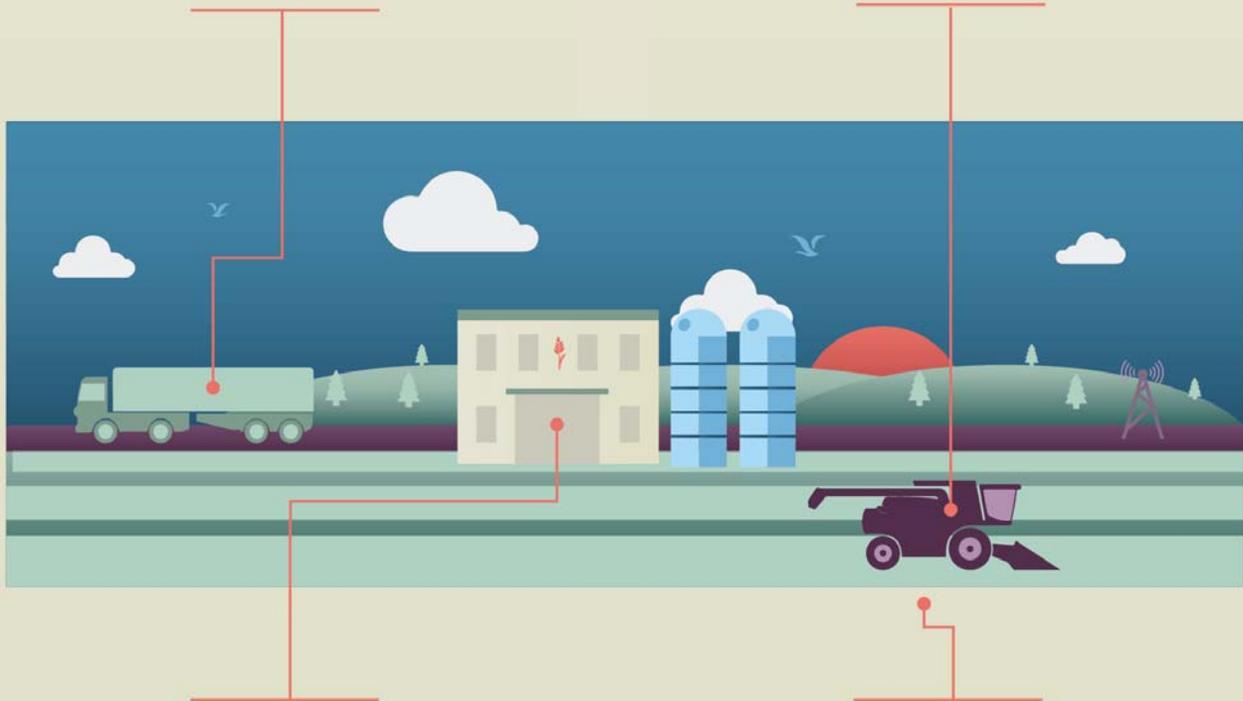
As Michigan looks toward the future, agriculture will increasingly depend on talent, technology, and infrastructure connectivity. Future success will require:

CONTINUED PHYSICAL CONNECTIVITY

Bringing inputs to rural areas and goods to market remains crucial for agriculture, especially in the future. Maintaining transportation infrastructure connectivity within Michigan and beyond will be essential.

ACCELERATE TECHNOLOGY REQUIREMENTS

Machinery is getting more complex – even autonomous technology requires reliable, fast digital connectivity in rural areas, and individuals with the skills to operate and repair modern machinery.



PLATFORM INFRASTRUCTURE INVESTMENTS

Michigan has the opportunity to expand into adjacent value-added food processing services to anchor communities and potentially spur cluster development.

ENSURE CONSISTENT REGULATION

A consistent approach to regulation should allow investment and avoid undue burden on small businesses.

