



Community & Worker **Economic Transition Office**

Welcome

Director Susan Corbin

Michigan Department of Labor & Economic Opportunity





Advisory Committee membership

75
members

60+
organizations represented

40
counties representing
all areas of the state

Legislation and Office Mandate



Perspectives from the Legislature and Governor's Office



Senator Sam Singh

Author of S.B. 519



Kara Cook

Chief Climate and Energy Strategist

MI Healthy Climate Plan

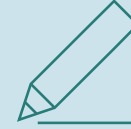


Guiding goals

Reducing greenhouse gas emissions **52% by 2030.**

Achieving **economy-wide carbon neutrality by 2050.**

Maintaining **net-negative greenhouse gas emissions** thereafter.



Pillars of the MHCP

- 1 **Just Transition and Environmental Justice**
- 2 **Energy**
- 3 **Transportation**
- 4 **Built Environment**
- 5 **Industry**
- 6 **Natural and Working Lands**



SB 519

Establishing the Economic Transition Office

- **Purpose:** coordinate efforts related to help communities and workers avoid economic harm during significant shifts in the auto and utility sectors
- **Definitions**
 - **Transition community:** municipality, county, or region affected by the loss of 50+ jobs in impacted industries
 - **Transition-impacted industry:**
 - Energy (*generation, transportation, refinement of fossil fuels*)
 - Internal combustion engine vehicles and supply chains
 - **Transition worker:** Michigan worker who is or will be laid off from employment in a transition-impacted industry



Office Mandate

- **Create** an Advisory Committee and develop a Statewide Economic Transition Plan
- **Advance and support** existing initiatives that align with the Office mission
- **Align and target** local, state, federal programming and establish new programming
- **Propose and implement** plans for different sectors of the economy
- **Recommend** changes in state and federal law, rules, regulations, policies, etc.
- **Identify** funds to support transition activities
- **Evaluate** outcomes of the transition plan

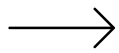
Office Structure and Capabilities

Kate Bell, LEO Policy Director



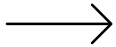
About the office

Mission



Ensure that communities, workers, and employers impacted by transitions have the support they need to proactively **prepare for**, **benefit from**, and **shape Michigan's future economy**.

Key Strategies



*Statewide transition
strategy development*



*Data sharing
and analytics*

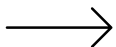


*Deep community
engagement*



*Resource
navigation*

Enabler of Success



Coordination across Michigan departments, federal programs.

Our work so far



NOV. 2023

SB 519 signed
into law



DEC. 2023 – JAN. 2024

Finalized office vision,
mission and structure



FEB. 2024

Soft office launch



Q3 – Q4 2024

Begin program
implementation and
staffing plan



SUMMER 2024

State budget and
office funding



Q1 – Q2 2024

Research projects,
community roundtables
begin



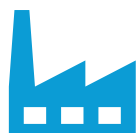


Office Capabilities Big Picture



Create a data-driven central source of truth

- Develop likely economic scenarios
 - Evaluate long-term risks, opportunities, effective interventions
-



Employer engagement

- Proactive direction to relevant funding, resources
 - Identify and facilitate diversification opportunities
-



Community engagement

- Co-create a clear vision for a vibrant, diversified economy
 - Capacity enhancement for strategy and execution
-



Worker support

- Proactive outreach, resource navigation
- Design new programs that fill gaps

Community Engagement

Adrian Walker, LEO Outreach Director



Outreach and Engagement



NOV – DEC 2023

Interviews with **20+**
leaders to benchmark
perspectives



DEC 2023

Virtual roundtables with
70+ labor, industry and
community leaders



Q1 2024

Community and
industry roundtables
begin



Community and Industry Engagement

16
roundtables

300+
attendees

247
organizations





Common Engagement Themes

- Need for improved rapid response
- Future planning vs. reactivity
- Early engagement and intervention
- Stakeholder alignment and collaboration
- Community-led design
- Enhanced community capacity
- Flexible funding
- Leveraging existing programming
- Creating certainty for planning

Active Projects





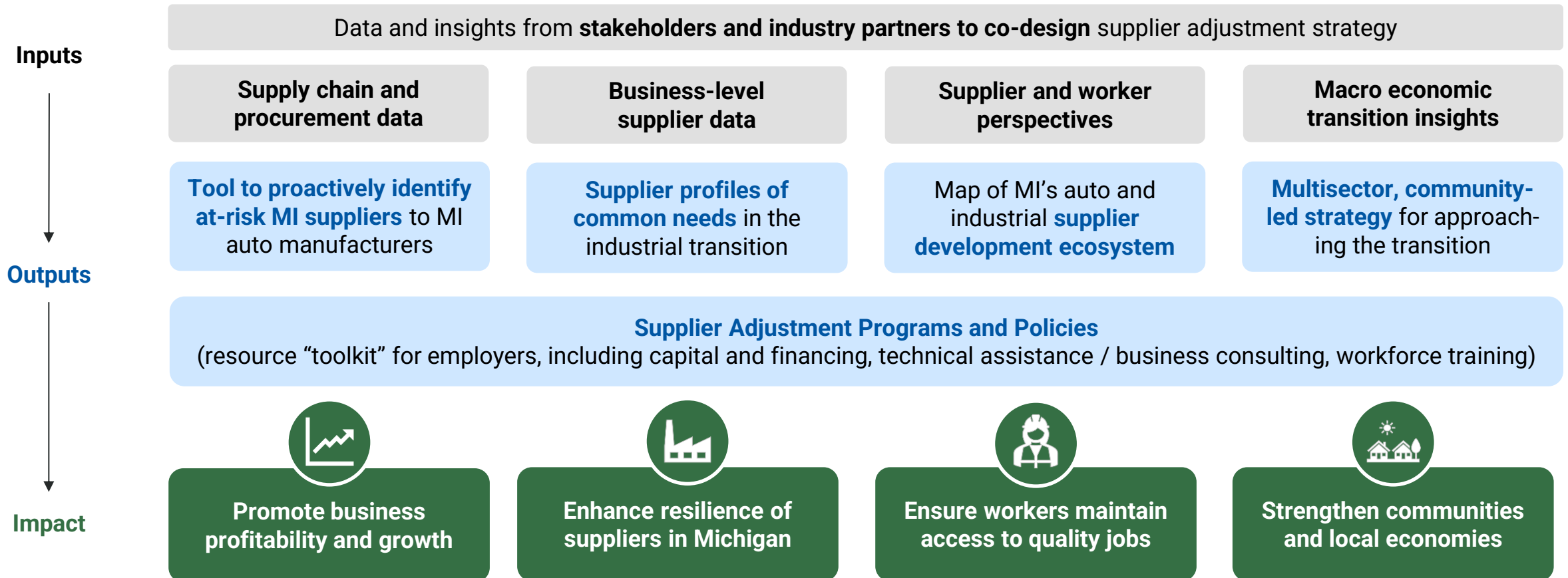
Data and Analytics

Project Updates

- **Supply Chain Mapping:** Develop data tool that State and partners can use to support auto suppliers with diversification and retooling opportunities proactively.
 - Completed Phase 1 (data tool development)
 - Starting Phase 2 (data tool operationalization)
- **Supplier Resource Hub:** Develop a tool that serve as a single, easy to use portal that will help manufacturers navigate to federal, state and private programs and funding to support their stability, expansion or diversification.

Project Vision

This project brings together a public-private collaboration to combine actionable data and insights to co-design proactive and tailored support for MI suppliers, workers, and communities impacted by the industrial transition



Supply Chain Mapping Tool

Our vision is to create a dynamic, interactive platform for stakeholders to assess risks for suppliers and OEM facilities. We have developed two main tabs, each presenting information at different levels of the supply chain

Tabs

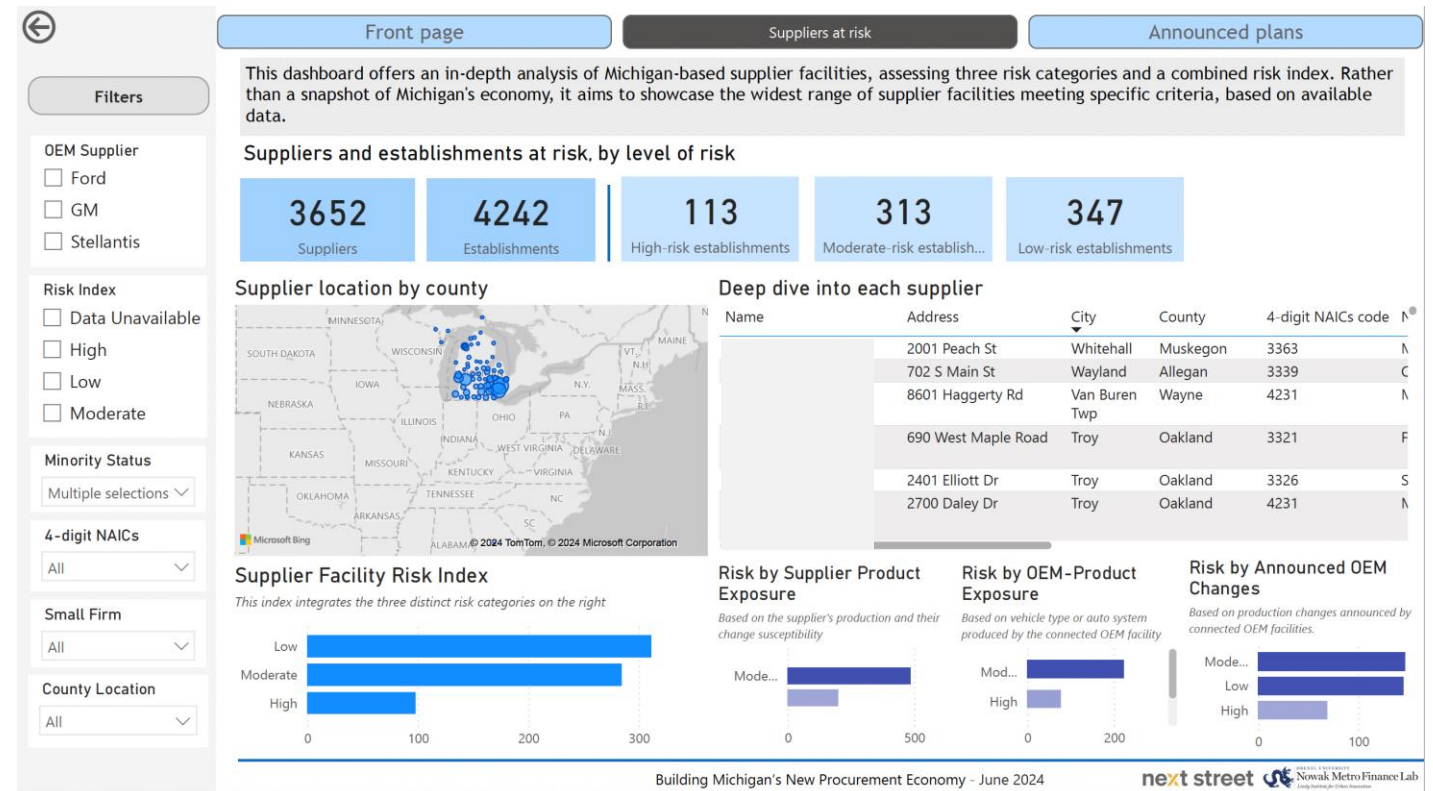
1. Suppliers At Risk

This dashboard offers an in-depth analysis of Michigan-based supplier facilities, assessing three risk categories and a combined risk index. Rather than a snapshot of MI's economy, it aims to showcase the widest range of supplier facilities meeting specific criteria, based on available data.

