

# **A Transformative Investment: Maximizing the Socioeconomic Benefits of the Fargo-Moorhead Diversion Project**

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## **Executive Summary**

The Fargo-Moorhead Diversion (“Diversion”) Project is a bold investment in the future of the region. The \$2.75 billion project will create an extensive network of flood water diversion levees and canals to protect the Fargo-Moorhead metropolitan area. The project, which will be funded using a combination of local, state and federal tax dollars, will create thousands of jobs over approximately six years of construction.

This massive infrastructure investment could not only prevent catastrophic flooding and protect the residents of the community, but also serve as a catalyst to develop the region’s skilled construction workforce. The Diversion Project has the potential to create thousands of good paying construction jobs for area residents. However, these benefits are not inevitable.

This report quantifies the potential socioeconomic benefits of the construction jobs and career opportunities that could be created by the Diversion Project and suggests ways to maximize the net public benefit of this taxpayer-funded investment. We find the following:

- The Fargo-Moorhead metropolitan area currently underperforms in the development and utilization of local skilled construction workforce, due in part to limited use of registered apprenticeship programs which have been recognized by the Trump Administration as a vital workforce tool in the construction industry.
- The Diversion Project could help to close the skill gap and maximize local socioeconomic benefits by promoting the use of registered apprenticeship programs.
- Registered apprentices earn much higher wages than non-participants. The typical career earnings of an apprenticeship graduate are \$300,000 greater than nonparticipants including both wages and fringe benefits.
- Each successful registered apprentice can be expected to earn an estimated \$1.3 million on average over the course of his or her career.
- A local construction worker on the Diversion Project will generate approximately three to four times more local economic activity than a non-local worker.
- The estimated career earnings of a skilled apprentice in the Fargo-Moorhead area are two to three-times higher than the earnings of the average service sector worker.

Ultimately, we find that the best way to maximize the public benefits of workforce development investment of the Diversion Project is through the use of registered apprenticeship programs, which provide a structured environment for new construction workers to “earn as they learn.” The Fargo-Moorhead area construction industry is booming just as many of the baby boomer construction workers are retiring and local contractors describe challenges finding skilled labor. It is an ideal moment to recruit and train the next generation of skilled construction workers.

Registered apprenticeship programs offer a proven workforce development strategy that is well-suited to maximize the value of the Diversion Project. Apprenticeship models have a long track record of successfully transitioning workers into a career in the construction industry.<sup>1</sup> These educational programs provide a cost effective model to recruit and train skilled workers that invest back into the local community while ensuring high-quality construction work on the Diversion Project.

The Fargo-Moorhead metropolitan area can maximize the return on investment of the Diversion project by taking the following steps:

- Encourage project bidders to partner with registered apprenticeship programs to recruit and train the next generation of Fargo-Moorhead metropolitan area construction workers.
- Require project bidders to provide plans and demonstrate capacity to recruit and develop local skilled workforce.

Through these simple steps, the Diversion Project will not only protect the Fargo-Moorhead metropolitan area from catastrophic flooding, but also maximize the Project's short- and long-term economic benefit by stimulating local payrolls and building the region's skilled construction workforce .

## **Introduction**

The Diversion Project is a critical investment in the region's future. It will protect the Fargo-Moorhead metropolitan area from catastrophic flooding. It also has the potential to create thousands of family-supporting construction jobs for local residents. Skilled construction workers will build an array of dams, levees, concrete barriers and bridges over the next six years at a total cost of \$2.75 billion.<sup>2</sup>

The project will largely be funded through a Public-Private Partnership (P3) funding model. This approach has the advantage of shifting much of the financial and construction risk onto private sector actors. Ultimately, however, local and state taxpayers will fund the multibillion dollar cost of construction, financing, and the profits that P3 partners justifiably expect to receive for their participation.

There is no guarantee, however, that local workers will receive the full benefit of this once-in-a-generation investment in the Fargo-Moorhead metropolitan area. One reason for this concern is that regional contractors have dramatically increased their reliance on foreign guest workers via the H-2B visa program in recent years. Nationwide, H-2B visa allocations have

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<sup>1</sup> Robert Bruno and Frank Manzo, "The Impact of Apprenticeship Programs in Illinois: An Analysis of Economic and Social Effects," University of Illinois at Urbana-Champaign and the Illinois Economic Policy Institute, August 2016.

