



ND&W RAILWAY REVITALIZATION

Maumee Valley Planning Organization

Napoleon, Defiance, and Western Railway

TIGER 2017



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EXECUTIVE SUMMARY

The Maumee Valley Planning Organization (“MVPO”) respectfully requests TIGER funds to revitalize and rehabilitate the Napoleon, Defiance & Western Railway (“ND&W”) rail line to enable effective and competitive rail service for companies and communities located in Ohio and Indiana. This TIGER application is to rehabilitate approximately 46 miles of the ND&W’s rail line between Napoleon, Ohio and Woodburn, Indiana (the “Project”). The Maumee Valley Planning Organization is seeking \$10,800,000 of TIGER funds to match \$1,200,000 of ND&W funds to complete the Project. The Project has significant local and regional benefits, helps to foster and support economic development and growth, provides economic opportunities for residents near the Project area, and closes a significant infrastructure deficit created by the deferred maintenance of the previous owner.

The benefits of the Project to the local and regional communities include:

- Generating, overall, \$97,000,000 of quantifiable benefits over a 20 year period when discounted at 7%;
- Improving quality of life for local residents due to a myriad of employment, environmental and congestion benefits the Project will provide;
- Increasing competitiveness for companies employing over 2,800 residents along the rail line due to enhanced freight transportation options, both from more reliable ND&W service and enhanced NS and CSX connection options;
- Removing a significant infrastructure deficit by repairing the ND&W’s line to FRA Class I standards;
- Leveraging significant private investment of \$1,200,000;
- Improving the value of 9 industrial parks with 765 developable acres currently available;
- Helping leverage \$580,000,000 of investment in the Ohio-Indiana “Fort to Port” project, which improved U.S. Route 24 from just outside Toledo, Ohio to Ft. Wayne, Indiana to a four lane divided highway suitable for significant freight traffic; and
- Reducing maintenance costs for highways due to cargo travelling more efficiently via rail.

The TIGER grant would help fund a project that serves the local and regional population through enhanced transportation options and economic opportunities, enhances the competitiveness of companies on the line so that they expand and grow in the community, bringing jobs and capital into the local economy, and reduces harm to the environment by enhancing access to an alternate mode of freight and thereby reducing congestion on the roadways. The Project will foster a safe, efficient mode of transportation of goods, is estimated to accrue over \$97,000,000 of benefits over a 20-year period, and remedies an infrastructure deficit. The Project is ready to proceed as soon as funding is awarded, and the benefits of the Project satisfy and exceed the goals of the TIGER program. A webpage has been created for the Project which contains all Appendices and additional supporting documentation. The webpage link is as follows:

<http://www.mvpo.org/tiger-2017>.

PROJECT DESCRIPTION

The proposed Project would revitalize a 46 mile segment of the ND&W rail line, extending from Woodburn, Indiana (near milepost 79.0) to Napoleon, Ohio (near milepost 33.4) (the “Project”). The Maumee Valley Planning Organization is requesting \$10,800,000 (90% of the total \$12 million Project cost) to replace ties, upgrade surface, replace rail, rehabilitate track, make necessary switch improvements, and other track rehabilitation. If successful, the funding provided by the TIGER grant would be matched by \$1,200,000 (10% of the total \$12 million Project cost) of private funds being committed by the ND&W. Standard engineering approaches for railroad track rehabilitation will be followed for the proposed Project, as the work involves rehabilitation and maintenance on ND&W-owned existing structures within ND&W-owned right-of-way, and thus presents no significant challenges. A detailed scope of work is being submitted with this application as [Appendix A](#). The majority of the Project will be bid out by ND&W, with select items being performed via force account. Environmental work for the Project is generally completed. Additional environmental discussion is noted in the “Project Readiness” section of this narrative.

The 46 miles of the ND&W to be rehabilitated are in critical need of improvements. Although slight repair has taken place on the line since the Pioneer Railcorp acquisition in 2012, the track remains in poor condition and the functionality and safety of freight operations are severely diminished as a result. If completed, the proposed Project will provide economic opportunities to existing and future users of the ND&W line by eliminating track deficiencies that currently preclude the ND&W from connecting to both the Norfolk Southern (“NS”) in Woodburn, Indiana, and the CSX in Defiance, Ohio. If current users are able to more efficiently utilize the railway and additional users begin utilizing the track, the residents in the northwest Ohio/eastern Indiana area will see a plethora of benefits. Repairing and upgrading the track will enhance the competitiveness of the railway, thus enabling additional users to locate in the immediate Project location area. The result of this will be additional jobs for the residents of the region and more capital into the local economy. As a regional planning commission and a regional transportation planning organization, MVPO fully supports the effort to invest in the ND&W railway for the future economic advances it will provide to the residents of the region. MVPO is partnering with the ND&W, forming a public-private partnership, to submit this application with the support of the railroad, elected officials, community leaders, shippers and development officials.