Rather than a snapshot of MI's economy, it aims to showcase the widest range of supplier facilities meeting specific criteria, based on available data.

2. Announced Plans:

This tab provides an in-depth analysis of the plans announced by OEMs at various facilities in Michigan, highlighting the impact on production, employment, and/or investment at each facility.



Michigan Supplier Resource Hub

This platform will serve as the digital front door to connect small and mid-sized supplier businesses to resources from partners, including funding options; expert advisors; cohort programs; partner resources, and digital curriculum/content

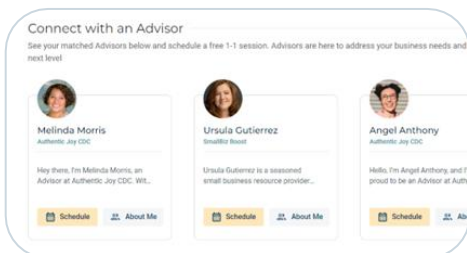
next street | Scale

Program Management

Coordination of Business Advisors and Investors | Platform Onboarding | Program Reporting | Impact Data | Supplier Satisfaction

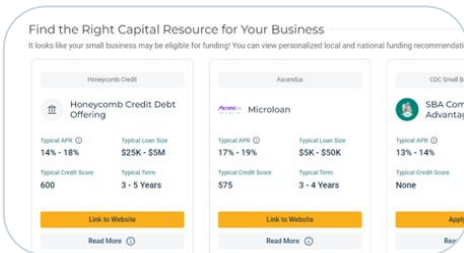
Technology Platform

Connections to Advisors



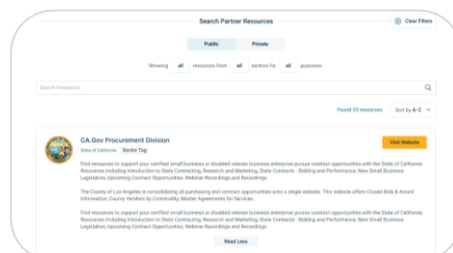
AI-enabled concierge connecting suppliers with business advisors and relevant resources best suited to meet their needs

Funding Marketplace



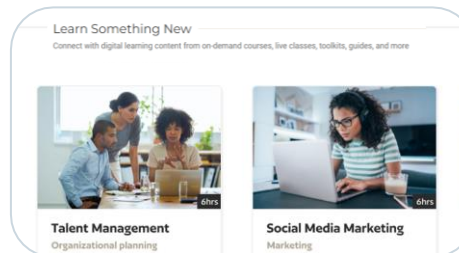
Customizable marketplace with a comprehensive set of responsible capital products for suppliers to make informed financing decisions

Partner Resources



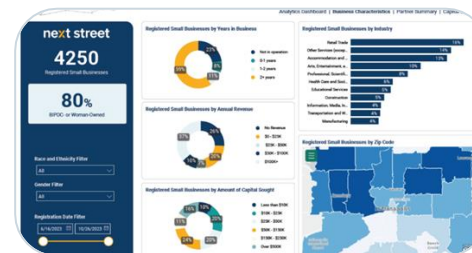
Links to partner resources from public, private, and nonprofit partners, including partner-led cohort programs, for supplier businesses

Digital Curriculum



Digital library of curated curriculum and content delivered by representative entrepreneurs via live and on-demand content

Impact Dashboard



Real-time KPI and impact dashboard for continuous monitoring, evaluation and program improvement



Data and Analytics



Next Steps

- Additional research on the likely economic impact of energy transitions
- Develop tools to measure transition risk



Industry Growth & Diversification

Project Updates

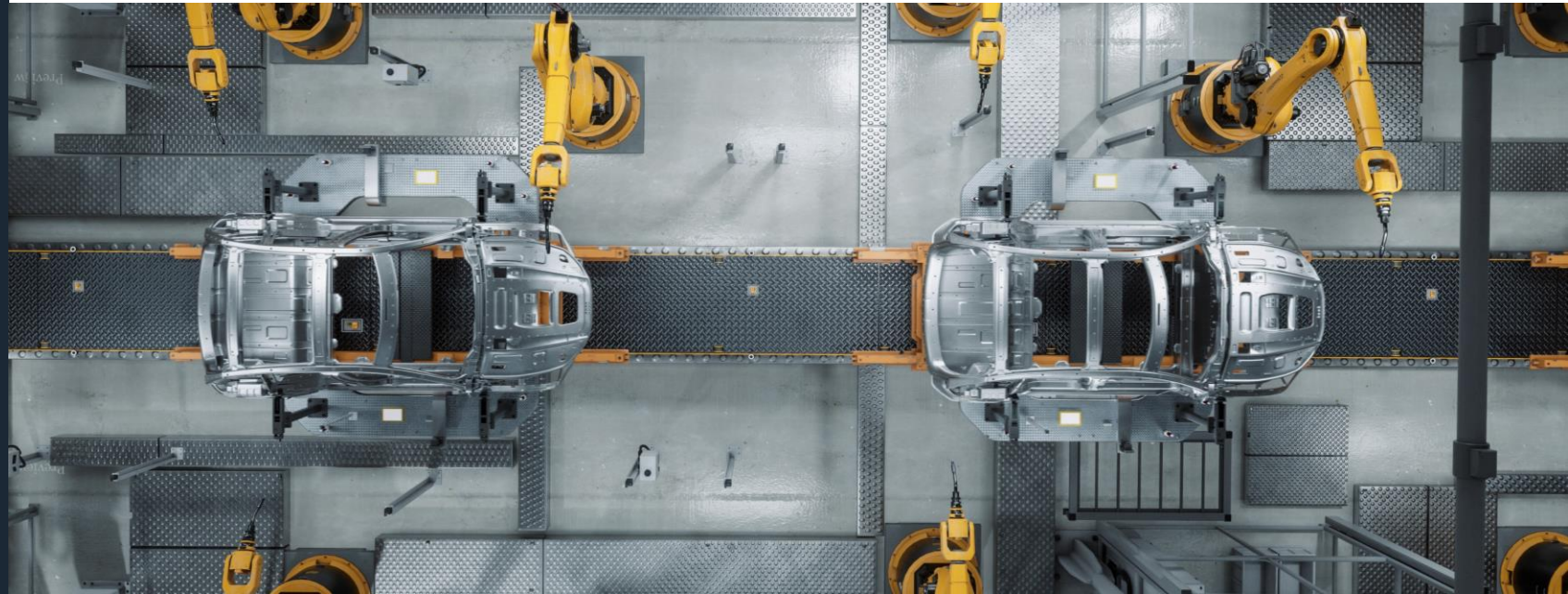
- **Support for retooling/diversification:** Secured \$22.6M DOE grant for small and medium-sized manufacturers retooling; \$9.1M U.S. Treasury grant to provide small and underserved manufacturers with technical assistance for retooling.
- **Supplier Playbook:** Partnering with Argonne National Lab on a Supplier Playbook to support manufacturers with ICE to EV transition.
- **Energy Sector Diversification:** Partner with state's largest investor-owned utilities to secure commitments and develop state policies that help Michigan-based businesses successfully move into energy supply chains, focusing on auto suppliers seeking diversification opportunities.



Industry Growth & Diversification

Next Steps

- Use energy sector model to develop additional diversification efforts in defense/aerospace, infrastructure, etc.





Community Resiliency

Project Updates

- **MIFundingHub.org:** Digital resource that helps local governments navigate to state and federal grant opportunities and provides technical assistance
- **Community Playbook:** Issued RFI in August soliciting feedback on project to develop resource for communities
 - **Three-part project:**
 1. simulated plant closure exercise to document and improve on current process
 2. document learnings and pair with resources supporting growth and diversification planning
 3. support learning cohort in playbook deployment/planning exercise.



Community Resiliency



Next Steps

- Continue to review RFI responses
- Issue RFP for qualified vendors to assist with project
- Partner with foundations for financial and/or in-kind support



Employee Engagement & Empowerment

Project Updates

- **Job Quality:** Received \$750K grant from Family Workers Fund to work with Burning Glass Institute to develop a framework and tools to define, measure, and advance job quality standards.
- **EV Workforce Hub:** Michigan 1 of 4 hubs announced by President Biden in April, designed to prepare Michigan workers for the good-paying and union jobs; focused on four challenges identified by stakeholders; several pilots/projects underway.



U.S. Department of Energy: Office of Energy Jobs

Regional Workforce Ecosystem Snapshot: Southeastern MI

Presentation 2024

Presented By:
Phaedra Wainaina
Community RAMP Fellow



phaedra.wainaina@hq.doe.gov



240-361-8676



Regional Project Insights – Opportunities for Growth

Opportunities for workforce development and equity.

The White House National Economic Council, the U.S. Department of Labor, the U.S. Department of Energy, and the Michigan Department of Labor & Economic Opportunity hosted the June 2024 Convening on the Future of the Michigan EV Workforce in East Lansing.

