

Accelerating Growth of the U.S. Automotive Manufacturing Industry in the Southern United States

Automotive OEMs



Communities



Universities & Colleges



Automotive Suppliers



2014 SOUTHERN AUTOMOTIVE CONFERENCE

GEARED for GROWTH:
Accelerating the Global Automotive Industry



October 10, 2014

CAR
CENTER FOR AUTOMOTIVE RESEARCH

Southern Automotive Research Alliance (SARA)

Objectives:

By taking a top-down research approach, this study seeks to identify actionable, industry-driven recommendations for further growth and development of the southern automotive industry.

Key research criteria will emphasize:

- What do current companies need to create more jobs?
- What do international companies need to invest in the region?
- How to achieve greater supplier density, and capture a greater share of the automakers' global supply chain production and investment?

Southern Automotive Research Alliance (SARA)



Alabama



Kentucky



Louisiana



Mississippi



South Carolina



Tennessee



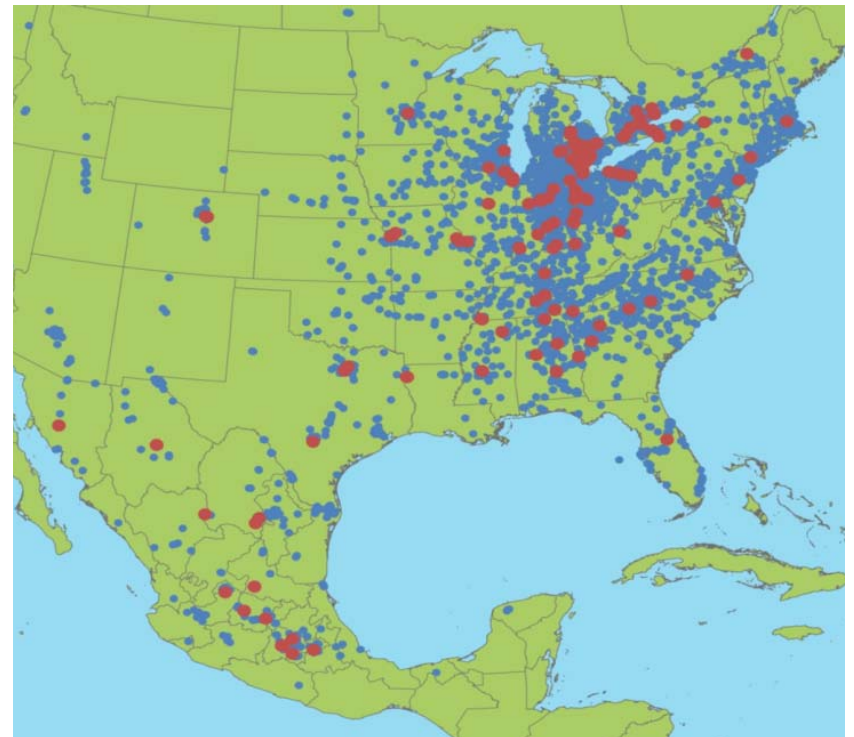
Why do we like the auto industry ?

In the United States:

- Over 7 million private sector jobs
- \$500 billion annual compensation
- \$70 billion personal tax revenue
- \$18 billion R&D (99% private)

Forecasted:

- Global & domestic sales growth
- Production in U.S. is capacity constrained



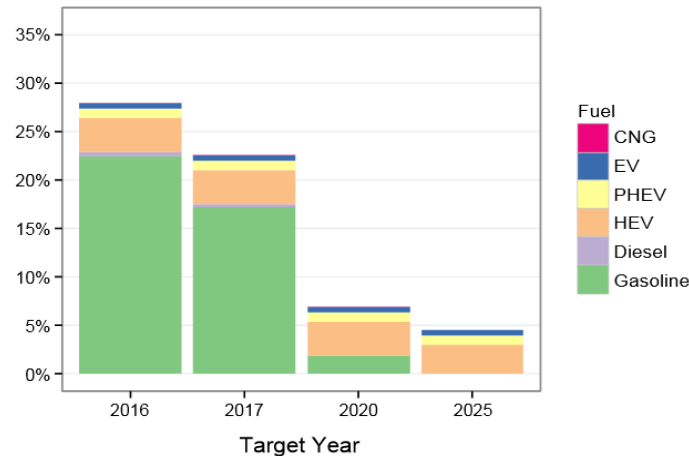
Regulations are Driving Innovation

“We have doubled the distance our cars will go on a gallon of gas, and the amount of renewable energy we generate ...”

2014 State of the Union Address

**No
gasoline
car today
meets 2025
mandates**

MY 2013 Vehicle Production Share That Meets Future CO₂ Emissions Targets

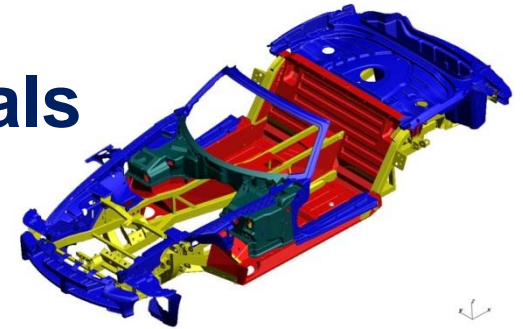


Technology Revolution !



