

DRAFT 3/15/2024

This document provides a summary of the proposed metrics characterizing the differences between the jobs at employers that are intensive in Artificial Intelligence (AI) and Electric Vehicles (EV) and other employers in a local economy. It builds on [TEGL 07-22](#) which provides a suggested good jobs framework.

The goal of the metrics is to describe the workforce differences between employers that are AI and EV intensive and those that are not, and report those differences by local geography and industry. There are two desired results. One is that state labor market agencies, economic development planners, training providers, and unions will have better predictive information so they can plan for and support the growth of high wage jobs in their states. The second is that local universities and federal science agencies have better information about the links between local labor market and investment in research.

The measures in each table below will be generated both for AI/EV employers identified through the UMETRICS¹ links to UI wage records and for the rest of employers in the state

1. Description of AI/EV employers

Measure	Rationale	Use
Dominant industry classification	Standard employer classification; provides crosswalk to other LMI data	Provides an initial indication of likely workforce skills needs for unions and training providers
Age	Standard employer classification; can help SBA reporting	Young employers are likely to need more targeted economic development support
Location	Standard employer classification; provides crosswalk to other LMI data	Provides unions and training providers with information about labor pools; economic development agencies with information about transportation needs
Employment	Standard employer classification; provides crosswalk to other LMI data	Provides governors' offices with information about the size of AI/EV activity; provides universities and science agencies with information about the link between research and labor market effects

2. Measures of job quality based on earnings and employment outcomes of workers in AI/EV employers (employer level aggregates; all subject to a labor market attachment measure))

Measure	Rationale	Use
Mean and median earnings for each employer	Standard benchmark for “high wage” or “low wage” employer; can be compared to national LEHD data	Information for students and education/training providers; could be incorporated into a new MultiState PostSecondary Dashboard
Earnings distribution within each employer (25th and 75th percentile)	Measure of within employer earnings inequality	Signal to unions and education/training providers about potential skill gaps
Number of new hires for each employer	Measure of new opportunities generated by employer; can be compared to national LEHD data	Signal to unions and training providers about likely skill needs; Information for students and education/training providers about where jobs

¹ UMETRICS is fully described at <https://iris.isr.umich.edu>

Mean and Median earnings for new hires for each employer	Measure of quality of new opportunities generated by employer; can be compared to national LEHD data	are available; use data to identify growth opportunities (TEGL 07-22)
Year on year growth in mean and median earnings for same workers for each employer	Measure of opportunities generated by employer for existing employees; measure of career pathways	Signal to existing employees; help WIOA staff train workers about good jobs (TEGL 07-22); use data to identify growth opportunities (TEGL 07-22)
Mean and Median Job Duration	Measure of job stability and quality; measure of career pathways; can be compared to national LEHD data	Signal to unions and training providers about likely skill needs; Information for students and education/training providers about the quality of jobs; could be incorporated into a new MultiState PostSecondary Dashboard
Worker turnover and churning	Measure of worker satisfaction; can be compared to national LEHD data	Signal to employers about worker satisfaction; highlight job quality as recruitment and retention strategy (TEGL 07-22)

Future work that could be enabled with the incorporation of education data:

- a. Worker demographics – the age, gender, race, and ethnicity (as available) of workers employed by AI/EV employers
- b. Worker skills – the types of degrees and certificates completed or partially completed by workers employed by AI/EV employers.

Future work that could be enabled with the incorporation of external data

- a. Worker occupations - exploration of the potential to create AI enhanced wage records. Pilot the analysis of using machine learning approach to impute worker occupation at the individual record level from matches with outside sources, like NLx, state labor data (like NJ) or Revellio labs.
- b. Local O*net - Exploration of the potential to use occupation enhanced wage records to develop O*net for local labor markets.

For more information

Source Data: Linked [scientific](#), [university administrative](#), and [state workforce](#) data.

Construction of similar measures:

[TEGL 07-22 \(Complete PDF\).pdf \(dol.gov\)](#)

Burgess, Lane, Stevens [Job Flows, worker flows and churning](#), Journal of labor economics 18.3 (2000): 473-502

Local Employment Dynamics [one pager](#)

Holzer, Harry J., et al. [Where are all the good jobs going?: what national and local job quality and dynamics mean for US workers](#). Russell Sage Foundation, 2011.

Theory of change:

Identified in the [National Artificial Intelligence Research Resource \(NAIRR\) task force report](#), which was established by the National AI Initiative Act of 2020.

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