

## How does K-12 education affect educational and employment success?

*This paper is one in a multi-part series using data produced from the pilot Michigan Workforce Longitudinal Data System (WLDS). The WLDS is created by combining administrative records from multiple state databases, covering topics such as workforce development, education, and unemployment insurance. Once matured, WLDS data can be leveraged to answer a number of important questions related to the workforce and education, from the employment outcomes of Michigan's students to the effectiveness of state assistance programs.*

In this part of the series, the relationship between K-12 education, educational outcomes and employment success will be examined. This paper will first discuss educational outcomes across Michigan Intermediate School Districts (ISDs), followed by an overview of employment and earnings outcomes.

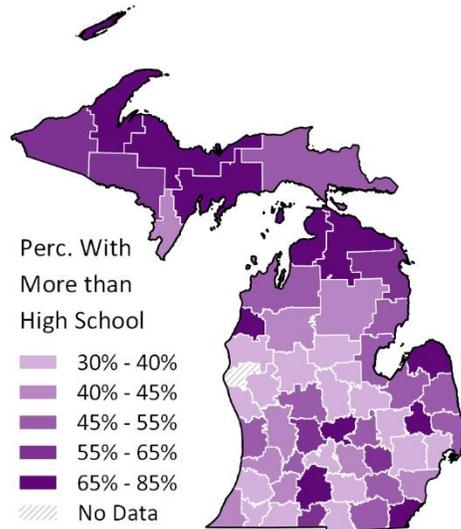
As a technical note, the initial run of WLDS data used a small, select population of Michigan Works! customers as the base upon which the pilot data system was built. All individuals included in the test population had to meet two criteria: they had to exit an education program during the study's target period of July 1, 2009 to June 30, 2011, and they had to be registered as a Michigan Works! customer at any point between December 10, 1999 and June 30, 2014. Due to circumstances under which an individual typically visits a Michigan Works! office, this test population is not representative of the state population as a whole. For instance, employment outcome data for this group is often less positive than for the population due to employment barriers faced by a number of Michigan Works! customers. **Consequently, none of the data presented in this paper should be viewed as a valid representation of the**

**Michigan population. Rather, this paper is meant to provide an illustration of the types of information that can be made available when the WLDS is fully expanded.**

### Educational Attainment

By linking administrative wage records with education data systems, the WLDS has the potential to provide critical information to a variety of education stakeholders. One important task that the WLDS can accomplish is examining how student outcomes vary across Michigan's school districts and this information is explored in the figures below. The map in Figure 1 (page 2) shows the percentage of each Intermediate School District's former students with more than a high school diploma. An important distinction to make with this data is that the ISD information shown here is based on where an individual attended high school, rather than where they currently live. ISDs with a higher proportion of former students who ultimately attained more than a high school degree are colored darker in this map. One district, Oceana ISD, has no data.

Figure 1: Percentage of ISD with more than a High School Diploma



The map in Figure 1 provides important information to education stakeholders by displaying the relative performance of Michigan’s school districts. Additionally, the map appears to demonstrate a notable pattern across the ISDs. In particular, it appears to be the case that the highest fifth of ISDs are, counter to typically observed patterns, more often ISDs with lower populations. This phenomenon could possibly be a product of the test population, or could also be caused by the fact that the test data here show educational attainment by the ISD in which an individual attended high school, rather than ISD of current residence or employment.

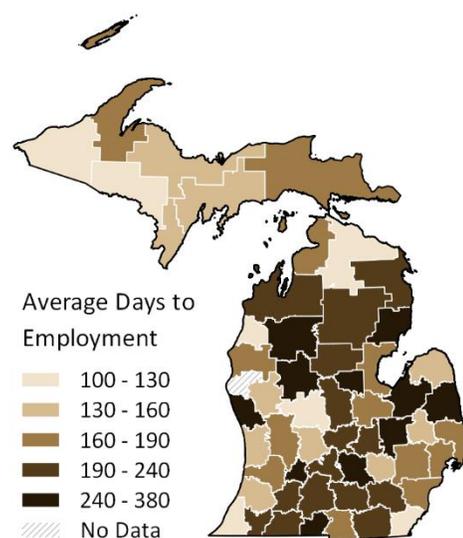
With an expanded research population, the relationship between educational attainment and ISD could be studied in greater detail and provide an accurate representation of attainment. This WLDS data could be used to examine the relative performance of ISDs and how it changes over time, as well as assist local stakeholders such as school districts and community colleges in their strategic planning efforts.