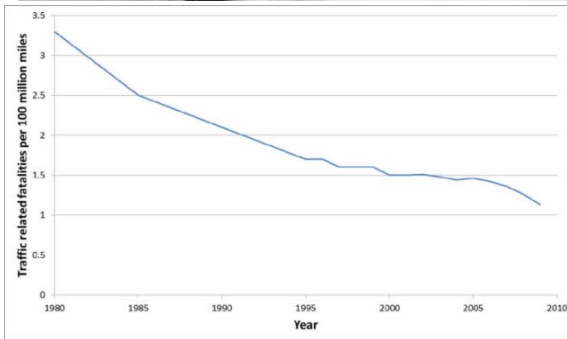
Powertrain

Materials



Safety

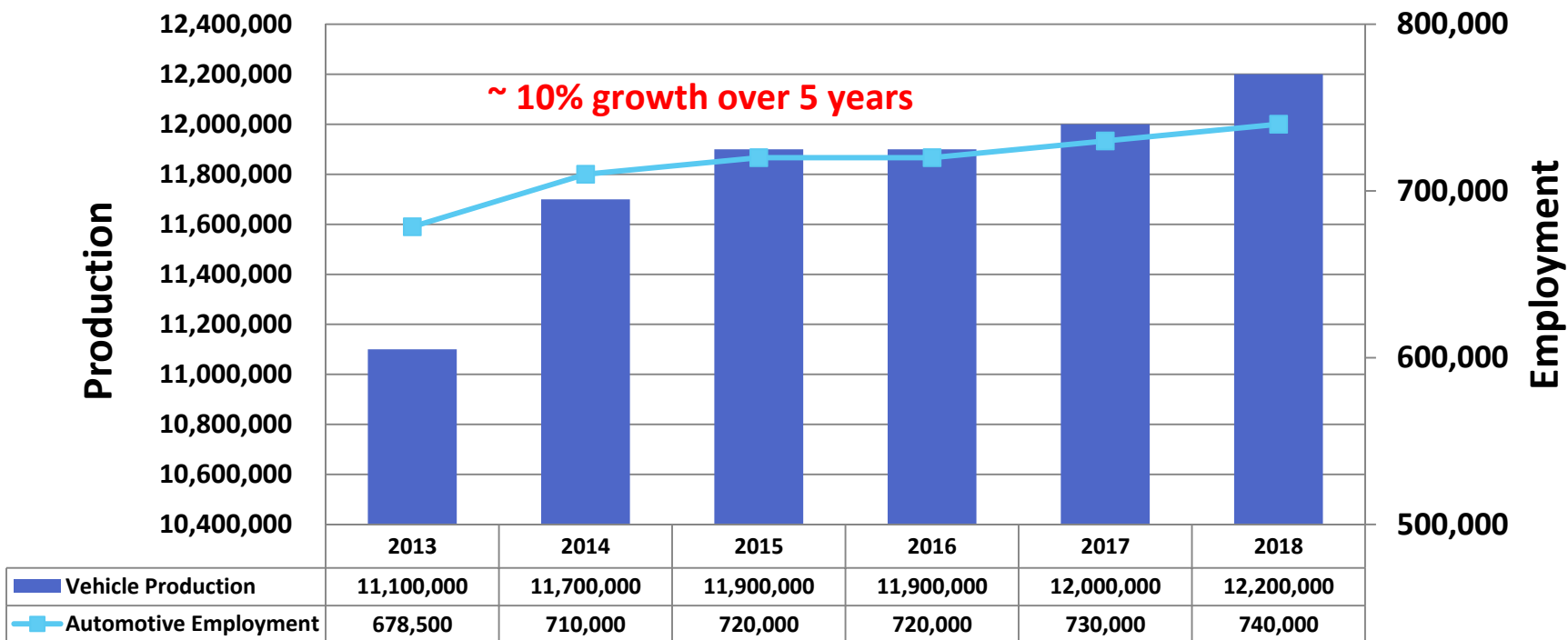
Connectivity



fuel economy & safety requirements are driving R&D opportunities