<sup>2</sup> Don Haney, "New Estimated cost of Diversion hits \$2.75 billion," KFGO, December 3, 2019. Available here: <https://kfgo.com/news/articles/2018/dec/03/new-estimated-cost-of-fm-diversion-project-hits-275-billion/>

nearly doubled - from approximately 50,000 in 2009 to 96,000 in 2019.<sup>3</sup> The Fargo-Moorhead metropolitan area has seen a similar uptick in the reliance on H-2B guest workers.<sup>4</sup> There has also been a steady reliance on outsourced labor to build Minnesota and North Dakota’s critical energy infrastructure, including new wind energy projects.<sup>5</sup>

The Diversion project offers an unprecedented opportunity to break this growing reliance on outsourced labor. The region has relied heavily on labor outsourcing because it has underutilized registered apprenticeship programs. These workforce development models provide a pathway to recruit and train local workers to not only build the Diversion project, but to build other critical infrastructure in the future.

As we detail later in the report, officials with the Florida Department of Transportation (FDOT) faced a similar challenge in finding ways to maximize a multibillion dollar P3-financed infrastructure project. In the early 2000s, Florida officials secured P3 financing for a \$1 billion undersea tunnel project in Miami. Local officials, labor unions and community groups were concerned that contractors on the project would rely heavily on outsourced labor. To maximize local benefits, FDOT established incentives for project contractors to work with local registered apprenticeship programs to recruit and train area workers. As a result, 83% of construction workers building the project were local and hundreds of area residents received the training and on-the-job work experience required to become skilled construction workers. This is a model that we should strive to replicate on the Diversion Project.

Work on the Diversion Project will last up to six years. But for career construction workers who get their start on the Diversion Project, the benefits could last 25 years or more. By utilizing local labor and leveraging apprenticeship opportunities, the Diversion Project could inject billions of dollars into the local economy and provide a pathway for hundreds of area workers to launch family-supporting careers in the construction industry.

## Section 1: The Cost of the Fargo-Moorhead Diversion Project

The Diversion Project will cost \$2.75 billion. This investment will pay for the following infrastructure projects:<sup>6</sup>

Components of the Diversion Project
\$502 million for Lands and Impacted Property Mitigation

<sup>3</sup> Heather Long, “Trump administration nearly doubles H-2B guest visa program, which brings many Mexican workers,” The Washington Post, April 6, 2019.

<sup>4</sup> Lucas Franco, “Outsourced at Our Expense: The High Cost of the H-2B Guest Worker Program,” Local Jobs North Dakota and Minnesota, December 2018.

<sup>5</sup> Lucas Franco, “Catching the Wind 3.0: The impact of local versus non-local hiring practices on wind farms in North Dakota,” Local Jobs North Dakota and Minnesota, October 2019.

<sup>6</sup> FM Area Diversion Project, “About.” Available here: <https://fmdiversion.gov/about-the-project/>.

\$989 million for the Channel / Public-Private Partnership
\$703 million for the U.S. Army Corps of Engineers/ Southern Embankment and Associated Infrastructure
\$266 million for levees and other In-town projects in the cities of Fargo and Moorhead
\$44 million for Other Mitigation Construction
\$250 million for Non-Construction Costs

Funding for these projects will come from a mix of federal, state and P3 funding via local sources. The funding sources are as follows:<sup>7</sup>

<b>Diversion Funding Sources</b>
\$750 million from the federal government (\$450 million existing and \$300 million new)
\$870 million from the state of North Dakota (\$570 million existing and \$300 million new)
\$1,044 million from the local sponsors funded through sales taxes (P3 Model)
\$43 million to be requested from the State of Minnesota for continued work in-town to pay for Plan B changes in MN and another \$43 million for the project

A significant portion of the funding for the project will be paid through a P3 delivery model. In this model, private companies, including banks and construction firms, agree to finance and build the project for a fixed cost plus profit paid out to them over many decades. These actors assume the risk of capital cost overruns and reap the benefit of cost savings.<sup>8</sup>

Most of the capital for the project will be borrowed. Area residents will finance the project, largely through sales taxes, over a period of decades. The total amount of repayment over 60

<sup>7</sup> Frank Stanko, "Fargo-Moorhead Diversion estimated to cost \$2.75 billion," Daily News Media, December 4, 2018. Available here: [https://www.wahpetondailynews.com/news/fargo-moorhead-diversion-estimated-to-cost-billion/article\\_edf63fba-f7d0-11e8-982a-ebc371cf10bc.html](https://www.wahpetondailynews.com/news/fargo-moorhead-diversion-estimated-to-cost-billion/article_edf63fba-f7d0-11e8-982a-ebc371cf10bc.html).