## Time to Employment

Figure 2 demonstrates how WLDS data can be leveraged to explore labor market outcomes as well. The map below shows days to employment by ISD of high school education. This variable measures the time between when a given person completes their most recent round of training or education and subsequently enters the payroll records of a Michigan employer. Once again, it is important that the distinction be made that this data reflects the ISD of individuals’ education, which is not necessarily the location of their current residence or employment.

The most frequent time period for average days to employment among ISDs was 190-240 days, a time period in which 15 of the 56 ISDs were found. In fact, average time to employment was between 100 and 190 days in nearly half of all ISDs, and 80 percent of all ISDs recorded an average time of employment between 100 and 240 days.

Figure 2: Average Days to Employment by ISD



While much of this data may be distorted due to the characteristics of the test population, in the future, this information will provide a very interesting reflection of employment outcomes for ISDs. This data will be able to provide stakeholders with insights on employment outcomes of their pupils and can inform strategic planning for the future employment and further education of area students.

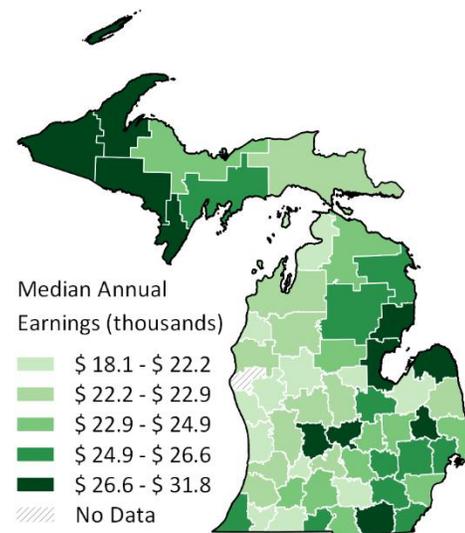
## Earnings

Figure 3 shows the median annual earnings by ISD of individuals' secondary education, and the basis for this earnings measurement is individuals' administrative wage record data. Many in the upper fifth of all ISDs come from counties with lower populations (and therefore lower sample size), again hinting at potential bias in the test population.

When compared to the above map of average days to employment, there are certain regions which, in this test data series, appear to educate individuals with better employment outcomes than others. The western Upper Peninsula, for example, falls within favorable categories of

both days to employment and median annual earnings. The northwestern Lower Peninsula, conversely, appears within the higher categories of days to employment and the lower groups of ISDs by median annual earnings. While it may be tempting to draw conclusions from patterns such as these, it should be emphasized that this preliminary set of data has a relatively small sample size in each ISD and the current WLDS population is not representative of the population as a whole.

Figure 3: Median Annual Earnings by ISD



## Conclusion

While the figures discussed above come with many caveats, they are exemplary of the important applications of WLDS data and the insights that can be delivered in the future. Furthermore, increased detail will become available in the coming years. Smaller geographic areas can be examined, such as the school district level. Finer data may become available for educational outcomes and data concerning outcomes by performance in the Michigan Merit Exam could also possibly be garnered. So, while data availability and quality is currently limited, future rounds of WLDS data will be uniquely powerful in answering important questions about the educational and economic outcomes of Michigan students and citizens.

*This paper is the product of a partnership between multiple state agencies. The WLDS is managed by the Michigan Workforce Development Agency, while all research and analysis is conducted by the Michigan Bureau of Labor Market Information and Strategic Initiatives. Data for the WLDS is provided by the Michigan Workforce Development Agency, Michigan Center for Educational Performance and Information, and Michigan Unemployment Insurance Agency.*