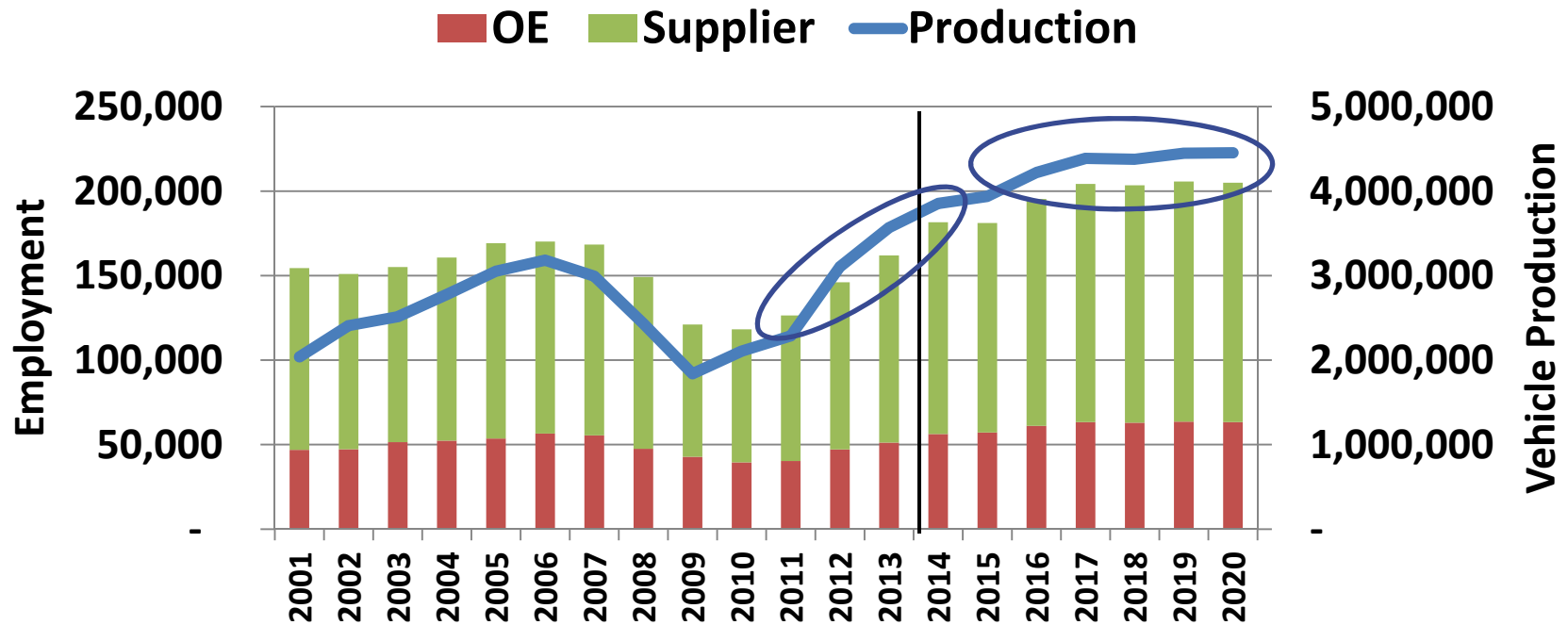


U.S. Vehicle Production & Automotive Employment Forecasts 2013-2018



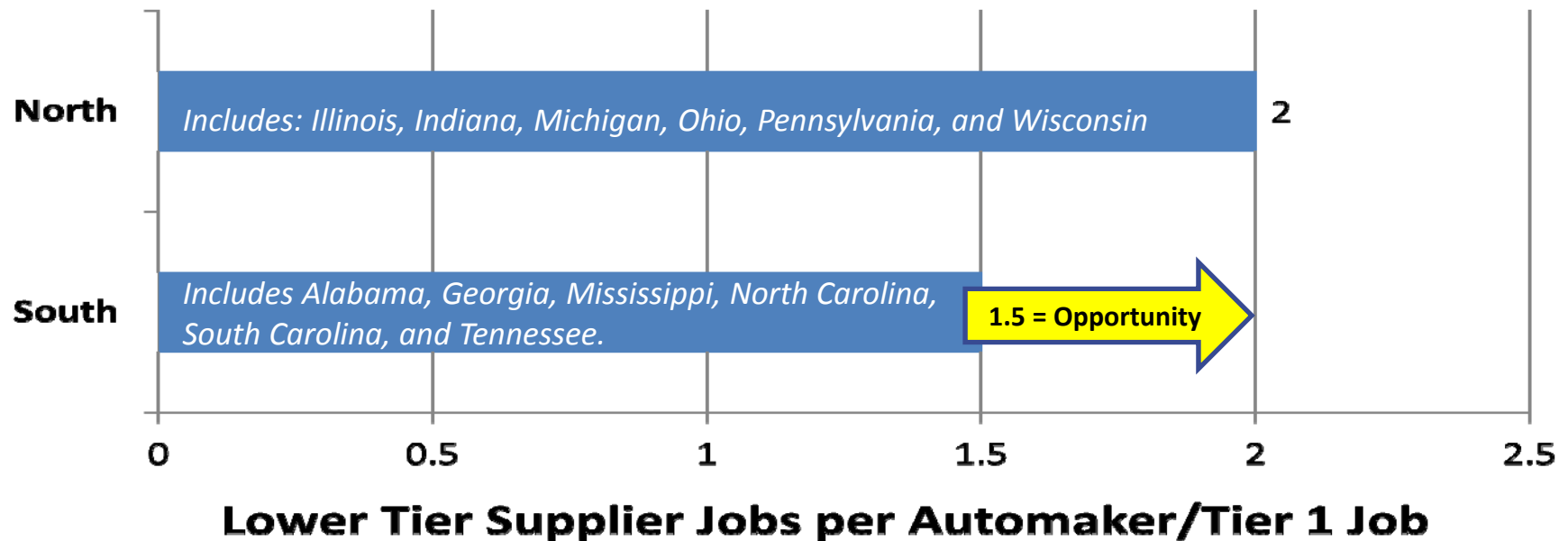
Source: Automotive News; CAR Research; BLS, March 2014