<sup>8</sup> Don Haney, "New Estimated cost of Diversion hits \$2.75 billion," KFGO, December 3, 2019. Available here: <https://kfgo.com/news/articles/2018/dec/03/new-estimated-cost-of-fm-diversion-project-hits-275-billion/>.

years, including interest, will be roughly \$3 billion, which includes the principal of approximately \$1.1 billion.<sup>9</sup>

## **Section 2: Training the Next Generation of Construction Workers**

The best way to maximize the public benefits of the Diversion Project is through the use of registered apprenticeship programs. The Fargo-Moorhead metropolitan area construction industry is thriving just as many of the baby boomer construction workers are retiring. This is a great moment to recruit and train the next generation of skilled construction workers in the region.

Unfortunately, industry efforts to recruit and train construction workforce have lagged in the Fargo-Moorhead metropolitan area and across North Dakota. While some construction owners and contractors continue to invest in local workforce development, some sectors of the industry have come to rely on a traveling workforce that leaves town when the project is complete, taking their skills and paychecks with them. The trend toward outsourcing of construction labor has recently been documented on both large infrastructure projects and local building construction.<sup>10</sup>

Reliance on a non-local workforce can become a vicious cycle as construction owners and contractors scale back on local recruiting and training efforts, and the number of entry-level positions available to the area workforce declines. Apprenticeship models offer a pathway to break this cycle and rebuild a local skilled construction workforce. The training is provided at no cost to participants and they typically earn family-supporting wages and benefits throughout their education. Additionally, long-term projects such as the Diversion Project will provide years of work, allowing workers to complete their entire apprenticeship program.

Registered apprenticeship programs have a long track record of successfully transitioning workers into a career in the construction industry -- a fact that was recognized by the U.S. Department of Labor in a recent rulemaking on Industry Recognized Apprenticeship Programs.<sup>11</sup> These educational programs provide a cost effective model to recruit and train skilled workers and they ensure high-quality construction work. Research by Mathematica Politica Research for the U.S. Department of Labor Employing and Training Administration found that participants that complete a registered apprenticeship program “receive an average of \$301,533 more in

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<sup>9</sup> Tu-Uyen Tran, “How do you pay for a \$2.2 billion project?” The Dickinson Press. Available here: <https://www.thedickinsonpress.com/news/4098593-how-do-you-pay-22-billion-project>

<sup>10</sup> Lucas Franco, “Outsourced at Our Expense: An analysis of the high cost of the H-2B guest worker program,” Local Jobs North Dakota and Minnesota, December 2018.

<sup>11</sup> Robert Bruno and Frank Manzo, “The Impact of Apprenticeship Programs in Illinois: An Analysis of Economic and Social Effects,” University of Illinois at Urbana-Champaign and the Illinois Economic Policy Institute, August 2016. See U.S. Department of Labor Final Rule RIN 1205–AB85 for a discussion of the U.S. Department of Labor’s decision to exclude construction from new Industry Recognized Apprenticeship Program rules based on the success of the existing system of registered construction apprenticeships <https://aboutblaw.com/Pnh>

compensation than nonparticipants over their careers.”<sup>12</sup> Apprenticeship programs also reduce the probability that workers will suffer long-term unemployment.<sup>13</sup> Further, University of Utah economist, Peter Philips, found that apprenticeship programs create a safer and more productive workforce.<sup>14</sup> The Diversion Project provides a unique opportunity to bolster apprenticeship programs in the region.

Construction apprenticeship programs are typically three-four years. Construction Craft Laborers, for example, must complete 288 hours of classroom training and 4,000 work hours over a three-year period. Apprentices complete 100 hours of training and 1,500 work hours each year.