The proposed Project deliverables include:

- Achieving Federal Railroad Administration Class I condition on the rail line.
- Permitting trains of up to 30 loaded rail cars to traverse the line.
- Enhancing rail to rail competition by facilitating effective interchange of traffic with NS at Woodburn, Indiana and CSX at Defiance, Ohio for present and future rail users located anywhere on the ND&W line.
- Revitalizing rail service to the rural communities of Woodburn, Indiana, and Antwerp, Defiance, Jewell, Okolona, and Napoleon, Ohio, including industrial parks at Napoleon, Defiance, Antwerp and Woodburn, enabling economic development officials to promote industrial sites with the flexibility of local shortline rail service that offers dual Class I rail connections to CSX and NS.

PROJECT LOCATION

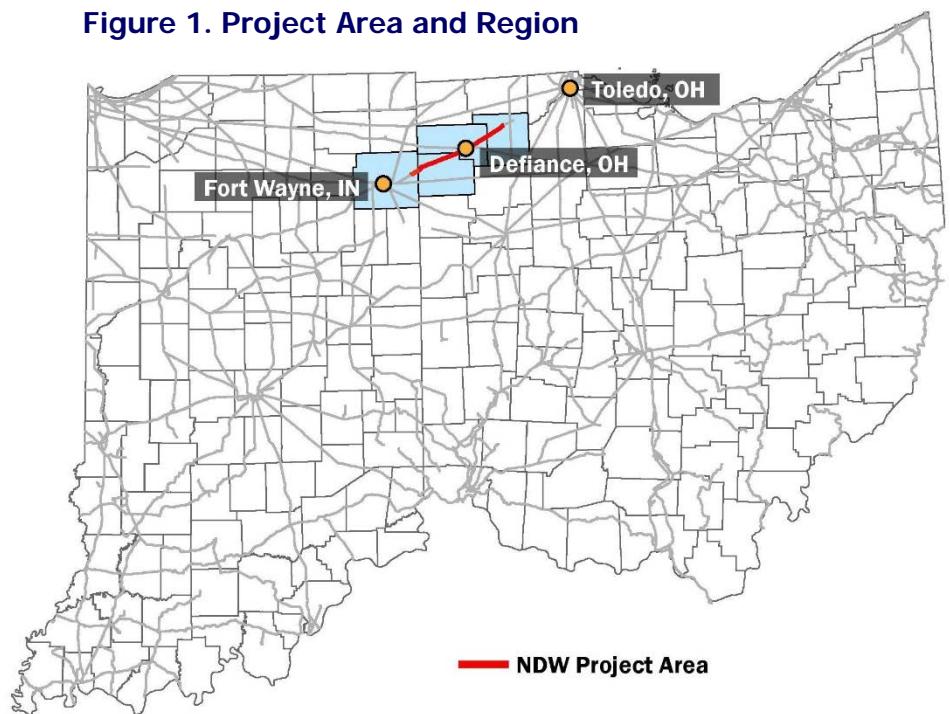
The rail infrastructure to be improved is part of a 46-mile segment of the ND&W main line, extending from Woodburn, Indiana to Napoleon, Ohio. The Project area includes the villages and cities of Antwerp, Ohio; Cecil, Ohio; Defiance, Ohio; Jewell, Ohio; Napoleon, Ohio; and Okolona, Ohio. The Project is located in Paulding, Defiance, and Henry Counties, Ohio, and Allen County, Indiana, which combined have a population of 449,302 people. The rail line parallels U.S. Route 24, the “Fort to Port” highway corridor connecting Fort Wayne, Indiana and Toledo, Ohio. (See Selection Criteria for further details on U.S. 24’s role in shaping economic competitiveness.) Maps depicting the entire ND&W line, the Project area, and the location of U.S. 24 relative to the rail line are shown in Figures 1 and 2 below. Project location and detail maps are included with this application as Appendix B.