3. Business climate

Consistent, efficient and customer centric

Case for action



Demographic shifts



Technological breakthroughs



Accelerating urbanization



Shift in global economic power



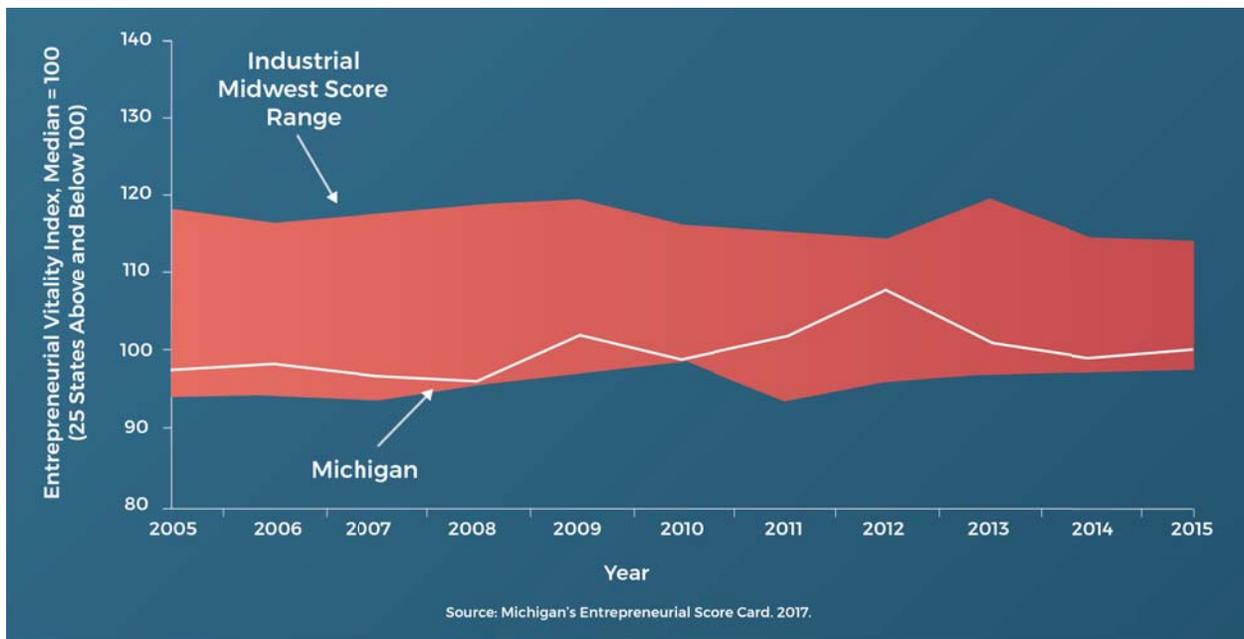
Environmental change and resource scarcity

*colored and underlined icons indicate most relevant megatrends impacting this topic

In a global economy, Michigan’s competitors are not within our borders, nor even within neighboring states. We compete with nations, businesses, and individuals in every corner of the globe. In a global economy, disproportionate benefits accrue to the locations that are the global leaders. We are battling pressure on our crucial mobility cluster from Silicon Valley, Israel, and other competitors, both national and international. We need to ensure that we are the leaders in existing critical industries while preparing for future industries we cannot yet imagine.

The Commission recommends that the best tools to retain and create long-term jobs are talent and infrastructure. Supporting Michigan’s existing strengths in the short term, including mobility, advanced manufacturing, agriculture, tourism, financial services, knowledge-based industries, and health care will build a bridge to a future no one can fully predict.

EXHIBIT 10. Entrepreneurial vitality score, 2005-2015



With recent improvements in Michigan’s business climate and taxation policies, the state now ranks in the middle of the pack on tax and incentive metrics. We add a word of caution here, because high ratings on “business friendliness” indices do not correlate with long-term state economic health metrics, such as high Gross State Product (GSP) or per-capita income. But our ranking on taxes and incentives does

reflect a tangible frustration among business owners that it's more difficult than necessary to operate in the state, especially when neighboring states continue to lure business with lucrative incentives. And as can be seen in the above chart, Michigan's entrepreneurial vitality has dropped according to a recent report, following a spike in 2012. Steps must be taken to encourage entrepreneurship for the state's long-term economic wellbeing.