These stakeholders aligned on key objectives for the Workforce Hub:

- **Objective 1:**
 - Aligning employers on skills needs, expanding data sharing between employers and training institutions, and increasing coordination across the workforce system.
- **Objective 2:**
 - Synchronizing and expanding access to training curriculum for battery, advanced manufacturing, and electric vehicle (EV) infrastructure jobs.
- **Objective 3:**
 - Scaling pre-apprenticeship and career readiness programs with a focus on underrepresented groups and minority populations.
- **Objective 4:**
 - Addressing structural barriers to workforce participation, such as difficulty accessing childcare and public transit, with a particular focus on underserved communities.



Regional Project Insights – Opportunities for Growth

Key Projects

- »» DOE's Battery Workforce Initiative.
- »» EVITP credentialing for union jobs.
- »» STEM talent pipelines for battery manufacturing.

Workforce Hub Objectives

- »» Align employers on skill needs. – C.A.R. leading
- »» Expand training access for EV-related jobs.
- »» Scale pre-apprenticeships for underrepresented groups.
- »» Address childcare and transportation barriers.



Partnership Development – Leveraging

Regional Assets



130

Key Players

Employers: Ford, GM, DENSO.

Educational Partners: Michigan community colleges, universities.

Community Stakeholders: Michigan Works!, Focus: HOPE.

Best Practices

Build sustained, mutually beneficial partnerships.

Align training programs with employer needs.

Promote shared goals and data sharing.



» Tools and Technology

↳ Synchronized employer data collection

↳ Artificial Intelligence and Machine Learning

Reflection – Long-Term Vision for Regional Impact

Objective 1: Data & Coordination

- » NextStreet will create a digital hub to help connect small- and medium-sized suppliers in Michigan to resources to help with retooling, modernization, and economic transition.

Next Steps & Progress

- » Develop innovative methods to obtain required feedback from employers that centralize incoming data request and protect against industry concerns.
- » Launch an industry advisory group with HR executives from the auto and mobility sector to help inform industry-wide skill needs for incumbent workers.



Reflection – Long-Term Vision for Regional Impact

Objective 2: Training and Curriculum

- » The Battery Workforce Challenge will provide \$250,000 to the Society of Manufacturing Engineers (SME) to pilot a battery manufacturing career pathway in high school career technical education.

Next Steps & Progress

- » DOE Battery Workforce Initiative to finalize MOUs with Kalamazoo CC/Ford and Grand Rapids CC/LG by the end of October.
- » White House to explore additional voluntary commitments from Ford and GM for Henry Ford Community College's Battery/EV Technical Center to match Battery Workforce Challenge's \$200,000 commitment.



Reflection – Long-Term Vision for Regional Impact

Objective 3: Career Readiness

- » LEO, AFL-CIO WDI and IBEW launching a CDL Registered Apprenticeship.

Next Steps & Progress

- » Follow up with sports teams, Detroit Public Schools, foundations, and Michigan Works! to land the implementation of the deliverable for high schoolers.
- » Work with trusted, community-based organizations to develop pre-apprenticeship opportunities.



Reflection – Long-Term Vision for Regional Impact

Objective 4: Structural Barriers

- » LEO and DOL announced pilot program to train workers in Wayne County for over 140 high-quality jobs in the auto supply chain.
- » DOE's Battery Workforce Initiative will invest \$200,000 to provide skills assessment and job task analysis.

Next Steps & Progress

- » Expand programs to provide low-cost, reliable transportation to low-income workers, including the Michigan Workforce Development Institute's proposal to provide resources to apprentices to purchase quality, low-cost cars. Crowd in philanthropic support for these programs.





U.S. Department of Energy: Office of Energy Jobs

THANK YOU

FOR YOUR ATTENTION AND
PARTICIPATION



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Employee Engagement & Empowerment

Next Steps

- Research on workforce gaps necessary for transition and financing/implementation strategies.



Statewide Economic Transition Plan



Transition Plan Development

Must consider options to:

- Align, target, and leverage local, state, federal, and private resources.
- Identify transition activities not addressed by existing resources.
- Make recommendations for new programs (*supplemental income, health care benefits, retirement benefits, access to education and training*).
- Implement other programs, policies, or activities to assist impacted communities, workers, and companies.

Must evaluate:

- Short- and long-term costs and benefits of plan components
- Sources for sustainable funding
- Potential fiscal, economic, workforce implications of extending to other industries
- Which components can be implemented by existing State agencies
- Which components will require additional legislation

Due to the Governor & Legislature by Dec. 31, 2025

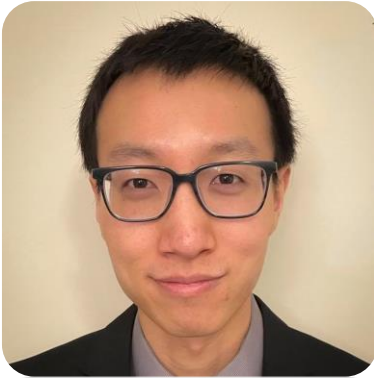


Existing Research and Resources

- University of Michigan: [Switch to EVs may not mean loss of assembly jobs](#)
 - Plants in ramp-up stages see up to 10x assembly jobs
 - One plant 10+ years after switch has 3x higher workers
 - Unclear on impact for parts manufacturing
- World Resources Institute: [A roadmap for Michigan's electric vehicle future](#)
 - With right policies, MI could add 56K jobs in auto manufacturing
 - Job gains in some segments of value chain, losses in others
- Coal plant decommissioning and [Energy Transition Impact Project](#)

“30% fewer workers for electric vehicle assembly”: harbinger or myth?

Andrew Weng¹



Omar Ahmed¹



Gabriel Ehrlich²



Anna Stefanopoulou¹



¹Department of Mechanical Engineering

²Department of Economics

University of Michigan

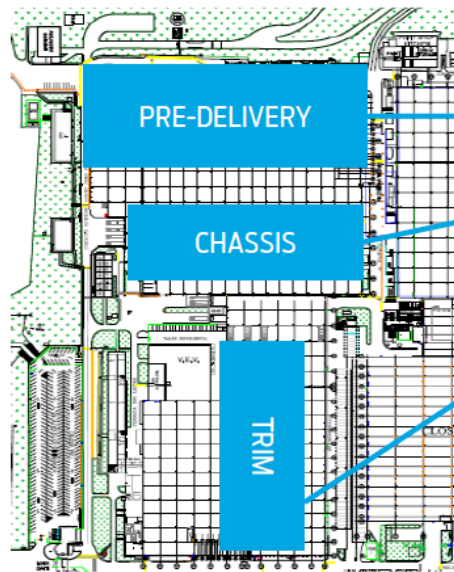
*Prepared for “Community & Worker Economic Transition
Office Advisory Committee”, November 19, 2024*

EVs require 30% less labor to assemble?

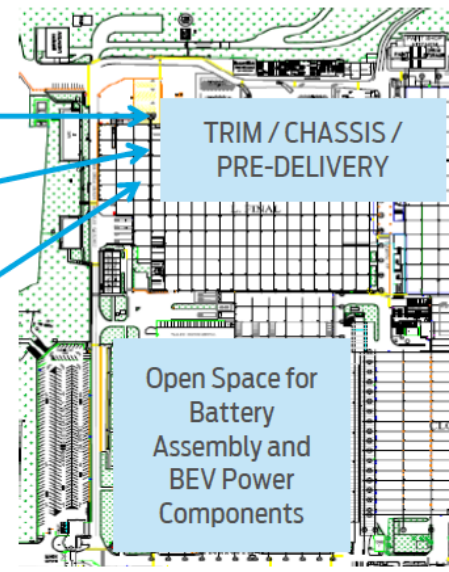
Jim Hackett, *CEO Strategic Update*, Ford Motor Co., Oct. 3, 2017