**Table 1 - Construction Craft Laborer Apprenticeship**

Level of Apprenticeship	Hours of Training	Hours of Work	% of Journey Worker Wage
Level 1	0 - 100	0 - 1,500	80%
Level 2	101 - 200	1,501 - 3,000	87%
Level 3	201 - 288	3,001 - 4,000	95%

As new apprentices move through the training, their hourly wages steadily increase as they approach journeyworker status. Workers on the Diversion project could complete the entire apprenticeship program during work on the project.

Apprenticeship programs in other building trades have a similar structure. For example, the apprenticeship for heavy equipment operators requires 4,000 hours of on-the-job training and 288 hours of related instruction which is provided at a fully-equipped training center. The program is usually completed in three years.<sup>15</sup> Similarly, carpentry apprentices must work as many as 7,000 hours on the job, side-by-side with skilled industry veterans. This on-the-job training is reinforced with between 144 and 520 hours of classroom instruction.<sup>16</sup>

The Diversion Project will require an estimated six years worth of construction work. This is sufficient time for Fargo-Moorhead area workers to complete any skilled construction

<sup>12</sup> Reed, Debbie, Albert Yung-Hsu Liu, Rebecca Kleinman, Annalisa Mastri, Davin Reed, Samina Sattar, and Jessica Ziegler. *An effectiveness assessment and cost-benefit analysis of registered apprenticeship in 10 states*. No. 1b5795d01e8a42239b3c98dcc1e1161a. Mathematica Policy Research, 2012.

<sup>13</sup> Robert Bruno and Frank Manzo, “The Impact of Apprenticeship Programs in Illinois: An Analysis of Economic and Social Effects,” University of Illinois at Urbana-Champaign and the Illinois Economic Policy Institute, August 2016.

<sup>14</sup> Philips 2015a - see Bruno and Manzo

<sup>15</sup> See list of training courses:

<https://www.local49training.org/apprenticeship/heavy-equipment-operator-apprentice/>

<sup>16</sup> Apprenticeships: <https://northcountrycarpenter.org/apprenticeships/>.

apprenticeship program. Once apprentices have completed their training, they are able to work on a wide array of projects from building construction to highway construction work.

Fargo-Moorhead area construction workers that complete an apprenticeship program will gain skills needed to build vital infrastructure in the area and contribute millions to the regional economy. Union apprentices are paid collectively bargained wage rates and earn health and retirement benefits.

The following is an estimate of the expected lifetime earnings of a successful Construction Craft Laborer apprentice:

**Table 2 - Approximate Lifetime Earnings of Construction Apprentice<sup>17</sup>**

Year	Rate	Health & Welfare	Vacation	Pension	Totals
Year 1	\$ 19.02	\$ 7.75	\$ 2.43	\$ 5.10	\$ 56,205.00
Year 2	\$ 20.69	\$ 7.75	\$ 2.43	\$ 5.10	\$ 59,127.50
Year 3	\$ 22.59	\$ 7.75	\$ 2.43	\$ 5.10	\$ 62,452.50
Year 4+	\$ 23.78	\$ 7.75	\$ 2.43	\$ 5.10	\$ 64,535.00
25 year Totals	\$ 982,940.00	\$ 290,625.00	\$ 91,125.00	\$ 191,250.00	\$ 1,555,940.00

This earnings breakdown is based on the collectively bargained heavy-highway wage rates for North Dakota. These rates are similar in Minnesota. When the value of health, pension, training and other fringe benefits is included, apprentices can be expected to earn an estimated \$1.6 million over the course of their career.

### Section 3: The High Cost of Non-Local Workers

The Diversion project will create an estimated 7,700 full time construction jobs each year over the six years of the project or 46,000 total job years of full-time employment.<sup>18</sup> Put differently,

<sup>17</sup> Total annual earnings are based on 1,000 hours straight time and 500 hours of overtime.

<sup>18</sup> This estimate is based on an analysis of total job creation for other major infrastructure projects. The estimate is based on Enbridge Line 3 pipeline replacement project. These projects require a number of similar activities including extensive excavation. A 2017 research report by the University of Minnesota Duluth, *Enbridge Pipeline Construction: Economic Impact Study*, estimates that the \$1.5 billion project will create 4,200 jobs over the two years of the construction project. This equals 2,800 jobs per \$1 billion spent. The 7,700 job estimate assumes that all of the workers will work on the Diversion project for the entire six year period. It is more likely that many will work for shorter periods focusing instead on specific scopes of work. Job-years help to account for this variation. The Diversion project will create an estimated 7,700 job opportunities each year for the duration of the project or



the Diversion will generate an estimated 69.3 million hours of construction work (46,000 job years times 1,500 hours per year). There are no guarantees, however, that the majority of this work will go to local workers. Failure to maximize employment of local workers on the project could cost the Fargo-Moorhead region as much as a billion dollars in lost economic activity.