Automotive Employment and Production Forecast – SARA Region



Source: CAR Research; LMC-Automotive ; BLS

Lower Tier Labor Force Density to Support Automakers and Tier 1 Suppliers



Source: CAR 2010

Volkswagen Parts Sourcing Supply Chain Example



- More than 85% production material sourced in North American Region
- Maximization of local raw material usage
- Parts tracking and supplier integration as key activities



MEXICO

- 2.5 million vehicle exports
- Labor rates continue to be lower
 - About \$5/hour for hourly workers
 - Energy costs are high
 - Productivity continuing to improve
 - Skills are picked up over time since training programs are poor
 - Engineering, R&D focused mostly in the U.S. today, but
 - Engineering capability emerging as a real threat
- Trade position - FTAs with 45 countries vs. 20 for the U.S.
- Maquiladoras - duty free strategy to overcome weak supply chain
 - Vehicle components can be shipped to Mexico
 - Assembled into products and shipped back to U.S.



**Mexico exports 80% of
vehicles they produce**

**One-half go to the
U.S.A.**



MEXICO

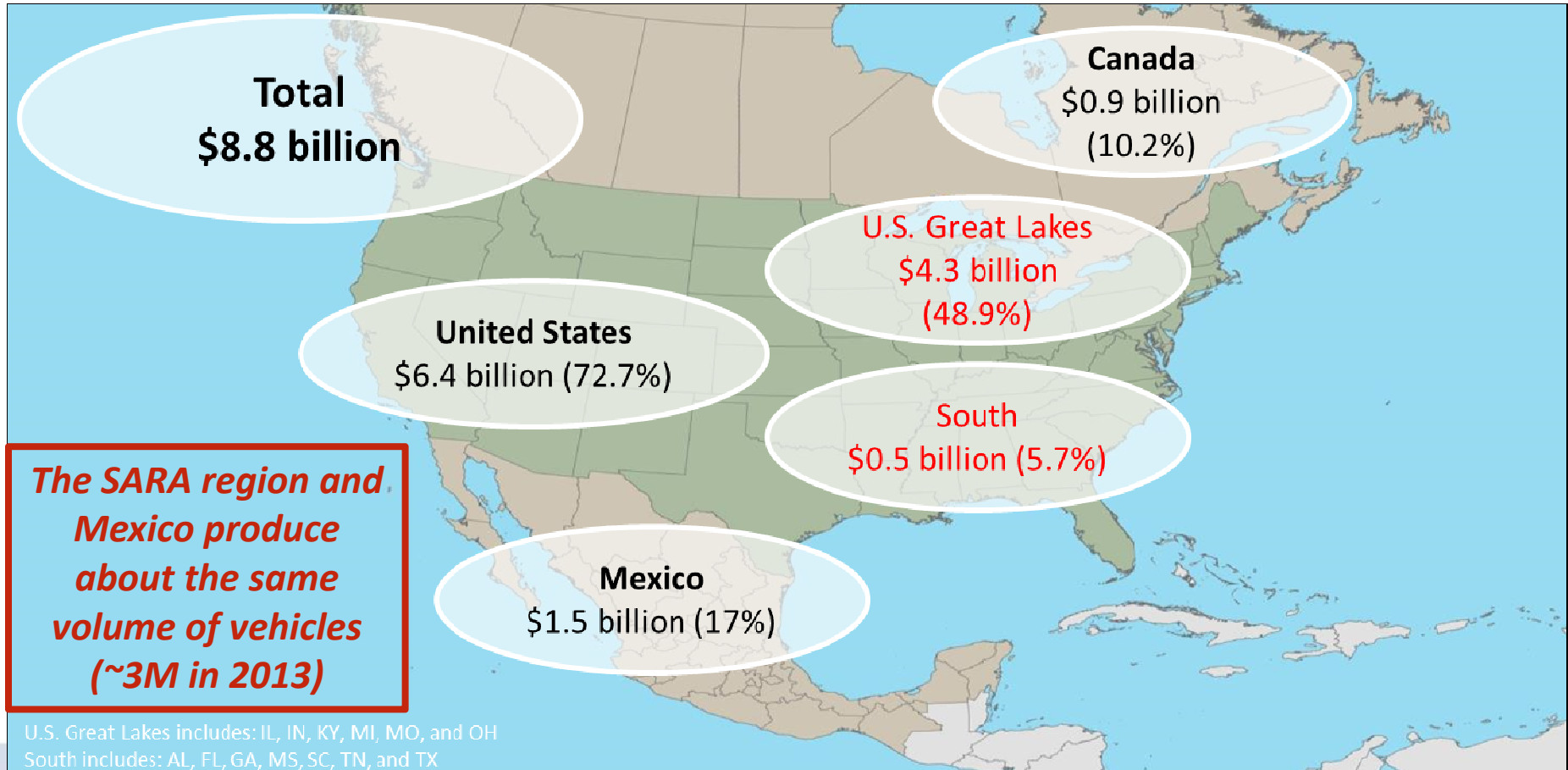
~ *Not Standing Still* ~

- Agreement between government and automotive industry to address four areas of development:
 - Improve the domestic market and a favorable business environment
 - Additional access to international markets
 - Creating incentives and mechanisms to improve the value chain
 - Improve Mexico's engineering and development capability
- Recruitment efforts aimed at critical U.S. (and Canadian) suppliers and supporting companies
- Seven assembly plants announced in the past 2 years

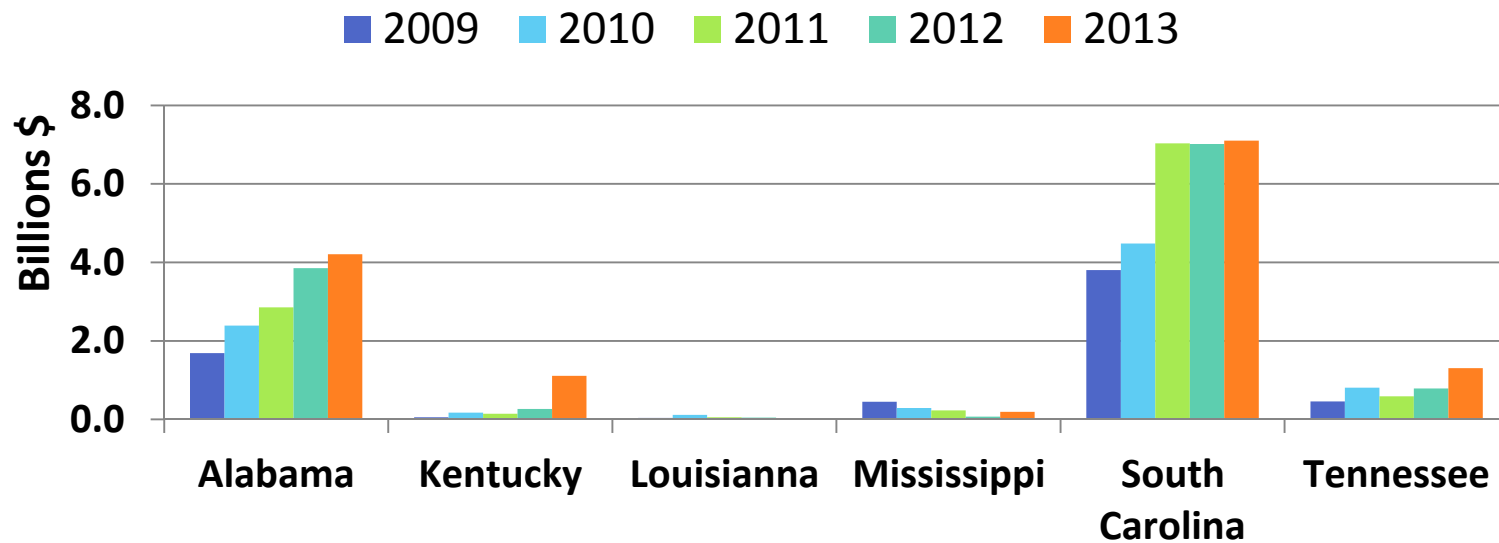
North American Automaker Investment Announcements