Business climate is rarely the sole deciding factor in the health of a regional economy, but it is important to both existing and new businesses because it functions as an important signal of the region's goals and intentions. Creating a user-friendly, supportive, consistent business climate that aligns with our values helps to reinforce the value of doing business in our state and to deliver additional growth.

The Commission sees opportunities to sharpen Michigan's approach and project a more welcoming and effective user experience to existing and new businesses. Expanding our sense of shared purpose among all sectors of the economy can help deliver that experience.

Summary of approach

Business climate addresses the experience of doing business—the culture, regulations, incentives, and technology. Being united, collaborative, welcoming, and focused will give us the best chance to succeed and continue to grow and locate new businesses here. We must create the conditions to support our economic clusters, employ the correct policy frameworks to support business growth, and improve the day-to-day experience of those looking to do business in Michigan. We intend to do this using surgical upgrades, reducing key points of frustration without completely revamping our regulatory approach. This allows us to keep our economy healthy in the short, medium, and long term.

Specific recommendations

3a. Cross-sector collaboration and clusters.

In a globalized economy, Michigan needs differentiated industry clusters that can attract talent and serve as catalysts for growth. We have many of the “raw materials” for clusters, including large numbers of patents and a high R&D ranking nationally. We already have some strong clusters; mobility is the largest, but they are important examples in many other industries, including tourism, chemicals, furniture, financial services, and health care.

We can strengthen cross-sector collaboration to drive the growth of those clusters through knowledge and innovation. Recommendations include:

- **Leverage existing skills and experience to capture the future of mobility in Michigan.**

Expand the American Center for Mobility at Willow Run to accelerate the safe testing and development of future mobility technologies right here in Michigan. Develop the “Planet M” branding, marketing, and business attraction efforts to solidify Michigan as the undisputed world leader in next-generation mobility.

- **Create a shared identity and sense of purpose among Michiganders.**

Challenge existing business forums to increase their focus on statewide collaboration, and help businesses and individuals participate in existing organizations that drive such collaboration. Support Michigan firms that source goods and services from other Michigan firms. Encourage



the private sector to be vocal in supporting key initiatives in the state (e.g., infrastructure and connectivity ballot initiatives).

- **Turn innovative ideas into businesses via tech transfer.**

Expand awareness of existing tech transfer and entrepreneurial services programs e.g., assistance in evaluating inventions, shared mentors in residence at universities, and pre-seed money for early-stage concepts. Leverage tech transfer knowledge and resources such as the University Research Corridor, and capitalize on the experience of our leading research institutions to help improve commercialization at all universities across our state. Increase investment capital in Michigan via marketing and key networks. Identify key barriers to expanding tech transfer from existing firms. Capitalize on Michigan's record of being among the nation's leading recipients of federal university research funding.

3b. Update policy frameworks.

All across the state, the Commission heard concerns from business owners that overlapping regulatory structures make it difficult to expand or attract new businesses. They shared their experiences of separate regulatory regimes across towns and departments adding needless complexity. They also expressed concern about incentive pressure on specific projects, most notably in manufacturing and processing. While good governance always means compromise, we see opportunities for the State to take a leadership role in simplifying business regulations among state, county, and local levels of government. Recommendations include:



- **Ensure a cohesive regulatory approach to minimize complexity of the process, particularly between different municipalities.**

Analyze key regulations for siting new facilities to identify those that vary most across municipalities or which are difficult to navigate. Support opportunities to move services from municipalities to larger geographic units to ensure consistency, simplicity, and effectiveness. Maintain consistency of regulation at the state level to create business predictability.

- **Leverage smart incentives to catalyze economic and regional cluster development.**

Expand support for anchor projects to align with the unique advantages of underserved communities (e.g., high-volume wastewater treatment facilities can enhance water quality for communities as well as address ag processing needs); continue to refine approach to incentives, building infrastructure to facilitate economic cluster growth. Leverage incentives on transformative projects backed by detailed cost-benefit analysis. Maintain general competitive posture on incentives.