BEV product simplification yields floor space and capital efficiencies

Current State – Final Assembly



Future State – Final Assembly

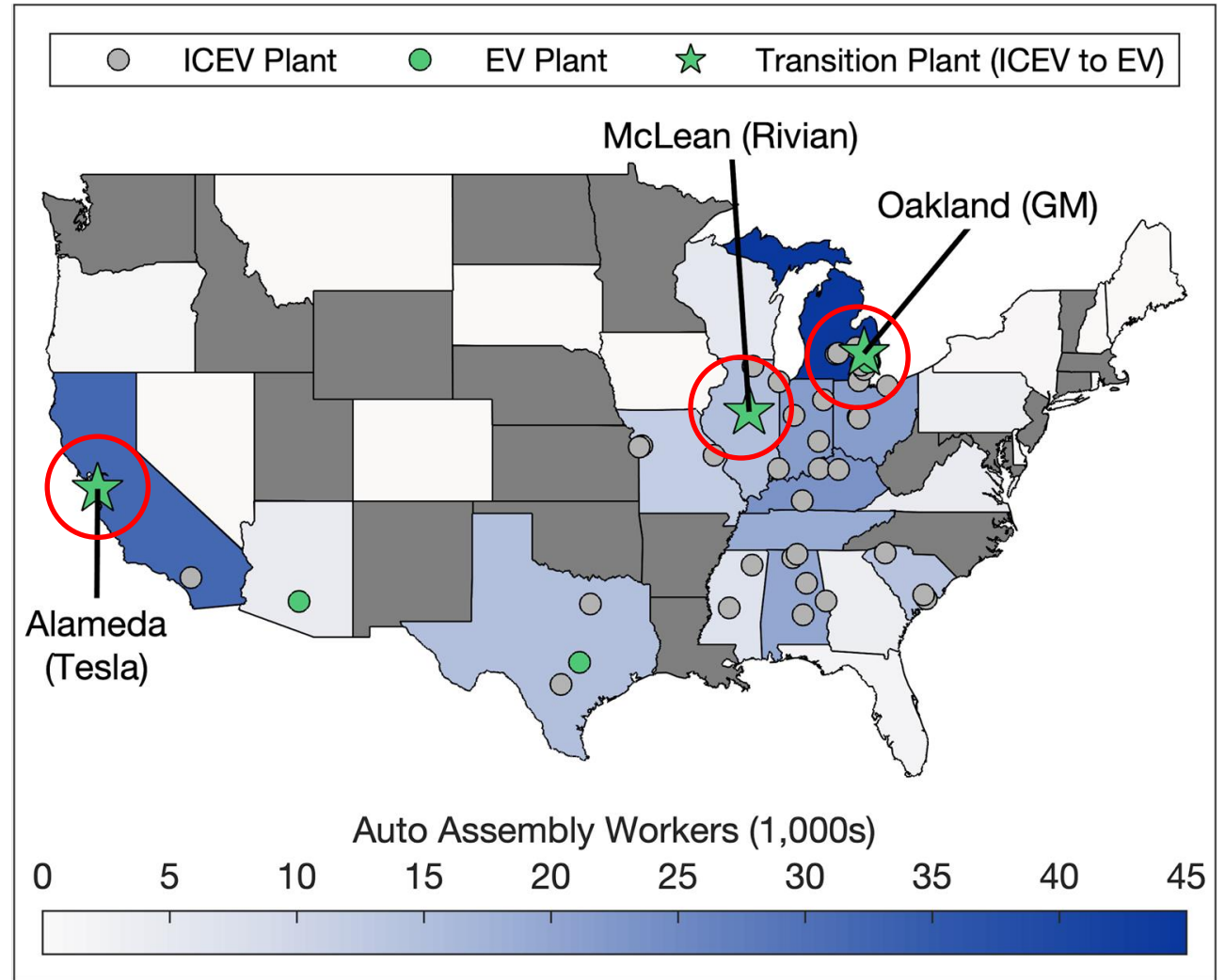
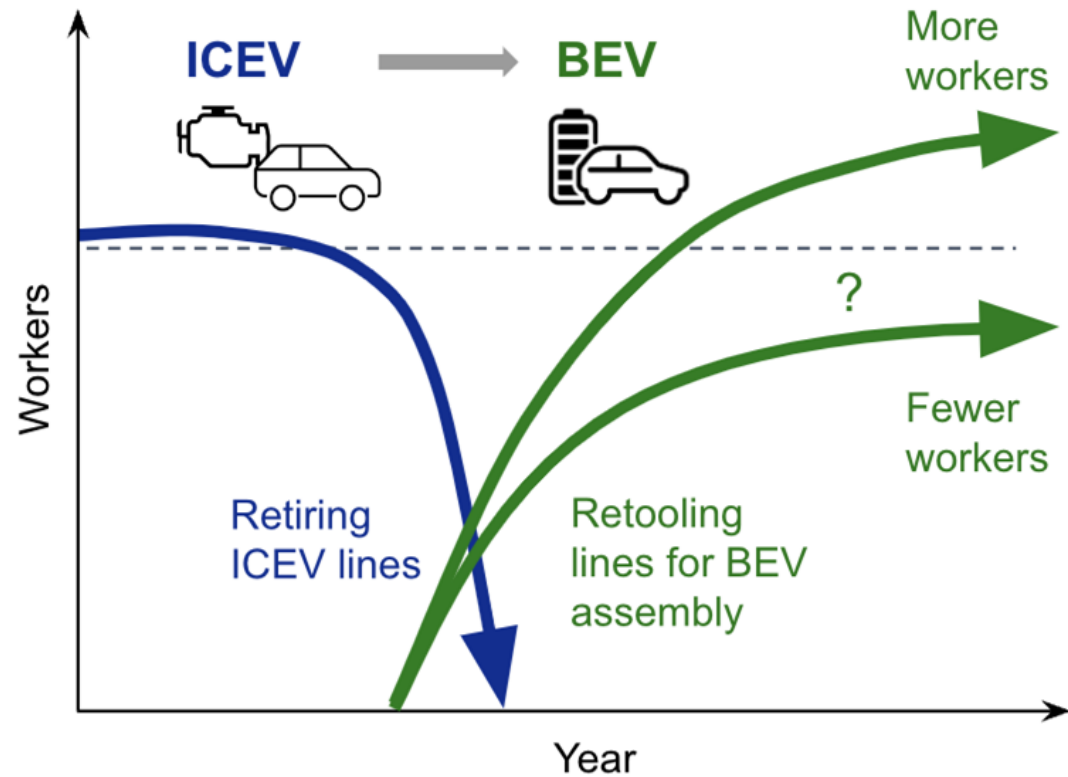


Benefits vs. ICE

- 50% reduction in footprint
- 50% reduction in capital investment
- 30% reduction in hours per unit
- Flexible tooling / process fully scalable and reconfigurable to support increase in demand

Identifying “transition plants”

1. Alameda, CA NUMMI → Tesla
2. McLean, IL Mitsubishi → Rivian
3. Oakland, MI GM → GM



Labor intensity : “workers per vehicle” (WPV)

Automotive assembly employment



U.S. BUREAU
OF LABOR
STATISTICS

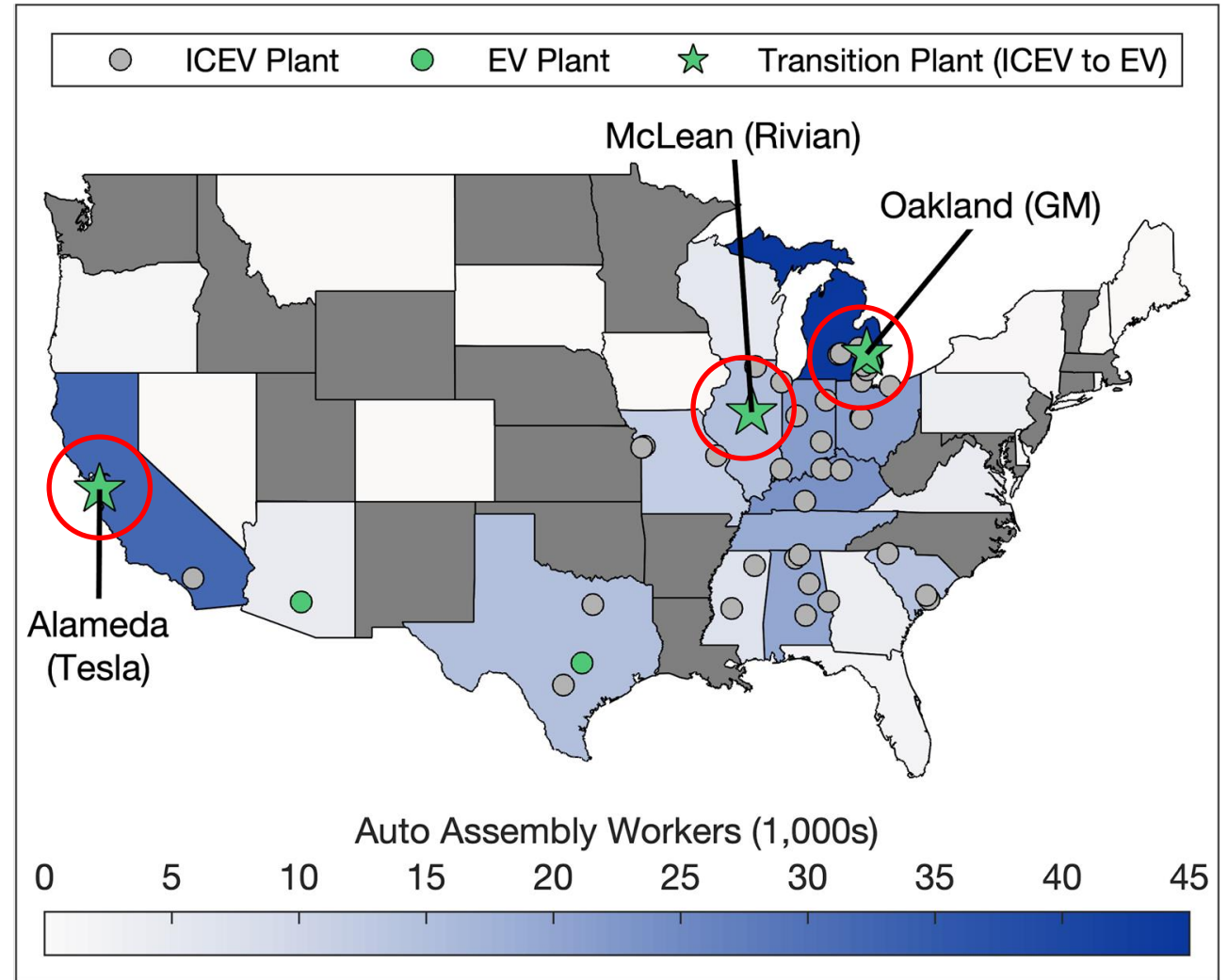
United States[®]
Census
Bureau

Automotive employment given under
North American Industry Classification
System (NAICS) code 3361