The goal of this section is twofold. First, to estimate the potential economic losses that could occur if the Diversion project fails to maximize employment of local workers; and second, to detail how registered apprenticeships can be used to maximize local hiring and associated local socioeconomic benefits.

In order to determine the potential costs of relying on non-local labor, we must calculate the expected earnings of local and non-local construction workers. This is accomplished by calculating the mean wage of all construction professionals expected to work on the Diversion project including laborers, operating engineers, ironworkers, electricians and carpenters.

**Table 3 - Expected Wages**

Expected Wages		
Craft	Prevailing Wage	Fringe Rate
Laborer	\$23.05	\$10.48 <sup>19</sup>
Ironworker	\$34.35	\$27.85
Carpenter	\$29.32	\$12.37
Operator	\$27.90	\$17.25
Electrician	\$32.92	\$11.87
<b>AVERAGE</b>	\$29.51	\$15.96
<b>Overtime</b>	\$44.27	-

These wage and fringe benefit estimates are based on an average of prevailing wage rates for highway and residential work in Clay County, Minnesota, and Cass County, North Dakota. The average hourly salary for straight-time work is \$29.51 and \$44.27 for overtime work. Work on the Diversion will be seasonally dependent, thus, we expect workers to work 60-hour weeks during the peak construction season (April to November). At 60 hours per week, one-third of all hours would be paid at overtime rates. Therefore, estimated annual earnings are \$51,645 (\$29.51 x 1,000 hours + \$44.27 x 500 hours).

42,000 job-years of work (total per year job creation or 7,700 x total duration of project or 6 years). We rely on the more conservative estimate of 7,700 FTE jobs for six years.

<sup>19</sup> The fringe rate for General Laborers is significantly lower in North Dakota than in Minnesota. The Laborers prevailing wage rate in Minnesota is \$18.05 and \$2.90 in North Dakota.

Next, we must determine how much of a workers’ total income will be available to be spent in the local economy. To accomplish this, we calculate the total after-tax, after-savings earnings. We average tax rates for Minnesota and North Dakota. We then estimate how much the average worker will spend locally.

**Table 4 - Spending Patterns**

Individual Spending Patterns of a Local Worker		
Average Annual Earnings	\$51,645	Average on the check earnings. This does not include the value of fringe benefits. Estimates are based on 1,500 hours worked per year with 1,000 hours at straight time and 500 at overtime rates.
Tax Payment Per Year	\$10,075	Income tax payment based on an average of federal, state and FICA insurance paid in ND and MN.
Savings	\$1,289	We expect workers to set aside an estimated 3.1% of their after-tax income into their personal savings. <sup>20</sup>
50% of Fringe Benefits	\$11,970	Expected fringe benefit spending in the short term.
Estimated Annual Local Spending	\$49,639	The average local worker will spend 95% of their after-tax and after-savings income plus 50% of fringe benefits locally.
Total Annual Economic Impact	\$86,371	Direct local spending plus additional economic activity generated by local spending.

A skilled *local* construction worker can be expected to spend an average of \$50,000 per year locally. Additionally, every dollar spent by Diversion construction workers will induce additional local economic activity. In this analysis, we rely on a widely used earnings multiplier. In Nissen and Zhang’s 2006 study of the economic impact of local hiring on two major construction

<sup>20</sup> Lucas Franco, “Catching the Wind 2.0: An Update on Changing Employment Practices in Minnesota’s Wind Energy Industry” Local Jobs North Dakota and Minnesota, August 2019.

projects in Florida, they use an earnings multiplier of 1.74 for new construction projects.<sup>21</sup> They find that every dollar spent in the local economy will result in 73.77% in additional earnings *beyond* the direct earnings of those employed in the actual construction project. In other words, every dollar spent by construction workers will generate 74 cents in additional economic activity. Thus, a local worker on the Diversion Project will generate approximately \$86,000 per year in local economic activity.