3c. Improve business experience.

Implement a regional, customer-centered, technology-enabled approach to starting, locating, expanding, and operating a business. Business growth is the most direct form of economic growth. While many conditions (including those addressed in the “Talent” section of this report) determine whether a business will expand in Michigan, the state needs to make the process smooth and efficient to ensure that we compete effectively with other areas. Regional coordination, technology, culture, regulatory climate, and incentives are all areas that the State and its partners can address. Recommendations include:

- **Improve technology use in government to ease experience and outcomes.**

Create the digital backbone for shared, interoperable identification of individuals, businesses, land parcels, and assets to allow for streamlining applications (e.g., the Citizen-Centric program). Create systems to share data across municipalities and departments (e.g., traffic and planning data). Create regulatory frameworks to allow local businesses to safely pilot new technologies in real-world conditions, and support municipalities that engage in the same.

- **Align business attraction/expansion efforts.**

Deliver unified, cohesive experiences for new and expanding businesses on a regional scale to allow for a more effective sales experience. Empower a visible single point of contact for the state for inbound leads. Develop a unified marketing and sales narrative, materials to support it, and a culture of reinforcing that narrative. Empower individual economic regions to identify their niche within the larger narrative. Convene stakeholders to align Southeast Michigan into a unified attraction region (similar to the Right Place in West Michigan). Increase awareness of the concierge-style support for expansion of existing businesses. Ensure a unified experience for inbound visits.

- **Reduce paperwork and improve user experience in government interactions.**

Make points of contact or ombudsmen highly visible to help businesses navigate permits and process. Continue to expand Citizen-Centric Government by ensuring that services are available any place, on any device, at any time (e.g., through mobile app development and digital connectivity expansion). Create systems to share data by continuing to leverage the partnerships that are currently underway. Continue to build a government culture that fosters helpful, supportive staff via updating review criteria and clear messaging.

21ST CENTURY ECONOMY

CORE INDUSTRY SUMMARY: MANUFACTURING

In addition to identifying key strategies for Michigan's future success, the Commission was charged with making specific recommendations for the state's core industries. The third of those industries is

Michigan's manufacturing industry – truly a part of our state's identity.

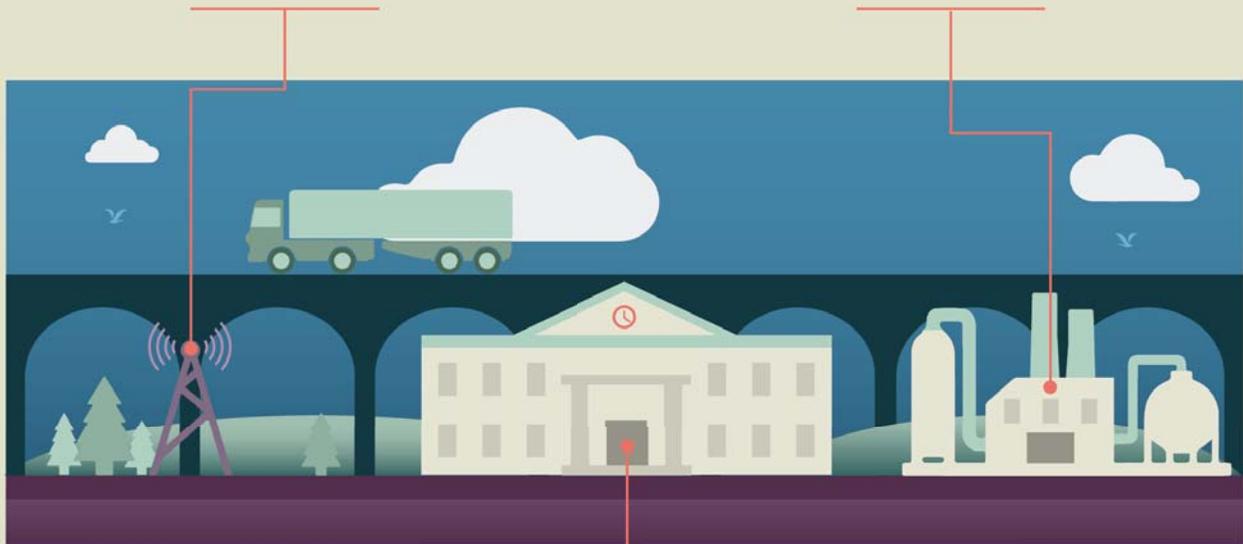
Michigan possesses a unique concentration of knowledge and skills in manufacturing. As manufacturing becomes advanced and technology-enabled, Michigan must stay ahead of the curve. Future success will require:

DIGITAL CONNECTIVITY

Twenty-first century manufacturing will require digital connectivity to enable locations to maintain and update equipment as well as basic business processes. As part of its larger drive to improve connectivity, the state can deliver fiber-grade connectivity to manufacturing centers.

PLATFORM INVESTMENTS

Manufacturing is more easily influenced by incentives than other industries. Michigan can support this need in a balanced way by creating infrastructure platforms that enable whole communities rather than individual businesses, including transportation, energy, and water investments.



FLEXIBLE TALENT

As manufacturing becomes more complex, jobs will require increasingly skilled and flexible workers. Michigan can capitalize on its natural advantages in the industry by continuing to supply a pool of skilled talent that is unmatched by rival locations – equipped with 21st century skills and post-secondary credentials. This will require addressing the lack of short-term availability of professional tradespeople via skill matching and appropriate CTE pathways for young people.

4. Quality of life

A necessity, not a luxury, in the 21st century

Case for action



Demographic shifts



Technological breakthroughs



Accelerating urbanization



Shift in global economic power



Environmental change and resource scarcity

**colored and underlined icons indicate most relevant megatrends impacting this topic*

Michigan companies report challenges recruiting young innovators to come to Michigan, particularly outside the Southeast corner of the state, and they find it difficult to recruit beyond the Midwest. Young people perceive more opportunity and excitement elsewhere. Everyone seems to have a story of their child, friend, or cousin who moved away from the state.

The combined trends of urbanization and technology are drawing talent to cities, and our regions need to continue to invest in the quality of life attributes that urban dwellers seek. A strong quality of life is highly correlated with an improved economy and helps in recruiting and retaining employees.

“Business needs talent; and talent needs place.”

–Michael Bloomberg

Demographic projections for Michigan show continued out-migration of residents and increasing importance of international migration.

EXHIBIT 12. Michigan’s Changing Population

	1980s	1990s	2000s	2010s	2020s	2030s
International Migration	100,700	113,600	256,213	235,405	294,921	364,405
Domestic Migration (aged 65+)	-13,400	-20,400	-45,307	-35,091	-46,768	-44,172
Domestic Migration (aged <65)	-658,500	-33,900	-690,100	-421,174	-291,795	-231,655
Total Net Migration	-571,200	59,300	-479,194	-220,860	-43,642	88,578

Source: MDOT July 2016.

Michigan’s population is lagging behind the national trends in the United States—a damaging direction for an economy—and is expected to lose another Congressional representative after the 2020 Census. Improving quality of life is one of only a few available levers to reverse this trend.

Michigan has some direct quality of life challenges—both perceived and real—to overcome. Many outside the state perceive its drinking water as unsafe, its major urban centers as dangerous or derelict, and have little sense of the rest of the state at all. Our major urban center, while rebounding, is not one of the largest in the United States or globally, and risks being left behind if growth continues to cluster into the largest mega-cities. If we do not reverse these perceptions and issues, we cannot build the population and business base needed for future success.

Summary of approach

To achieve the Commission's recommendation of growing Michigan's population, we will use our physical, cultural, and natural assets to create the quality of life to build Michigan's attractiveness. We will create outstanding communities that leverage our advantages, including cost of living and being home to a globally recognized city. We will expand our welcoming culture, so that new Michiganders can share positive experiences. And Michigan's natural resources will provide a unique differentiator, particularly its access to fresh water and rural recreation opportunities.