Vehicle production data

Automotive News

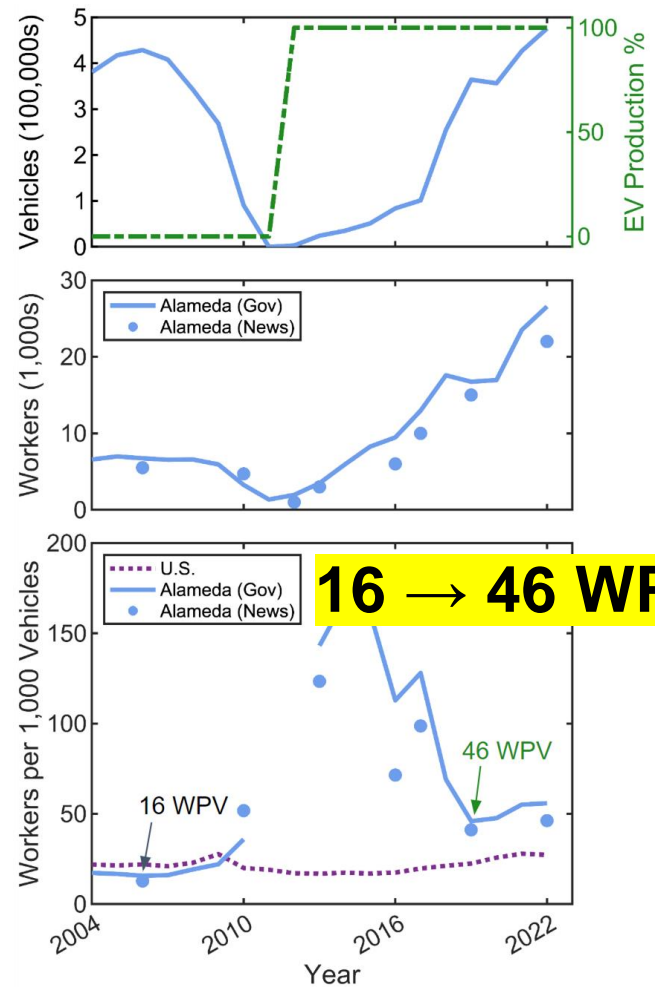
RESEARCH & DATA CENTER



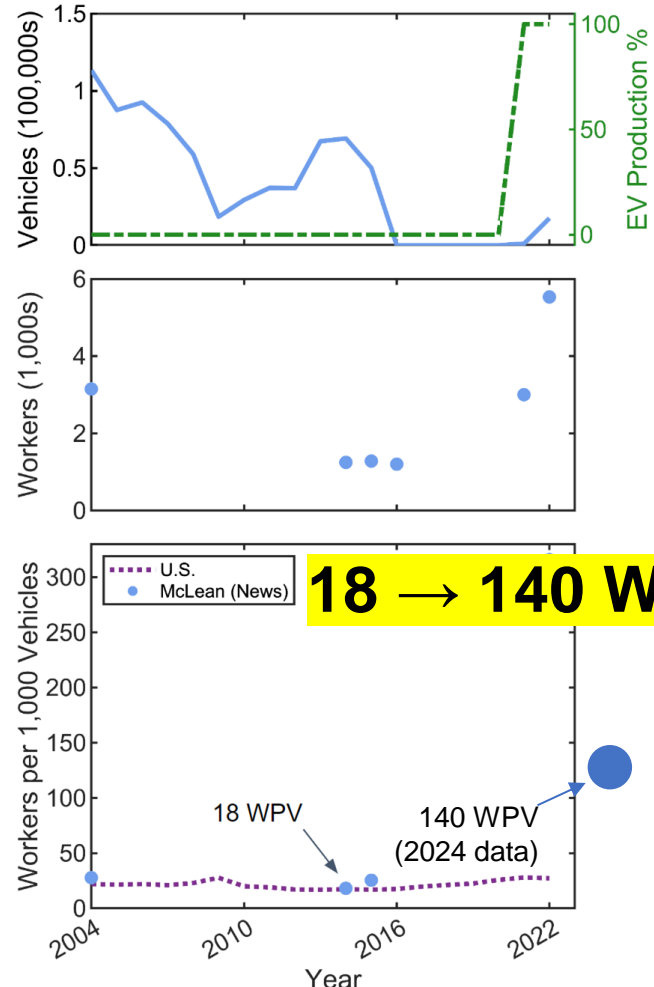
At each transition plant, labor intensity increased

Vehicles
Workers
Labor Intensity

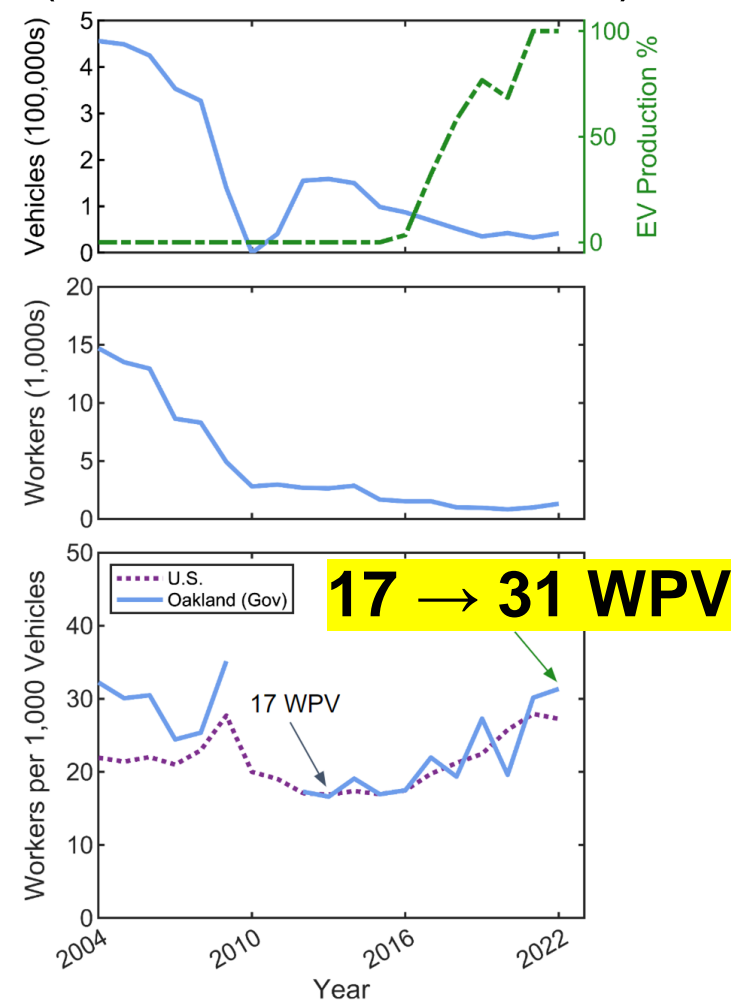
Alameda, CA
(NUMMI → Tesla)



McLean, IL
(Mitsubishi → Rivian)



Oakland MI
(GM ICEVs → GM Bolt)



Summary

1. At three U.S. auto assembly plants that transitioned from making ICEVs to EVs, **more workers per vehicle were needed**, not fewer.
2. Rapid, widespread job loss in **assembly plants** is a smaller risk than many fear.

Article | [Open access](#) | Published: 16 September 2024

Higher labor intensity in US automotive assembly plants after transitioning to electric vehicles

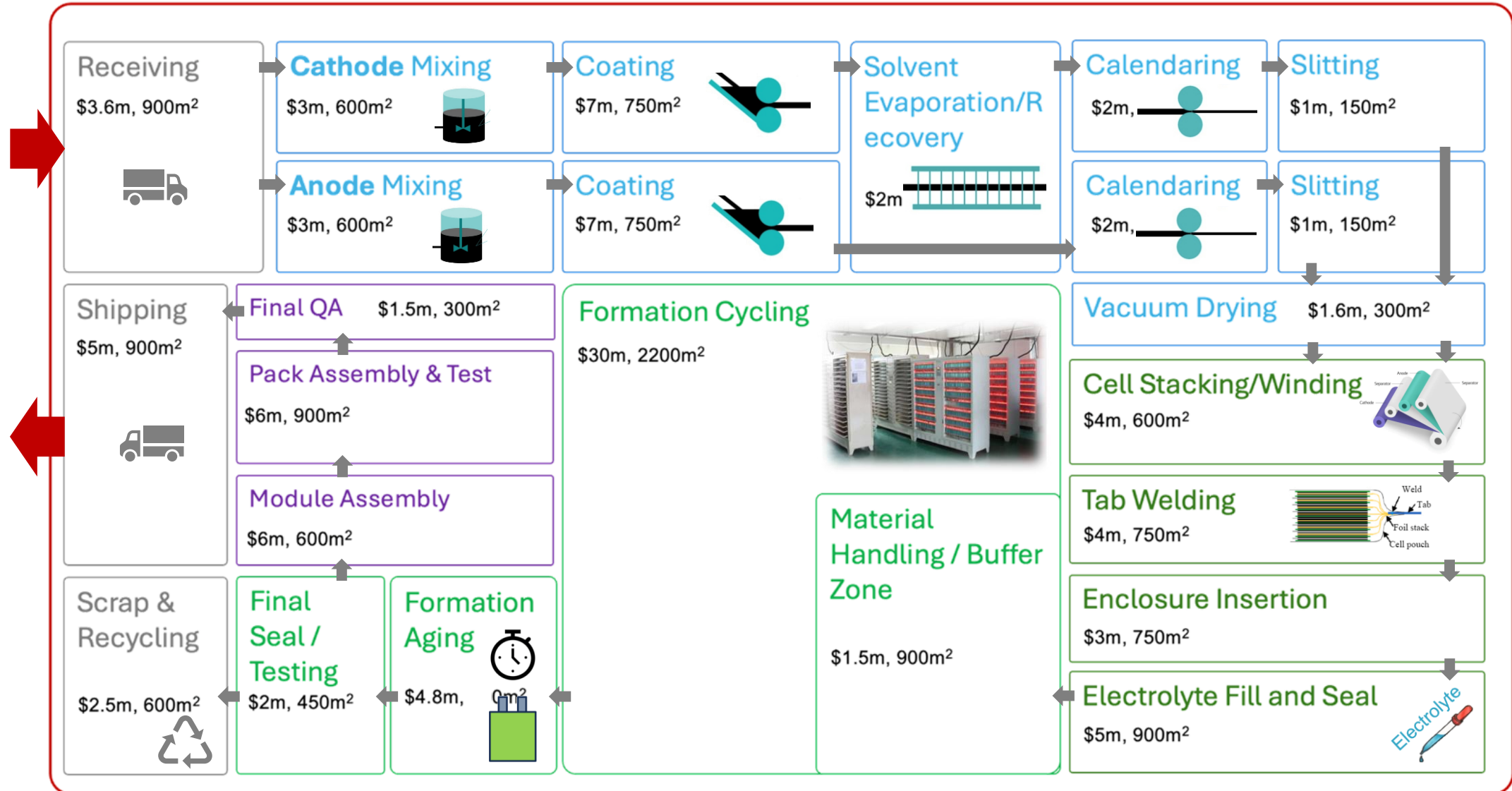
[Andrew Weng](#) , [Omar Y. Ahmed](#), [Gabriel Ehrlich](#) & [Anna Stefanopoulou](#)

[Nature Communications](#) **15**, Article number: 8088 (2024) | [Cite this article](#)



How will battery manufacturing impact jobs?