January - December 2013

Source: CAR Research, Book of Deals



SARA States Motor Vehicle Exports Beyond NAFTA 2009-2013



Alabama and South Carolina exports incur duties not realized by Mexican exports

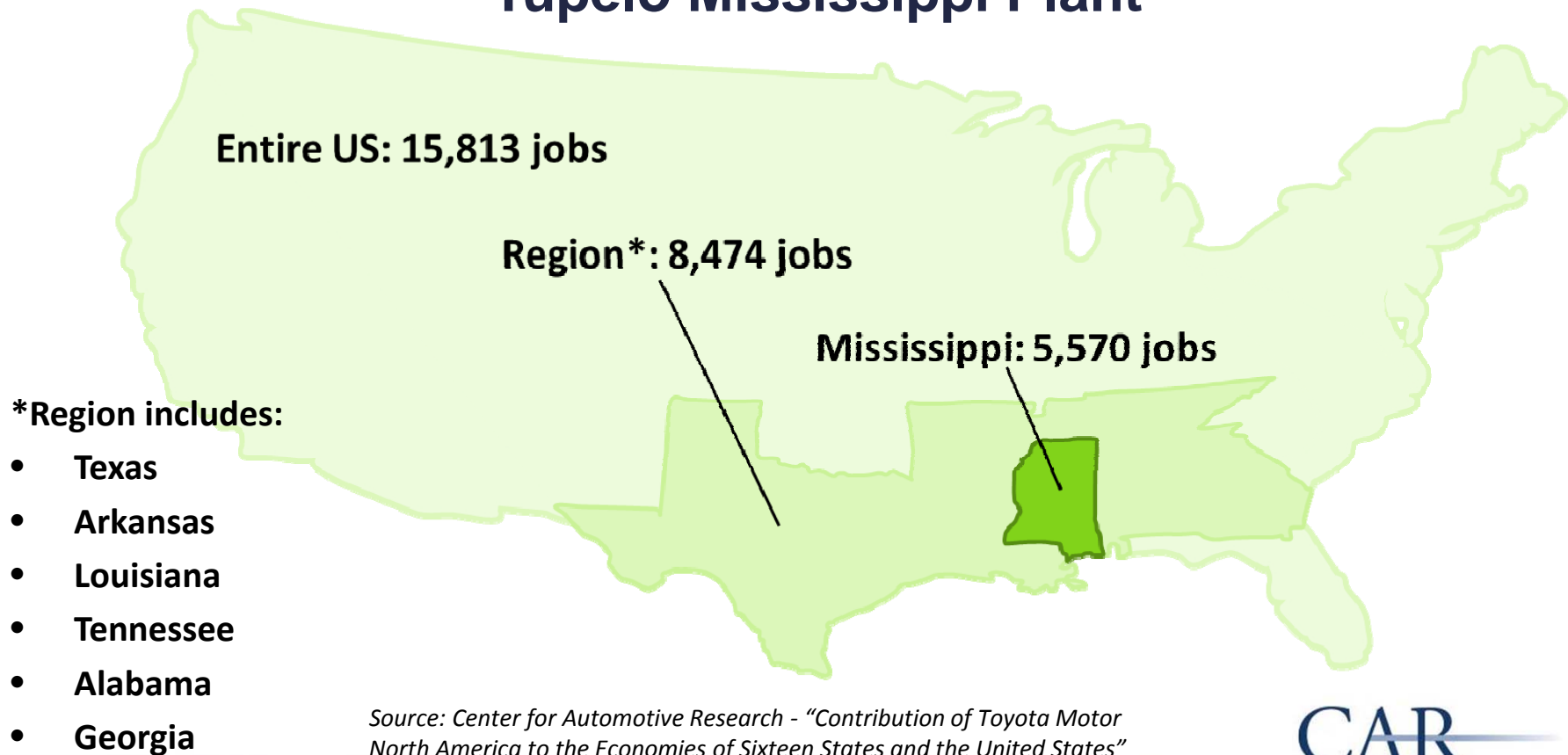
Source: International Trade Administration TradeStat Express

The Importance of Automotive Investment to a Region: Ford's Michigan Assembly Plant and Regional Spending



Source: Center for Automotive Research analysis of data supplied by Ford Motor Company

Total Estimated Contribution of Toyota's Tupelo Mississippi Plant



Source: Center for Automotive Research - "Contribution of Toyota Motor North America to the Economies of Sixteen States and the United States"

Economic Importance of New Bridge: (Study funded by Ontario, Michigan and Ford)

United States - Canada Trade in 2011, Billions of USD

US Automotive Exports to Canada	\$54.22
US Automotive Imports from Canada	\$56.41
US Total Exports to Canada	\$280.76
US Total Imports from Canada	\$316.51
Automotive Exports as Percent Total US Exports to Canada	19.30%
Automotive Imports as Percent Total US Imports from Canada	17.80%
Total Automotive Trade Volume (IM+EX)	\$110.62
Total Trade Volume (IM+EX)	\$597.27
Automotive Trade as Percent Total	18.50%

Analysis of the Economic Contribution of
Constructing the
New International Trade Crossing:
A New Bridge Linking Detroit and Windsor

by

CAR
CENTER FOR AUTOMOTIVE RESEARCH

June 2012

The statements, findings, and conclusions herein are those of the authors and do not necessarily reflect the views of the project sponsors.

