

Electric Vehicle Initiatives Data Analysis

October 27, 2022

Michigan Department of Labor & Economic Opportunity
Workforce Development



Accomplishments

Summer 2022 – Multiple surveys conducted to determine the following:

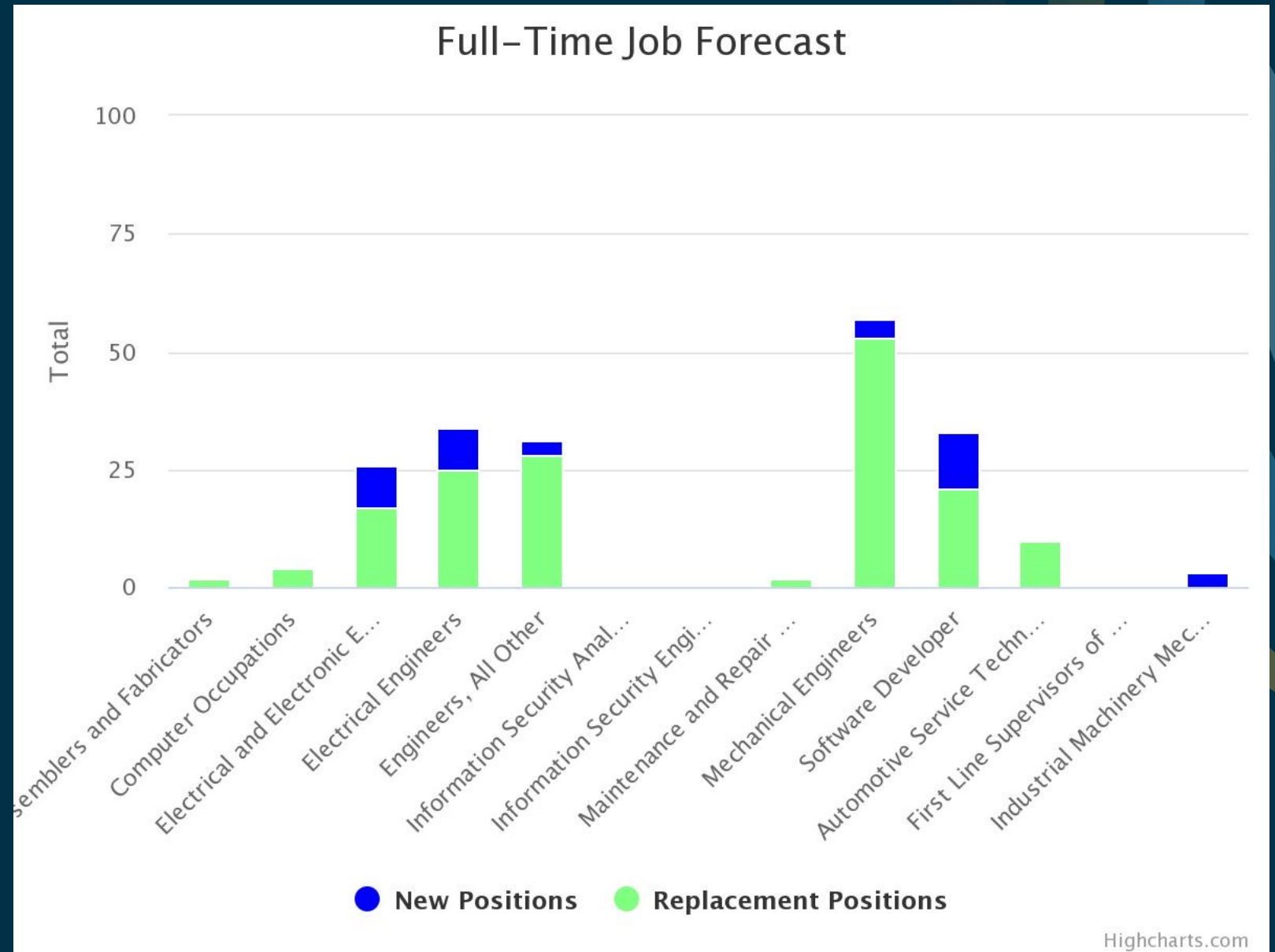
- Critical Occupations – Demand Planning
- Competencies/Credentials related to the occupations
- Job projections over the next 2-5 years