Factory footprint for a 1 GWh facility | **35-160 workers** | $\sim 15,000\text{m}^2$ | $\sim \$100\text{m}$





Existing Research and Resources

- University of Michigan: [Switch to EVs may not mean loss of assembly jobs](#)
 - Plants in ramp-up stages see up to 10x assembly jobs
 - One plant 10+ years after switch has 3x higher workers
 - Unclear on impact for parts manufacturing
- World Resources Institute: [A roadmap for Michigan's electric vehicle future](#)
 - With right policies, MI could add 56K jobs in auto manufacturing
 - Job gains in some segments of value chain, losses in others
- Coal plant decommissioning and [Energy Transition Impact Project](#)



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A Roadmap for Michigan's EV Future

An Assessment of the Employment Effects and Just Transition Needs

*Briefing for Community & Worker Economic
Transition Office Advisory Committee*

11/19/2024



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Context

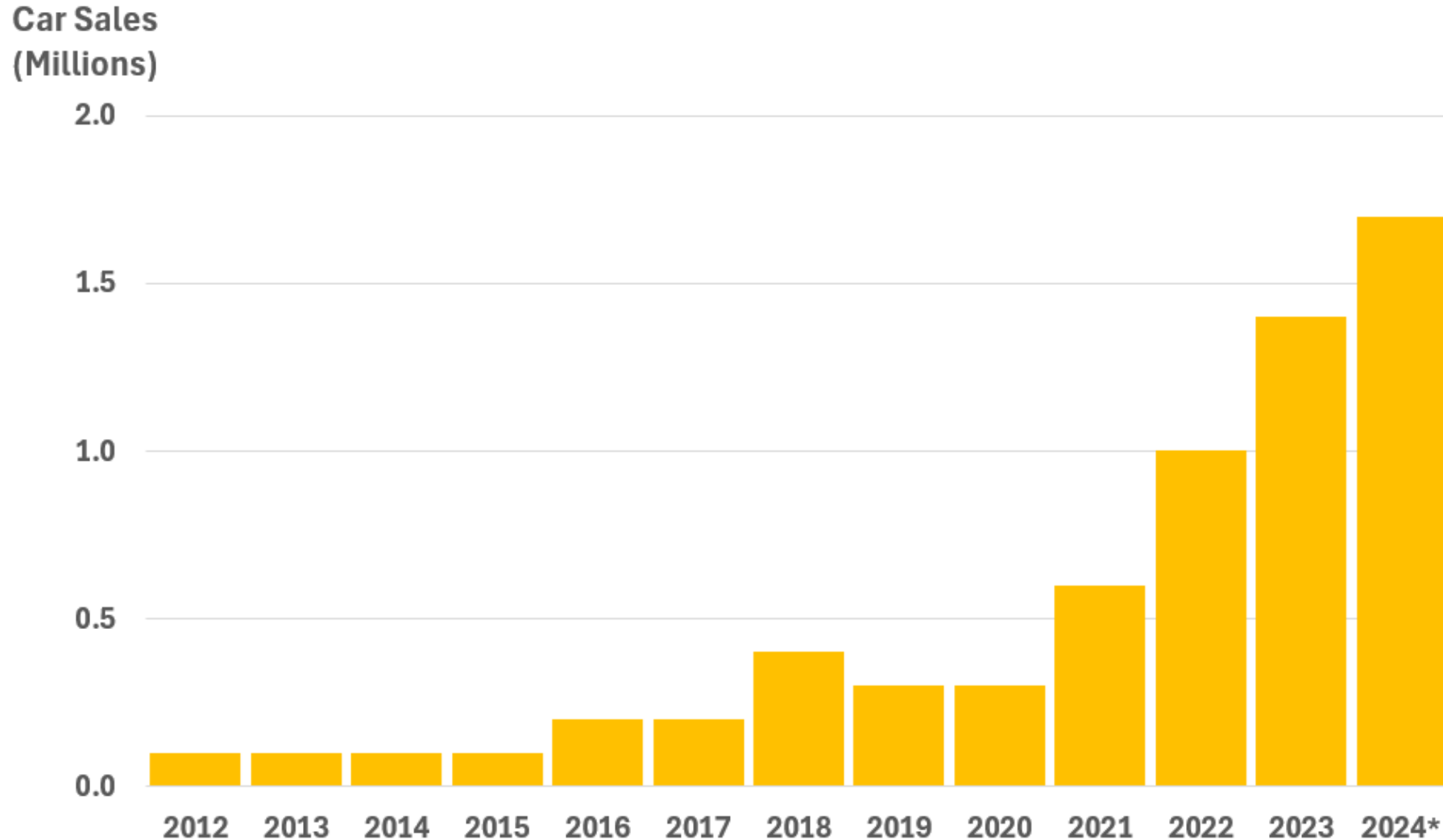


What are Michigan's opportunities and risks in the shift to EVs?



- **Economic modeling** to determine the employment and other economic effects
- **Stakeholder consultations** to understand how to ensure an equitable EV transition that leaves no workers or communities behind

More EVs on the roads than ever and more are coming



Data includes US electric and hybrid vehicle car sales. *2024 data is estimated based on Q1 2024 sales trends.
Data source: [International Energy Agency 2024](#)

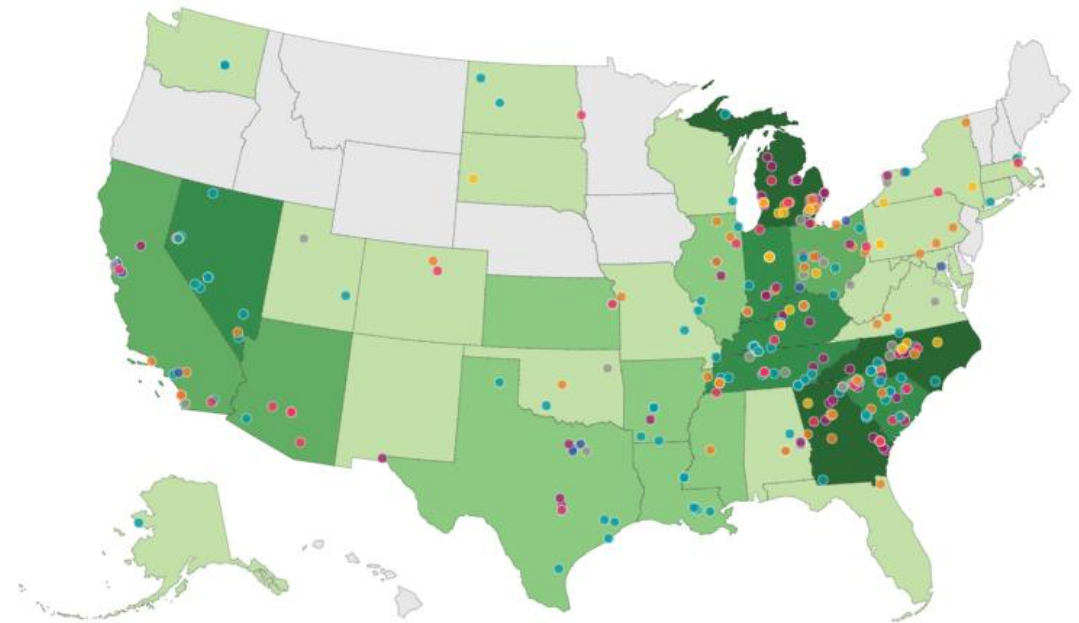
Where are cleantech investments happening?

At least **\$206 billion** of investments in clean technology manufacturing have been announced on Biden's watch, as of April this year. (**Eighty percent** has gone to electric vehicle and battery projects.)

Announced private investments and facilities for electric vehicle, battery, and charger manufacturing

Announced private investments (\$ Billions) No investments <1 1-5 5-10 10-15 >15

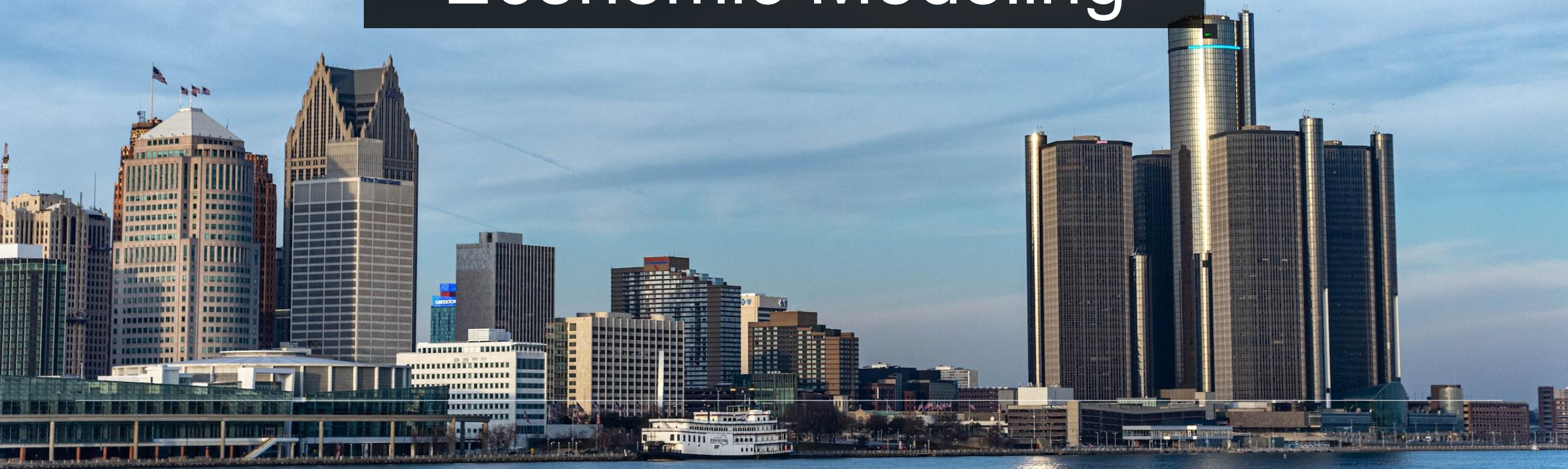
Manufacturing facility type Batteries: Minerals, Materials, and Components Batteries: Cells Batteries: Packs Batteries: Cells and Packs Electric Vehicles: Components Electric Vehicles: Assembly Electric Vehicles: Chargers