Specific recommendations

4a. Create thriving communities and cities.

Global trends clearly suggest that cities will be the engines of economic growth, as well as increasingly large population centers. The State can facilitate globally competitive cities in Michigan, filled with opportunity as engines of future economic prosperity. As pressure mounts on all communities to compete regionally and globally for individuals and businesses, the State can help create attractive regions across Michigan that can thrive based on their own unique merits. Recommendations include:

- **Ensure convenient access to quality health care and lifestyle choices.**

Site education/training institutions in key parts of the state, to help naturally locate health care professionals across the state. Attract tertiary health care service providers and medical tourism to bolster a broader health care ecosystem. Incentivize health care professionals to locate in strategic, underserved areas. Pilot telemedicine to provide top quality care to low-density areas. Educate individuals about the value of wellness and its economic benefit to individuals and the state. Create environments that offer healthy food, and which promote non-motorized transportation to encourage wellness.

Michigan must increase the health index rankings (e.g., Gallup Community Well-Being Index) of its urban centers. Currently, Michigan cities rank low in health index surveys, which deters potential employers from moving to Michigan, due to concerns about increased health care costs and absenteeism.

- **Support and locate the anchor institutions and employers that create career opportunities for individuals.**

Encourage regions to identify areas of competitive advantage and pursue messaging and businesses to build on those advantages. Direct business expansion and attraction efforts to those areas, using targeted incentives for expansion or attraction. Leverage educational institutions as regional economic anchors, and facilitate associated business generation.

- **Support world-class arts and culture.**

Deliver unique, engaging arts and cultural events that are accessible to residents and recognized nationally. Build sustainable funding streams for nationally recognized existing institutions via public, private, foundation, and other means. Encourage collaboration between institutions to seek sustainability and efficiency. Leverage public institutions as arts and culture anchors for communities (e.g., engage students in arts education). Bolster economic development and the

4
Quality of life: A necessity, not a luxury, in the 21st century

a
Create thriving cities and communities to drive growth and anchor regions.

b
Welcome all to our state by supporting and celebrating individuals from all cultures and backgrounds.

c
Lead on quality of and access to our natural resources, fresh water, and recreation.

creative industries by engaging the local business and creative community in programs like the Michigan Film & Digital Media Office “Creative Chamber Pilot Program.”

- **Improve and expand density, walkability, and shared space.**

Support vibrant commercial districts and complete neighborhoods that allow for most errands and social engagements to be completed via walking. Create and maintain engaging shared spaces. Update zoning and permitting to allow new or rehabilitated buildings in high-density areas and commercial centers. Execute traffic and street planning to encourage walkability (e.g., road diets, wide sidewalks, street plantings, activated public spaces). Align housing development with new economic initiatives to ensure sufficient housing supply. Identify high-priority areas where the market is not producing obtainable housing in the appropriate volume. Create draft packages of zoning and infrastructure investments, to encourage growth in key areas. Engage the private sector, including civic associations and chambers of commerce, to help rehabilitate town center buildings to create vibrant districts.

- **Expand transportation access and quality.**

Improve public and non-motorized transportation connectivity to facilitate density, connection, and safety. Enhance urban/rural connectivity via physical infrastructure systems and applications. Prioritize the regularity, speed, and safety of public transit options. Implement creative approaches to improve access to job centers for low-income individuals, and increase ease, comfort, and benefit to encourage public transit choices. (Please see the Infrastructure section for many specific actions, including developing sustainable funding for road maintenance and expansion of rail, public transportation, and non-motorized transportation.)

4b. Make Michigan welcoming to all.