Trade Mission to Turin, Italy



Schedule one-on-one meetings:

- American Chamber of Commerce Investment Summit
- Community presentations to Italian automotive suppliers
- Community/supplier networking
- Visit to Fiat and meetings with Fiat executives
- Italian automotive industry briefing
- One-on-one meetings with Italian companies
- Transportation support (to Milan)

Economic Development and Business Participants:

- Michigan
- Indiana
- Ohio
- Kentucky
- Illinois
- Ontario
- & Industry Suppliers

SARA Interviews:

AUTOMAKERS:

1. BMW Spartanburg, SC
2. Daimler, Mercedes-Benz, Vance, AL
3. Ford Motor Company – Dearborn, MI
4. GM Global Manufacturing (rep. Bowling Green & Spring Hill)
5. Honda Lincoln, AL
6. Hyundai Montgomery, AL
7. Kia Motors West Point, GA
8. Nissan North America Technical Center
9. Nissan North America - Smyrna, TN
10. Nissan North America - Canton MS
11. Toyota Manufacturing – Georgetown, KY
12. VW Assembly – Chattanooga, TN

- Alabama Automotive Manufacturing Association (AAMA)
- CU-ICAR @ Clemson
- Center for Manufacturing Excellence (CME)
- Georgia Automotive Manufacturers Association (GAMA)
- Tennessee Automotive Man. Association
- VW Academy - Chattanooga State Community College, TN



SUPPLIERS:

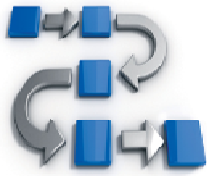
- ABC Group
- Akebono Brake
- BASF
- Benteler
- Blue Springs Metals
- Borg-Warner
- Bridgestone
- Continental

- Delphi HQ
- DENSO International
- Diversity – Vuteq, LLC
- Faurecia
- ICE Industries / Grenada Stamping
- Johnson Controls
- Magneti Marelli
- Magna/Drive Automotive
- Michelin
- Mubea – Florence, KY
- Nexteer Automotive
- SAPA Aluminum, Delhi, LA
- Systems Electronic Coating
- Topre Automotive
- Toyota Auto Body
- Toyota Boshoku
- Toyota Tsusho
- ZF North America

General Voice of Industry Concerns



Workforce



**Supply Chain
Density**



**Research &
Development**



**Attraction &
Incentives**

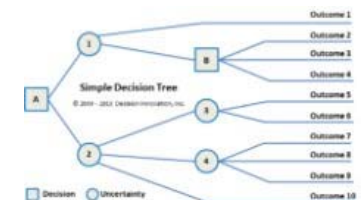


Decision Process

Attraction and Business Environment

Incentives are just one key to attraction. Companies seek streamlined interaction from the entire region. Community compatibility with industry needs; workforce, education, infrastructure, logistics.

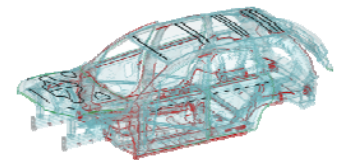
- Need data fast. No time to work with multiple states.
 - Priorities: 1) customer location 2) costs 3) incentives/community/launch speed
- Implement “one-stop shop” for the region
 - Develop regional comparative with Mexico
 - Clearing house for regional automotive intelligence: best practices, permitting, explore standardization of best practices
 - Regional coordinated trade missions
 - Enhancement of SAC and other events



Research & Development

Shortage of global R&D capacity, therefore companies seeking ability to expand regional R&D.

- Basic research largely at HQ with significant development at manufacturing sites
 - Growing demand for collaborative R&D due to resource shortage
 - New clusters developing based on expertise and infrastructure
 - Mexico also focusing on new R&D capabilities
- Promote entrepreneurial environment, drive commercialization, connect incubators with business and academia
 - Support collaboration initiatives: MEP, IMCP
 - Engage NIST Manufacturing Technology Accelerator Centers (MTEC)
 - Explore industry-led pre-competitive collaboration (e.g., USCAR) – possible federal support



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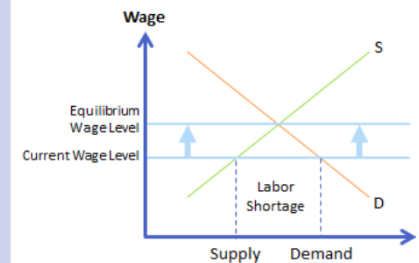
Workforce

Workforce is a consistent concern – in particular around technical trades. Both educational pipeline & curriculum are insufficient and not focused on industry needs. Public perception of industry is critical.

- The “missing middle”: welders, CNC & PLC programmers, tool & die, mechatronics and other skilled trades
- Wage increases hurt regional competitiveness (e.g., with Mexico)
- Outline workforce attraction strategy for auto perception
- Implement government supported apprenticeship programs (AMTEC)
- Better leverage technical/community college assets
- Help businesses partner with colleges and internship programs, connecting R&D with business interests
- Conduct labor needs analysis – supply/demand/compensation