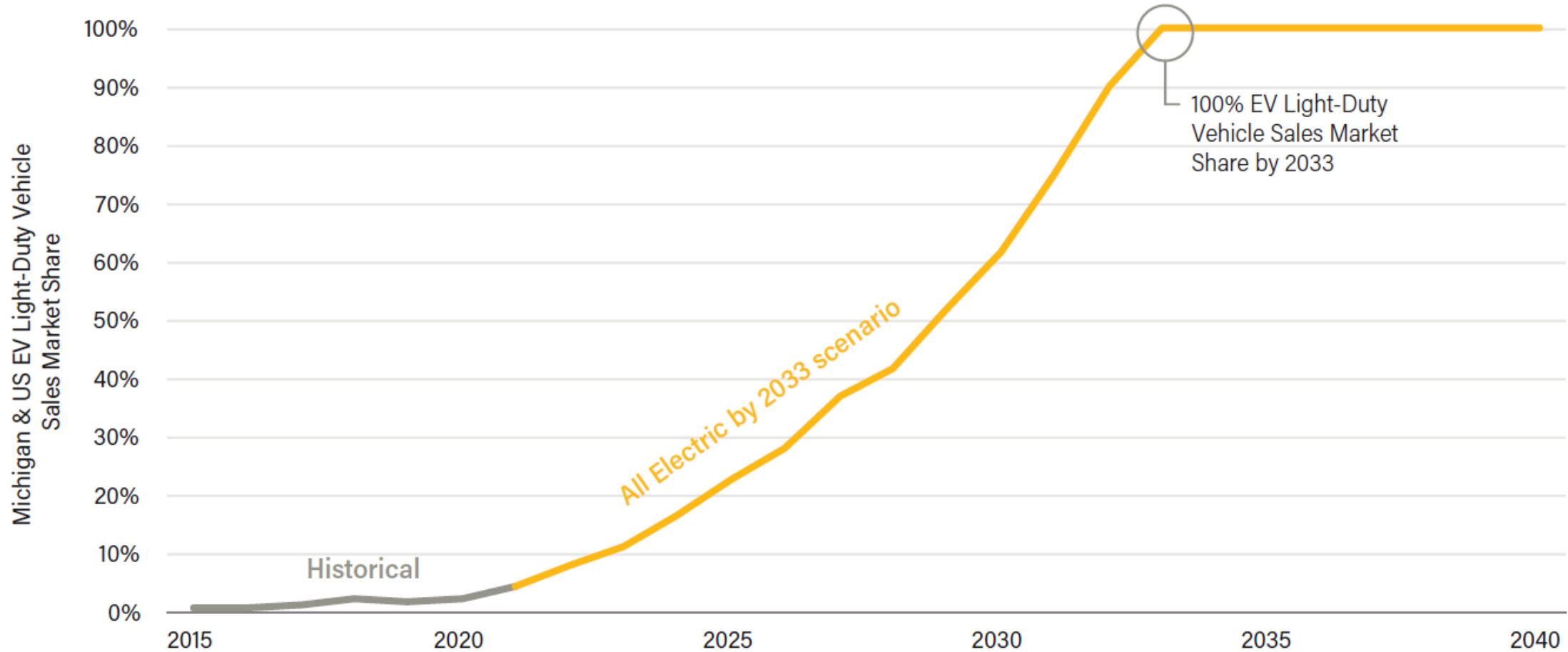


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Economic Modeling



WRI modeled an ambitious All Electric by 2033 scenario



Forces affecting EV manufacturing jobs

- **Labor intensity**

- EVs need 30% less labor to manufacture, but require batteries

- **Domestic content requirements**

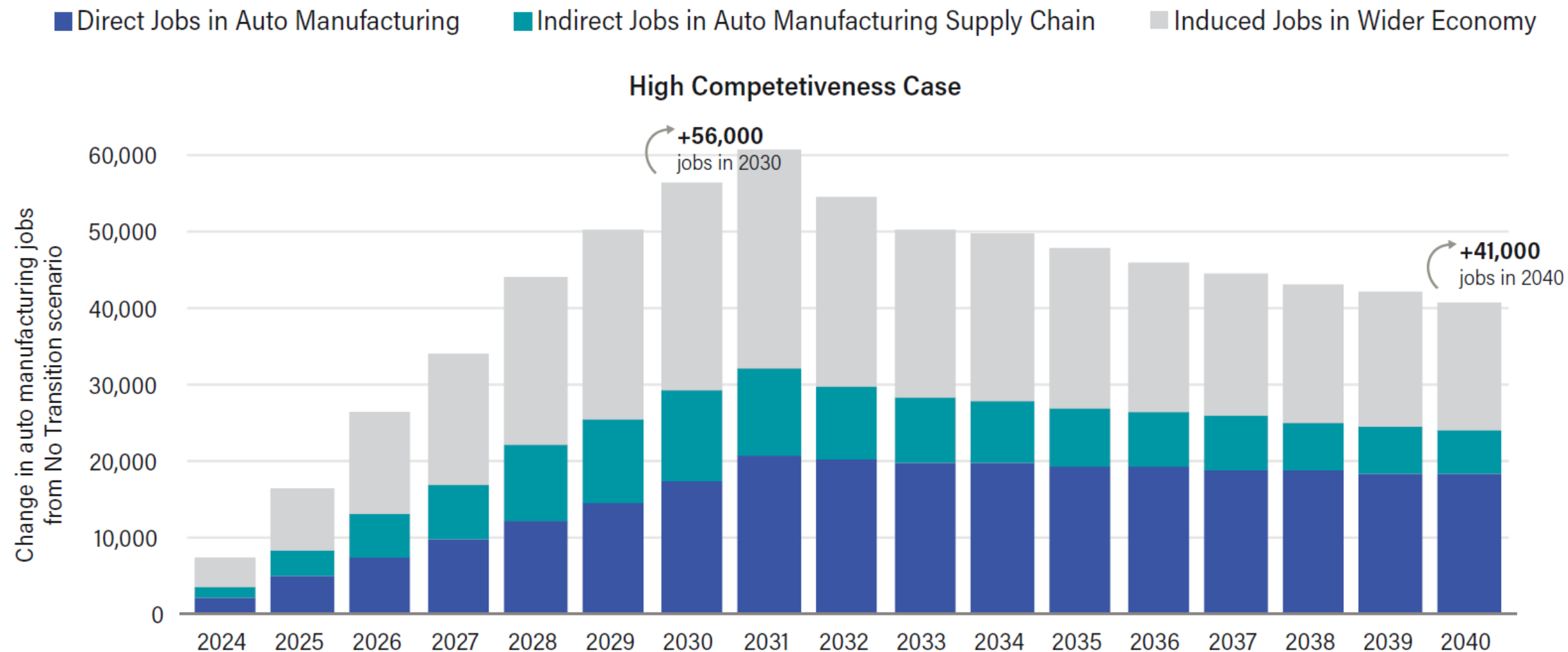
- Federal tax credits require EV assembly and battery production in North America

- **Michigan's level of competitiveness compared to other states**

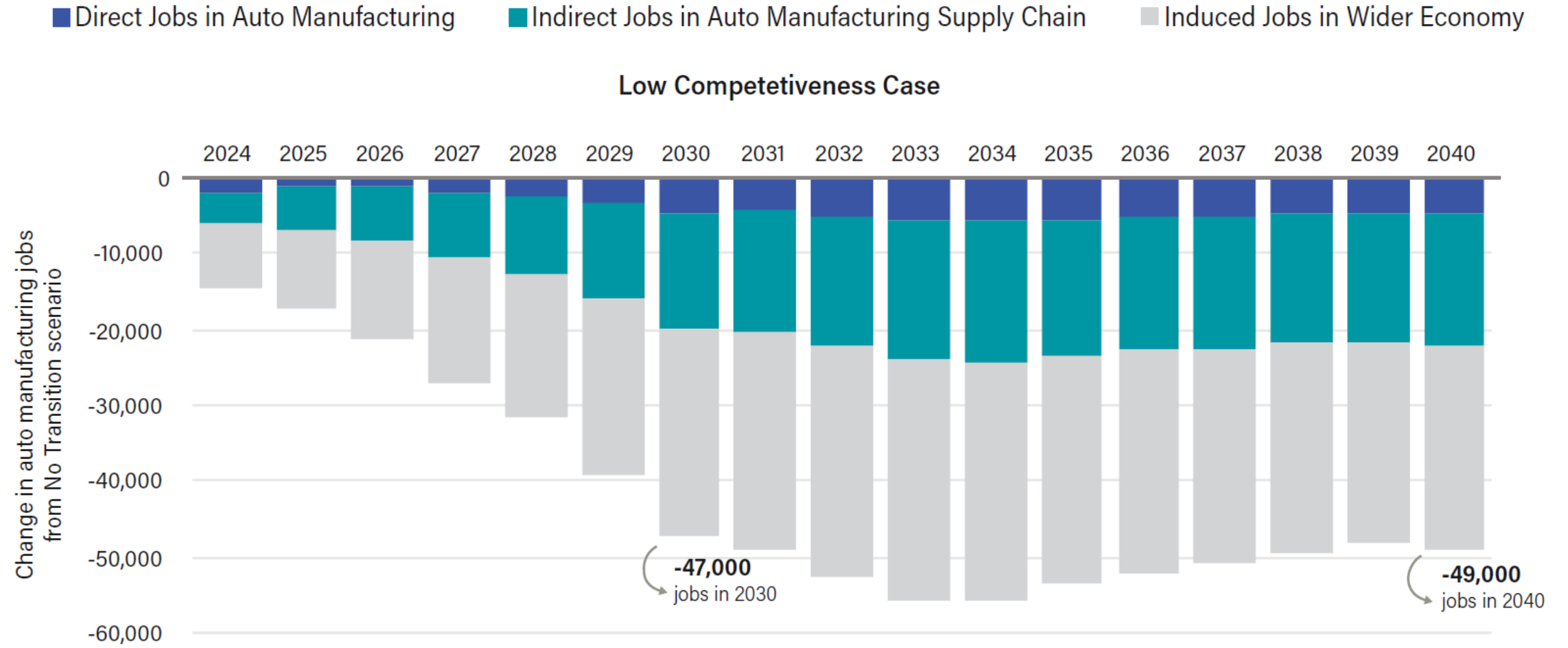
- High: Michigan's share of US EV and battery production increases
- Low: Michigan's share decreases