Demographic shifts will change the age and ethnicity of the populace, requiring Michigan to attract new residents to grow the population. Increasingly, economic success will require connecting with other nations, and diversity is seen as a desirable asset. Michigan can prepare for a successful future by engaging with and welcoming all individuals, regardless of race, religion, sexual orientation, or national background. Recommendations include:



- **Encourage national and international immigration into Michigan.**

Encourage a visible posture, both across the nation and internationally, of welcoming immigrants. Support the existing ecosystem of transition services for immigrants. Analyze current and potential high-value immigration feeder locations both nationally and internationally. Develop concerted messaging/advertising to key businesses, universities, and locations, and create the economic opportunities needed to draw in more individuals.

- **Celebrate and support existing diversity.**

Recognize important holidays for multiple cultures. Increase the ease of siting of religious institutions and permitting of local festivals, parades, and demonstrations. Encourage all Michiganders to demonstrate tolerance and respect for their neighbors, and to take the extra step to make them feel included, welcome, and safe.

4c. Steward Michigan's natural resources.

Michigan is blessed with natural resource assets, especially access to fresh water. This provides a hedge against climate change, but also a unique amenity for individuals to experience—both on public and private land. Michigan can leverage this advantage as a point of attraction and differentiation. Recommendations include:

- **Support the quality of natural resource areas.**

Steward rivers, lakes, and waterways through legislation. Continue to manage resources in the ecosystem to facilitate long-term stability while responsibly fostering extractive and forestry industries. Identify root causes of invasive species from key habitats and implement mitigation efforts. Execute targeted clean-ups of urban riverfronts; fishable, swimmable, drinkable rivers and streams; and other high-value assets.



- **Support access to natural resource areas.**

Rehabilitate urban natural resources (e.g., riverfronts, rivers and lakes, and parks) in existing communities. Empower tourism groups and associated agencies to identify the largest and most important assets and map pathways of current access to identify key challenges and choke points. Facilitate development of adjacent sites and multi-modal access to lower barriers to experiencing natural resources. Implement urban-rural infrastructure connectivity. (See “Infrastructure” section for more detail.)

- **Increase experience with key natural resource areas.**

Manage natural resources in a sustainable manner that will provide access, tourism, and business development opportunities. Identify groups that are underusing key natural resources (e.g., low-income communities, young transplants, tourists/visitors) and determine the root causes. Partner with the private sector to identify opportunities to enrich or expand the visitor experience in sustainable ways (e.g., boating, fishing, hunting, bike tours). Expand outreach and programming to traditionally excluded communities. Encourage localities to develop their natural attractions into place-making assets that increase livability.

21ST CENTURY ECONOMY

CORE INDUSTRY SUMMARY: RECREATION AND TOURISM

In addition to identifying key strategies for Michigan's future success, the Commission was charged with making specific recommendations for the state's core industries. The fourth of those industries is

Michigan's recreation and tourism industry - a strength that brings vitality across the state.

Michigan's cultural assets, recreation opportunities, and natural resources are widely known. Michigan must keep them available, reachable, and well-known. Future success will require:

DIGITAL CONNECTIVITY IN RURAL AREAS

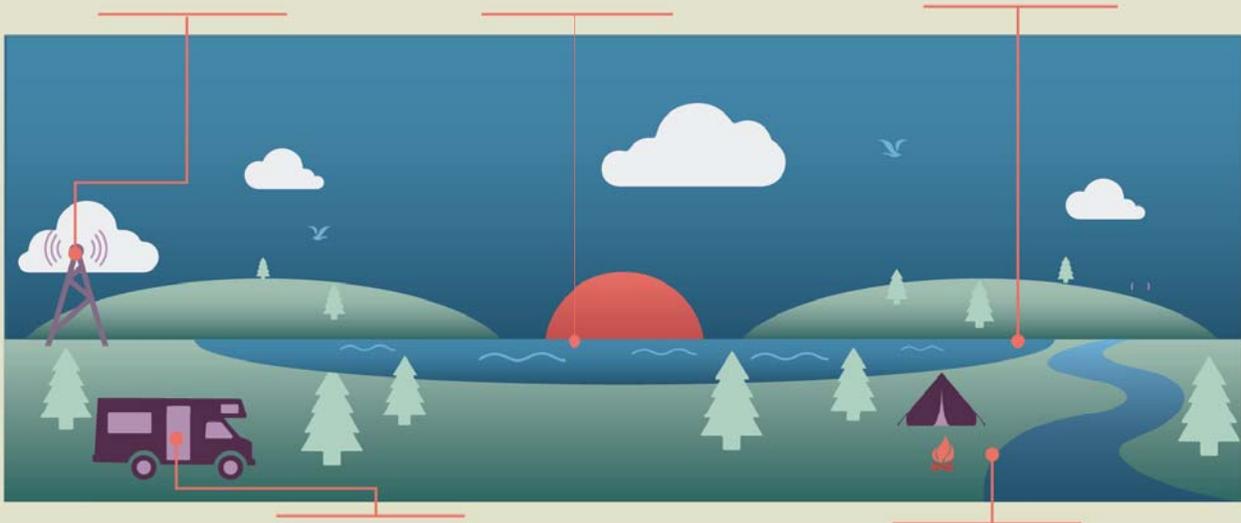
Digital connectivity is required for businesses and many tourists but is often lacking in rural areas. Strong connectivity access in tourism areas will allow accessory businesses and longer stays.

PROTECTED AND ENHANCED NATURAL RESOURCES

Access to natural resources, particularly fresh water, makes Michigan unique. The state's dazzling natural attractions like Sleeping Bear Dunes and Pictured Rocks are gems that must be protected for the industry to thrive.

IMPROVED CONNECTIVITY

A substantial challenge is helping both Michiganders and outsiders reach tourist destinations. Improving connectivity, especially transportation infrastructure links between population and recreation centers (both urban and rural), is essential to the growth of tourism and recreation.



EXPANDED RECREATION OPPORTUNITIES

Michigan has historically seen incredible participation in hunting, fishing, boating, downhill skiing, hiking, golf, snowmobiling, and countless other outdoor recreational activities. Just as the state must support the opportunities of the past, it must also keep pace with changing interests and trends in recreation. Becoming the "Trail State" and developing the Iron Belle Trail is an important undertaking that should continue. The state must also and partner with the private sector to deliver relevant services to attract recreation and expand to adjacent services.

ENHANCED AWARENESS OF OPPORTUNITIES

Michigan has built impressive awareness of its natural opportunities, such as the award-winning Pure Michigan campaign, but many young people still feel disconnected from them. The state can engage both local and out-of-state young people to understand tourism potential including emerging recreational opportunities in cities as well as rural and natural areas.

Conclusion

Michigan has realized tremendous economic success since the depths of the Great Recession in 2009. The state has created nearly 500,000 private sector jobs, our auto industry has seen a resurgence, and our people are revitalized. But Michigan has seen good economic times before—only to find itself twisting alone in the winds of economic forces beyond our control. Just as it is impossible to predict the weather from one day to the next, it is also impossible to know what tomorrow will bring with absolute certainty. We can, however, be sure that our future will be beset with radical technological, demographic, and economic changes that we cannot begin to predict.

We cannot stand on today's success. We cannot develop talent for tomorrow with yesterday's skills. We cannot build a new Michigan on outdated infrastructure. We cannot attract the residents and business of tomorrow without a welcoming approach. And we cannot meet tomorrow's challenges with the same thinking of decades past.

Michigan needs a strategy for success in the 21st century, and so this Commission is pleased to present these recommendations to Governor Rick Snyder, to our legislature, our business leaders, our educators, and most importantly, the people of our great state.

As called for in Governor Snyder's 2016-14 Executive Order, this report outlines recommendations to create an environment of economic success in Michigan over the next 20 years. We must work now to secure Michigan's status as a global leader in many evolving and emerging industries, particularly the mobility industry, which will completely revolutionize the way our society, industries, and economy function. By implementing these recommendations, Michigan will be better prepared to succeed in the future economy, supporting the Commission's goal of prosperity for all Michiganders.