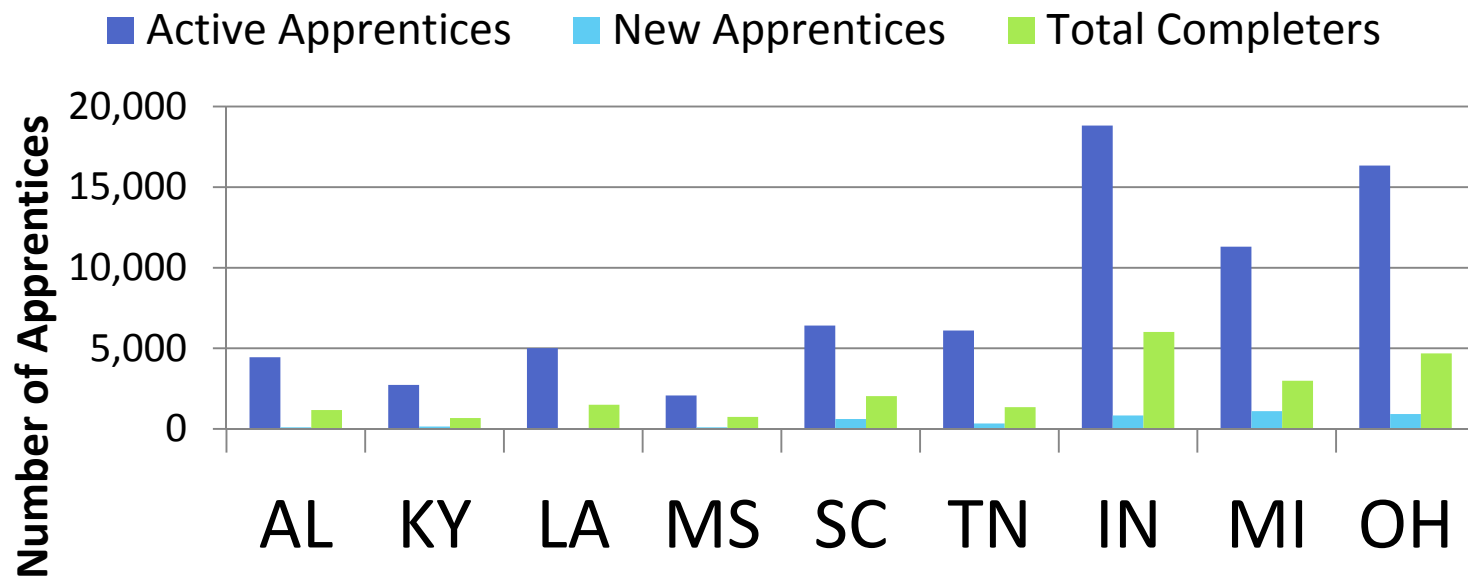


“Missing Middle”



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Selected State Apprenticeship Participant Totals, All Industries FY2013



U.S. DOL: Active apprentices have declined 40% over the past 10 years

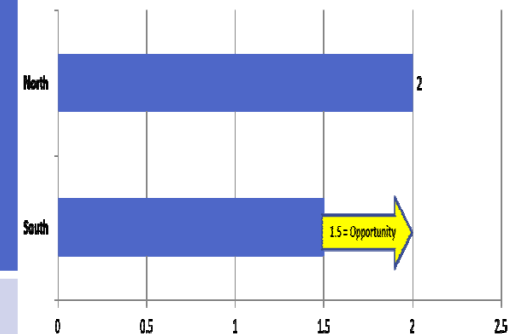
Source: USDOL, Registered Apprenticeship National Results FY2013

Supply Chain Density

Supply chain for key services is insufficient and relies on out-of-region suppliers. Industry objective is to increase localization.

- Lacking segments of key industries, such as: tooling, part fabrication and metrology
- Weakens local educational pipelines for skilled workers
- Greater reliance on shipping/trucking – state specific rules not aligned

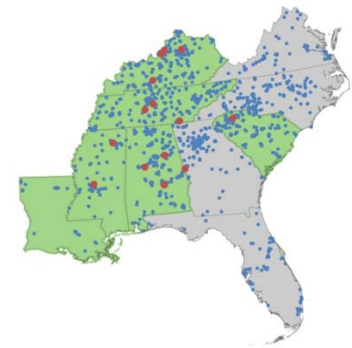
- Coordinate supplier growth strategies – clustering plans for long-term growth: tooling, fabrication, metrology
- Evaluate “magnet” plant analysis
- Support MTAC –like initiatives (NIST MEP award)
- Assess shipping harmonization opportunities (e.g., weight limits)

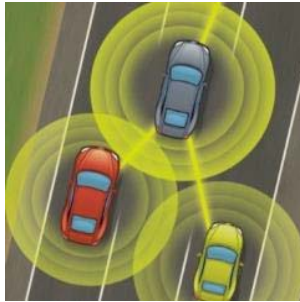


Tiers 2+ for OEM+Tier 1

SARA Mission: Promote the region's common automotive interests and attract investment by working collaboratively to improve the region's competitiveness.

- Identify independent facilitator
- Organize stakeholders: state agencies, academia, industry representatives, etc.
- Develop organizational structure, meeting process, funding model
- Outline “rules of engagement”
- Prioritize regional initiatives
- Set agenda and timetable
- Establish federal department contacts: R&D, economic development, policy
- Roadmap ongoing initiatives





Thank You

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