Occupations Identified

- Assemblers and Fabricators
- Computer Occupations
- Electrical and Electronic Engineering Technologists and Technicians
- Electrical Engineers
- Engineers
- Information Security Analysts
- Information Security Engineers
- Maintenance and Repair Workers
- Mechanical Engineers
- Software Developers
- Automotive Service Technicians
- First Line Supervisors of Mechanics, Installers, and Repairers
- Industrial Machinery Mechanics

Critical Occupations Identified

- A majority indicated the need for replacement workers
- Does this align with what you are experiencing in your organization?



Real-Time Job Projection Data 08/01/2023 to 08/01/2025

Position	Total Positions	Full-Time Total Positions
Mechanical Engineers	57	57
Electrical Engineers	34	34
Software Developer	33	33
Engineers, All Other	31	31
Electrical and Electronic Engineering Technologists and Technicians	26	26
Automotive Service Technicians & Mechanics	10	10
Computer Occupations	4	4
Industrial Machinery Mechanics	3	3
Assemblers and Fabricators	2	2
Maintenance and Repair Workers	2	2
Information Security Analysts	0	0
Information Security Engineers	0	0
First Line Supervisors of Mechanics, Installers, and Repairers	0	0

Real-Time Job Projection Data

Occupation	2023 Demand
Production Workers	1944
Software Developers	575
Systems/Other Engineers	553
Electrical/Electronics Engineers	410
First-Line supervisors, production	149
Engineering Technicians	86

Outlier Occupations

- Production Workers
- First Line Supervisor, production
- Mechanical Engineers

**Highest
Projections
according to
survey responses**

Mechanical Engineers

Software Developers

Electrical Engineers

Production Workers

**First-line Supervisors,
production**



Competencies

- Respondents rated importance of competencies
- Competencies were associated with the O*NET Online

Mechanical Engineer Competencies

- What's missing?
- What hiring requirements associated with this occupation?

Test performance of electrical, electronic, mechanical, or integrated systems or equipment

Review technical documents to plan work

Recommend technical design or process changes to improve efficiency, quality, or performance

Evaluate characteristics of equipment or systems

Production Worker Competencies

- What's missing?
- What hiring requirements as associated with this occupation?

Using hands and arms in handling, stalling, positioning, and moving materials

Performing physical activities that require considerable use of your arms and legs and moving your whole body

Using either control mechanisms or direct physical activity to operate machines or processes

Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances

Electrical Engineers Competencies

- What's missing?
- What hiring requirements as associated with this occupation?

Product Engineering /Quality Engineering

Electrical/Electronic Systems/High Voltage Systems

Focus on all safety and compliance standards

Knowledge of basic Diagnostics and Standard Operating Procedures (SOP)

Software Developer Competencies

- What's missing?
- What hiring requirements as associated with this occupation?

- Participates in and supports the creation of product, platform, and/or software development life cycles by assisting Principal Developer and team with initial determination of applicable specifications, requirements, systems, and concepts to produce the desired output
- Supports the creation of tools and languages needed per output in the work plan, under supervision
- Assists with offering and applying technical and cost-effective approaches for mitigating risks at the end result, under direction from Principal Developer; and communicates any potential questions or concerns based on preliminary assessments
- Applies best practices to the company-specific source code management processes

First-line Supervisors Competencies

- What's missing?
- What hiring requirements as associated with this occupation?