### ***The High Cost of Non-Local Labor***

Traveling construction workers, whether foreign guest workers on H-2B visas or workers from outside the area, try to limit their local spending. These non-local workers are rooted in communities far from their temporary place of employment. They likely have fixed costs in their permanent area of residence (e.g. mortgage, utilities, property taxes, etc.) and many have families that they support. Based on previous research on infrastructure projects, we estimate that non-local workers tend to limit spending to the per-diem allowance that is typical for the industry - \$75 to \$100.<sup>22</sup>

Non-local workers also earn fringe benefits, but it is unlikely that fringe benefit funds will be spent in the local economy at a similar rate. Fringe benefits often include family healthcare and retirement savings. If a worker's home and family is in another state (e.g. Texas or Utah) most of their healthcare spending will be utilized in their home state.

Economists estimate that local workers spend 95% of their after-tax and after-savings income locally.<sup>23</sup> In contrast, we expect non-local temporary residents to spend their per diem locally. Thus, the average local construction worker employed on the Diversion Project will spend \$49,639 (95% of after-tax/after-savings income including 50% of fringes) locally, while the average non-local construction worker will spend \$15,000 (total per diem) locally. We include 50% of fringes in our spending analysis, because we expect local workers to use at least some of their healthcare benefits locally. We estimate that a local worker will spend approximately three times more locally than a non-local worker.

The cumulative impact of these differences are dramatic for a massive infrastructure investment such as the Diversion Project.

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<sup>21</sup> Bruce Nissen and Yue Zhang, "Hiring Our Own? The impact of local vs. non-local hiring practices in two county GOB projects," Research Institute on Social and Economic Policy at Florida International University, August 16, 2006, pg. 8.

<sup>22</sup> Bruce Nissen and Yue Zhang, "Hiring Our Own? The impact of local vs. non-local hiring practices in two county GOB projects," Research Institute on Social and Economic Policy at Florida International University, August 16, 2006, pg. 8. .

<sup>23</sup> Ibid.

**Table 5 - Difference in Cumulative Local Spending**

<b>Total Direct Local Spending</b>	
<b>Percent Local Workers</b>	<b>Total Local Spending</b>
100%	\$2.283 billion
70%	\$1.805 billion
50%	\$1.486 billion
30%	\$1.168 billion
10%	\$849 million
0%	\$690 million

If local workers make up 70% of the Diversion Project construction workforce, total projected local spending associated with construction payrolls would be approximately \$1.8 billion over six years. If only 30% of work hours were performed by local workers, however, associated spending in the local economy could be \$1.2 billion. That represents an estimated loss of more than \$600 million in direct spending within the Fargo-Moorhead regional economy.

If we replicate the multiplier used by Nissen and Zhang (2006), projected local spending associated with construction payrolls would be as follows:

**Table 6 - Local Spending After Applying Multiplier Effects**

<b>Total Local Spending After Applying Multiplier Effects</b>	
<b>Percent Local Workers</b>	<b>Total Economic Impact</b>
100%	\$3.881 billion
70%	\$3.069 billion
50%	\$2.527 billion
30%	\$1.985 billion
10%	\$1.443 billion
0%	\$1.173 billion

The total difference in projected local economic activity between a 30%-local workforce and a 70%-local workforce is estimated at \$1.1 billion. A reliance on non-local workers to build the Diversion Project would lead to a substantial loss in local economic activity. The good news is that the use of apprenticeship programs could help to ensure that a local pool of skilled construction workers is available to build the Diversion project.

**Section 4: Maximizing Local Benefits through Apprenticeship Models**

Registered apprenticeship programs are the best option to recruit new workers into the construction industry. Like most metropolitan labor markets, the Fargo-Moorhead metropolitan area is home to thousands of workers who are employed in low-wage, part-time and precarious jobs. Many of these workers would welcome an opportunity for a 40+ hours per week job that often pays two to three-times more than their current position and offers comprehensive benefits.<sup>24</sup>

Two of the top five highest employing industries in the Fargo-Moorhead area pay average wages that are insufficient to support a single full-time worker, let alone a family, based on analysis by the Economic Policy Institute.<sup>25</sup> Workers below this level typically require social service support that is funded by taxpayers and local charities, including subsidized affordable housing and food stamps. For example, among the roughly 223,000 workers in the region, some 45,000 are employed in the retail, accommodation and food service industries that are often associated with low pay, irregular hours and limited opportunities for upward mobility.