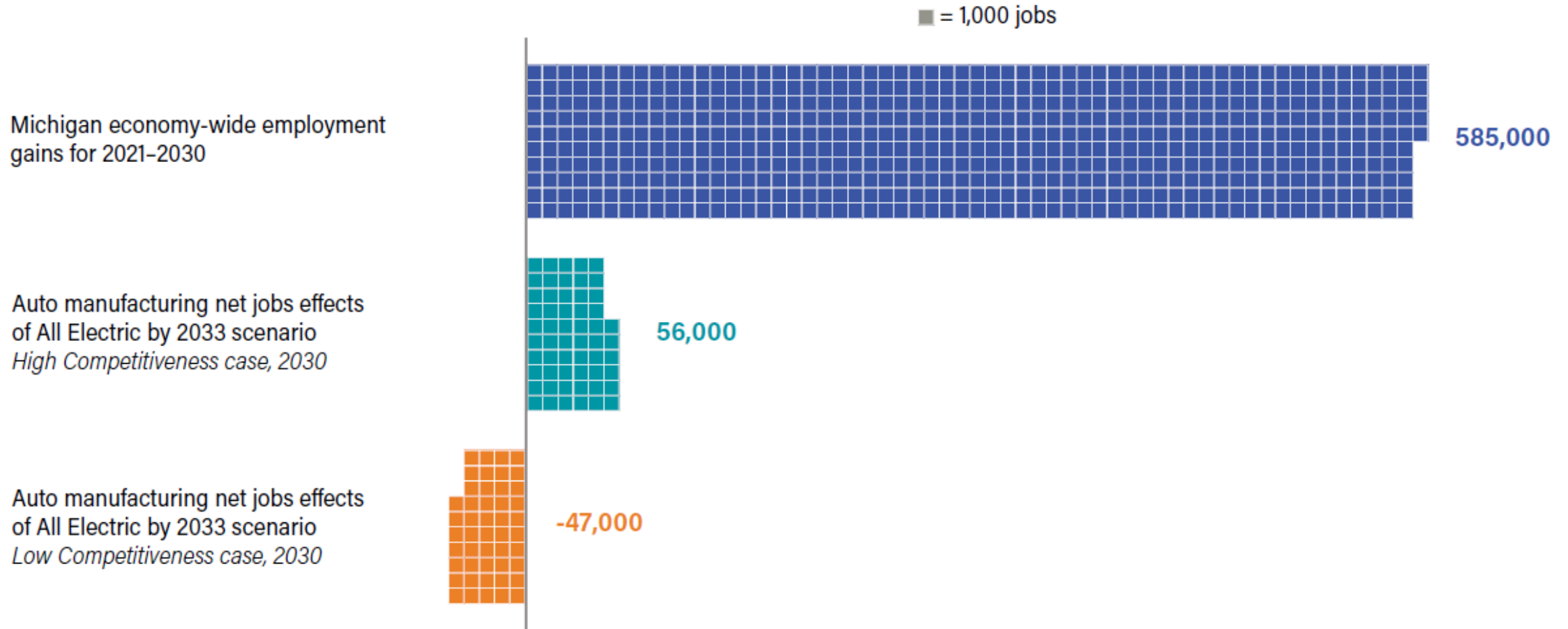
With supportive policies, Michigan could add manufacturing jobs...



...but job gains are not guaranteed



Michigan's economy has the capacity to adapt



Significant job impacts in both direction in other segments of the auto value chain

	CHANGE IN JOBS IN MICHIGAN IN 2040 COMPARED WITH NO TRANSITION SCENARIO			
	Direct jobs	Indirect jobs in supply chain	Induced jobs in wider economy	Total
EV charging infrastructure	4,000	700	2,700	7,500
Electricity purchases	1,500	3,100	7,200	11,800
Gasoline purchases	-24,600	-8,500	-13,100	-46,100
Auto maintenance and repair	-13,200	-2,500	-9,900	-25,700
Auto finance				-6,400
Renewable energy to support transition to EVs				7,600*†
Net savings re-spending				26,900
Inflation Reduction Act tax credit savings				15,000*‡

Notes: Totals may not be equivalent due to rounding; *Back-of-the-envelope calculation rather than full modeling exercise; † Annual average, 2024–40; ‡ Results from 2032, the last year of the tax credits.

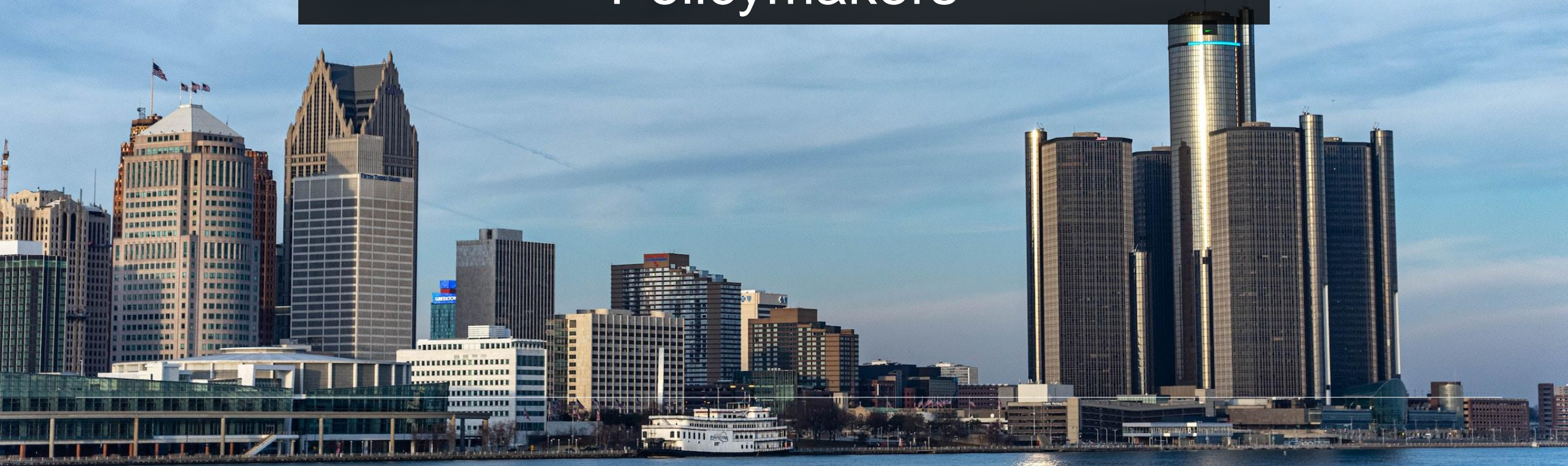
EVs will save money for Michiganders

- **\$40 billion** saved by Michiganders from EV purchases, maintenance, and gasoline cumulatively by 2040
- Another **\$9-18 billion** if federal EV tax credits are fully taken advantage of



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Recommendations for Michigan Policymakers



1. Strengthen Michigan's innovation, manufacturing, and infrastructure ecosystem to attract EV-related investments and talent



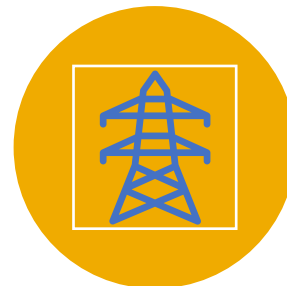
Develop the workforce pipeline for the EV industry



Bolster Michigan's innovation ecosystem to attract corporate headquarters and R&D facilities

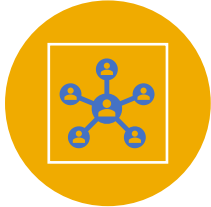


Protect and bolster Michigan's EV manufacturing competitiveness

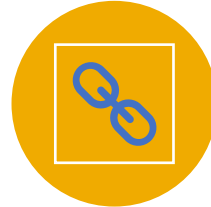


Invest in infrastructure improvements, including grid upgrades and low-carbon mobility options

2. Provide active support to improve job quality and ensure that longtime autoworkers and communities are not left behind



Create robust transition opportunities for longtime auto workers



Ensure EV jobs offer family-sustaining wages, security, and potential for growth



Ensure communities benefit from new EV investments by adopting supportive policies like CBAs



Support communities impacted by the closure of legacy auto facilities

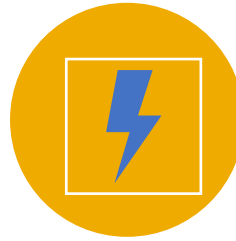


Utilize environmental justice screening tools to ensure investments do no harm

3. Accelerate the widespread and equitable deployment of EVs and charging infrastructure



Accelerate the widespread and equitable adoption of EVs through supportive policies



Deploy a robust and equitable network of charging infrastructure throughout the state



Develop public utility policies that support faster deployment of EVs and improved reliability of electricity services

Key takeaways

- Michigan's economy and environment stands to benefit tremendously from the EV transition if it proactively strengthens its position
- The changes will be uneven, so a just transition for workers and communities is needed.
- Michigan must boost its innovation ecosystem to attract investments and talent, improve job quality in the growing EV industry, and make sure that autoworkers and auto manufacturing communities are not left behind
- Michigan must position itself to be a leader in EV adoption, in addition to EV production



WORLD
RESOURCES
INSTITUTE

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Report Link:

<https://www.wri.org/research/michigan-ev-future-assessment-employment-just-transition>



Existing Research and Resources

- University of Michigan: [Switch to EVs may not mean loss of assembly jobs](#)
 - Plants in ramp-up stages see up to 10x assembly jobs
 - One plant 10+ years after switch has 3x higher workers
 - Unclear on impact for parts manufacturing
- World Resources Institute: [A roadmap for Michigan's electric vehicle future](#)
 - With right policies, MI could add 56K jobs in auto manufacturing
 - Job gains in some segments of value chain, losses in others
- Coal plant decommissioning and [Energy Transition Impact Project](#)



Next Steps:

Advisory Committee Workplan

→ **Workgroup designations**

- Data and Analytics
- Employee Engagement & Empowerment
- Community Resiliency
- Industry Growth & Diversification

→ **Additional responsibilities**

- Connecting with experts, identifying data sources
- Acting as trusted connectors to broader stakeholder groups
- Integrating relevant efforts happening across the state

→ **Proposed timeline**

- Quarterly meetings for whole group
- Draft Transition Plan completed by end of Q4 FY25

Questions and Discussion

Michigan.gov/EconomicTransition