Manufacturing processes

Organizational processes

Project Management

Quality assurance and control

Next Steps for building the Talent Pipeline

- Projecting the Demand for EV Related Occupations
 - Facilitated Discussion
- Activating Partnerships for Outreach and Recruitment

Activating Partnerships for Outreach and Recruitment

Talent Flow Analysis and Back mapping

Community Colleges EPiC Consortium

Michigan Works! Network

Upskilling and Internal Career Pathways

Next Up: Projecting The Demand for Electric Vehicle Related Occupations

- Mike Horrigan, W.E. Upjohn Institute
- Future Projections
- Facilitated Discussion



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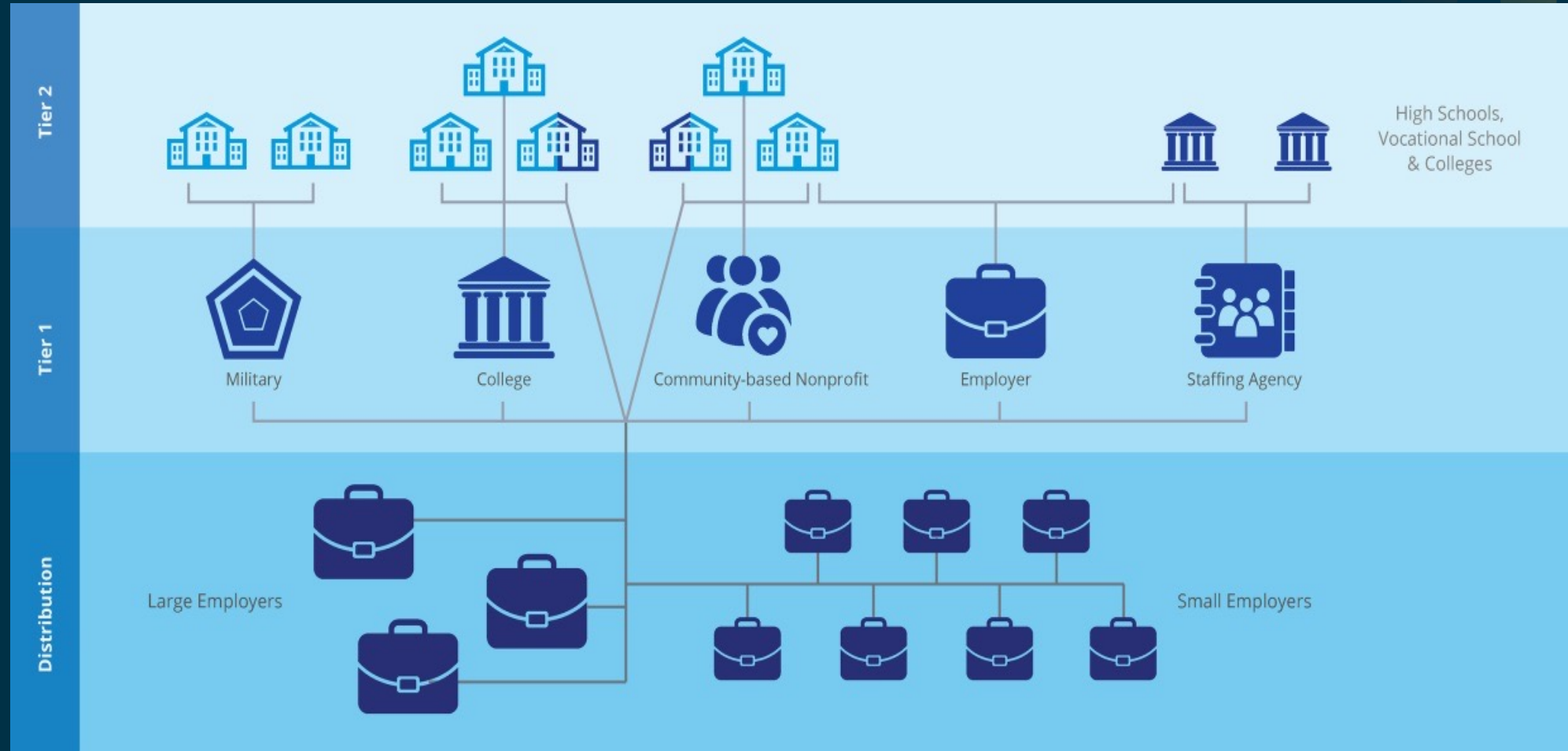


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Next Steps: Back Mapping Talent Provider Networks



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