**Table 7 - Largest Industries in Fargo-Moorhead Regional Area<sup>26</sup>**

Industry	Average Employment	Average Hourly Wage	Average Weekly Wage	Average Annual Wage
Health Care and Social Assistance	37,305	\$22	\$877	\$45,604
Manufacturing	26,439	\$26	\$1,025	\$53,300
Retail Trade	25,779	\$15	\$580	\$30,160
Educational Services	18,632	\$23	\$910	\$47,320

<sup>24</sup> Arne L. Kalleberg, “Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s-2000s,” 2011, Russell Sage Foundation.

<sup>25</sup> The EPI’s Family Budget Calculator estimates that \$32,077 is the minimum income that a single worker with no children needs in order to attain a modest yet adequate standard of living in the Fargo-Moorhead area: <https://www.epi.org/resources/budget/>.

<sup>26</sup> The EPI’s Family Budget Calculator estimates that \$32,077 is the minimum income that a single worker with no children needs in order to attain a modest yet adequate standard of living in the Fargo-Moorhead area: <https://www.epi.org/resources/budget/>.

Accommodation and Food Services	19,329	\$8	\$336	\$17,472
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The retail, accommodation and food service industries are among the industries that rely most on part-time or temporary labor.<sup>27</sup> These fast-growing occupational groups also rely on precarious employment relationships. Part-time positions account for 74% of food preparation and serving positions, and 36% of sales positions.

We estimate that the average construction worker on the Diversion Project would earn approximately \$1,000 per week. This is three to four times the average weekly earnings of a worker in the food services and retail industries. It is likely that only a small share of the 43,000 workers employed in low-wage industries in the Fargo-Moorhead region would use the Diversion Project to pursue a better-paid construction employment. But if just a half of one percent made the move, the region could gain more than 200 new middle class jobs and expand its skilled construction workforce. Similarly, some of the region’s roughly 2,845 unemployed workers could either pursue construction employment or step into a lower-wage service job, which has been vacated by a former service worker who has moved up the ladder into construction through a registered apprenticeship program.<sup>28</sup>

A worker employed in the construction industry will contribute three to four times as much in direct spending and economic impact over the course of their career as compared to those employed in the accommodation, food service and retail trade industries.

**Table 8 - Comparative Lifetime Earnings**

Industry	Accommodation and Food Services	Construction
Annual Earnings (1500 hours)	\$17,250	\$51,645
Tax Payment Per Year (MN Estimate)	\$1,845	\$10,075
Lifetime Earnings (25 years)	\$431,250	\$1,291,125
Lifetime Taxes (25)	\$46,125	\$251,875

<sup>27</sup> We rely on the MN DEED LMI Job Vacancy Survey for this data (<https://mn.gov/deed/data/data-tools/job-vacancy/>). This data is based on surveys of occupational groups. We match occupational groups with the industries. Similar data is not available for North Dakota. The employment trends in the regions of North Dakota and Minnesota understudy are very similar, however, so we expect similar employment patterns in North Dakota.

<sup>28</sup> Unemployment data based on August 2018 estimates for the Fargo-Moorhead Metropolitan Area. Data available through the State of North Dakota job service website: <https://www.ndworkforceintelligence.com/vosnet/lmi/profiles/profileDetails.aspx?session=areadetail&sectionID=20>.

years)		
Direct Spending	\$365,869	\$987,288
Induced Impacts (x1.70) <sup>29</sup>	\$621,977	\$1,480,931
<b>Difference in Economic Impact Over 25 Years</b>		\$858,954

**Section 5: The Port of Miami Tunnel Project Case Study**

The Miami Tunnel project offers an excellent example of how a commitment to recruiting and training local workers through registered apprenticeship programs can maximize the socioeconomic benefits of a large P3 infrastructure project. The Miami Tunnel project is a 4,200 foot undersea tunnel traveling under Biscayne Bay connecting the MacArthur Causeway on Watson Island with the Port of Miami on Dodge Island. Similar to the Diversion project, the Port of Miami Tunnel was funded through a P3 funding model. The project was largely funded by Meridian Infrastructure. Meridian is a European-based infrastructure partnership that often invests in major U.S. infrastructure projects.

When the Miami Tunnel Project was first proposed, there was widespread concern that the local community would miss out on potential socioeconomic benefits of the project, including construction job opportunities. There were no guarantees that the General Contractor on the project, Bouygues, would use local workers.

A coalition of local stakeholders formed an organization called Build 305 to gather and channel public concerns towards a productive agreement with the project owner, the Florida Department of Transportation (FDOT). Build 305 worked with FDOT to develop a local workforce development program to maximize the socioeconomic benefits of the P3 project.

Build 305, FDOT and other regional stakeholders agreed “that in order for the project to succeed, it needs to have a notable impact that can be felt by the local community.”<sup>30</sup> As a result, they developed a “community engagement plan [that] went beyond just media and public relations into delivering real economic, social and commercial benefits.”<sup>31</sup> Stakeholders worked together to develop a plan that prioritized the use of a majority local workers. It was the responsibility of Bouygues to meet this goal.

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<sup>29</sup> I have excluded fringe benefit spending from this analysis because we do not have a good estimate of fringe benefit payments in accommodation and food service jobs. Many of these jobs offer few if any fringe benefit payments.

<sup>30</sup> Turner and Townsend, “Managing PPP Contractors After Financial Close: Appendix B - Port of Miami Tunnel,” Global Infrastructure Hub - A G20 Initiative, 2018, pg. 245-251. Available here: [https://content.gihub.org/live/media/1465/updated\\_full-document\\_art3\\_web.pdf](https://content.gihub.org/live/media/1465/updated_full-document_art3_web.pdf).

<sup>31</sup> Ibid.

Bougyues and its subcontractors worked with local registered apprenticeship programs with a long track record of recruiting, training and dispatching area workers to build regional infrastructure to meet the goals. As a consequence, 83% of construction workers building the project were local, and hundreds of area residents received the training and on-the-job work experience required to become career construction workers. These workers not only delivered the \$643 million tunnel project on-time and \$90 million under budget, but they continue to build critical infrastructure in the region today.<sup>32</sup>

The Miami Tunnel project is a prime example of how a commitment to recruiting and training local workers through registered apprenticeship programs can maximize the positive socioeconomic benefits of major infrastructure projects. The Diversion Authority should follow the example of Miami area policy makers in encouraging project contractors to work with regional registered apprenticeship programs.

## **Conclusion**

The Diversion Project is an enormous infrastructure undertaking. The project will require thousands of construction workers. There are currently not enough local construction workers to meet this demand. Fortunately, however, there are thousands of workers who are underemployed or unemployed currently working in low-wage retail trade, accommodation and food service jobs in the Fargo-Moorhead area. The Diversion Project could provide a catalyst for many of these workers to begin a family-supporting career in the construction industry.

Recruiting and training the next generation of skilled construction workers is not difficult, but it requires planning and investment on the part of industry. For some construction firms, it seems simpler to bring in traveling workers from other states or foreign guest workers. The reliance on non-local workers comes at a high cost to the Fargo-Moorhead region. The Diversion project provides an opportunity for policy makers to encourage construction firms to recruit and train locals to develop a skilled construction workforce. The Diversion Authority can achieve this goal by requiring all participating construction firms to participate in registered apprenticeship programs. This requirement will ensure that the Diversion Project is built by a majority local workforce. A majority local workforce will not only guarantee far greater local socioeconomic benefits, but it will develop the next generation of skilled construction workers.

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<sup>32</sup> Miami Herald Editorial, "Port tunnel is a model of success," full article can be found here: <https://www.miamiherald.com/opinion/editorials/article29907982.html>.



## **About Local Jobs North**

Local Jobs North Dakota & Minnesota seeks to promote good, family-supporting construction jobs for North Dakota and Minnesota workers through research and advocacy. Our goal is to educate the public and policy makers about the social and economic benefits of using local workers.

[www.localjobsnorth.org](http://www.localjobsnorth.org)

## **About the Author**

Lucas Franco is the Research Manager for LIUNA Minnesota & North Dakota, which represents more than 12,000 unionized construction laborers across Minnesota and North Dakota and is affiliated with the 500,000 member Laborers' International Union of North America. He holds a Ph.D. in Political Science from the University of Minnesota. He has published numerous articles and reports on employment trends in the construction industry.

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