This Project will take place entirely within rural areas. Defiance is the largest city in the Project area with a population of 16,571 people.¹ The City of Defiance and Defiance County are considered a micropolitan statistical area by the Office of Management and Budget,² but this statistical area is not considered an urban area by the Census Bureau. The Project area does include two urban clusters

as defined by the Census Bureau: Napoleon and Defiance, Ohio.³ Urban clusters are considered rural based on TIGER guidelines. Though the Project extends into Allen County, Indiana, which is part of the Fort Wayne, Indiana metropolitan area, the Project does not extend into Fort Wayne’s urban area.⁴

This Project is located in Ohio’s 5th Congressional District and Indiana’s 3rd Congressional District.

Figure 1. Project Area and Region



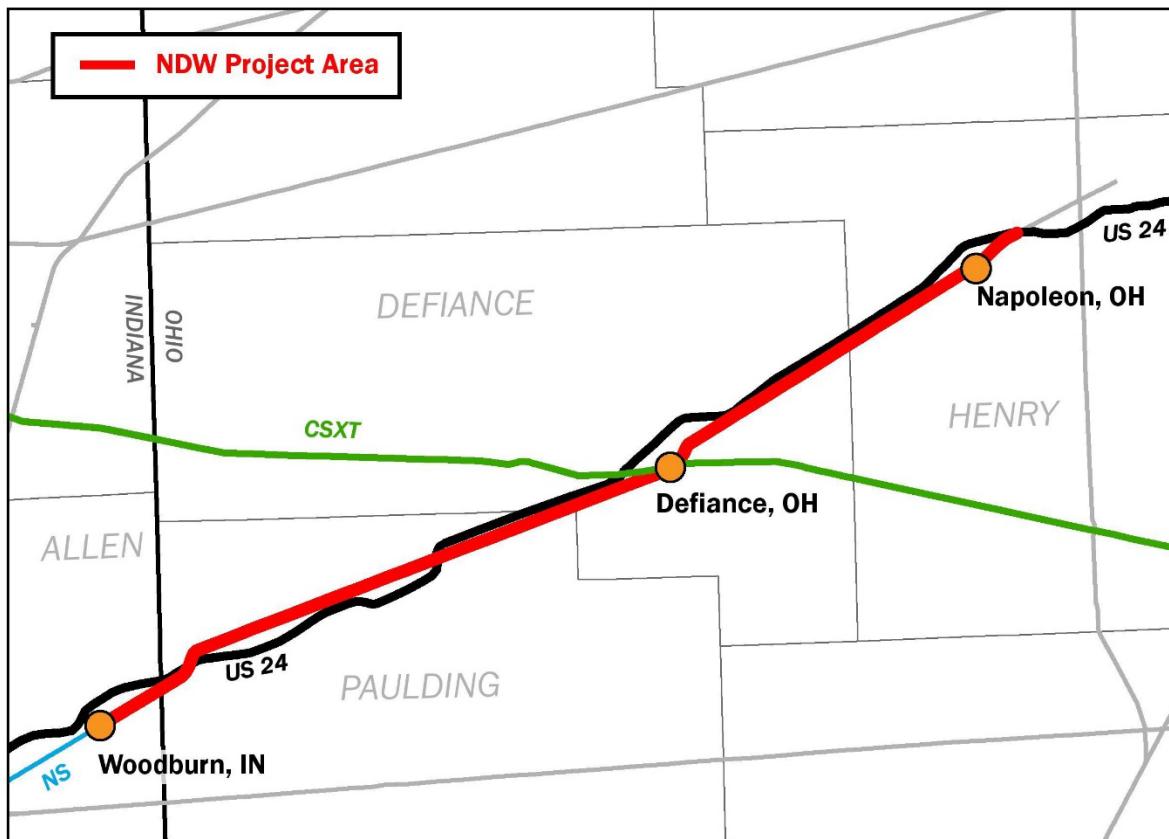
¹ United States Census Bureau, “2015 American Community Survey,” <https://www.census.gov/programs-surveys/acs/about.html> (last visited October 13, 2017)

² United States Census Bureau, “Principal Cities of Metropolitan and Micropolitan Statistical Areas,” <https://www.census.gov/geographies/reference-files/time-series/demo/metro-micro/delineation-files.html> (last visited October 13, 2017)

³ United States Census Bureau, “2010 Census Urban and Rural Classification and Urban Area Criteria,” <https://www.census.gov/geo/reference/ua/urban-rural-2010.html> (last visited October 13, 2017)

⁴ United States Census Bureau, “2010 Census – Urbanized Area Reference Map: Fort Wayne, Indiana,” http://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua31087_fort_wayne_in/DC10UA31087.pdf (last visited October 13, 2017)

Figure 2: Project Area Detail



PROJECT PARTIES

The main Project parties are as follows:

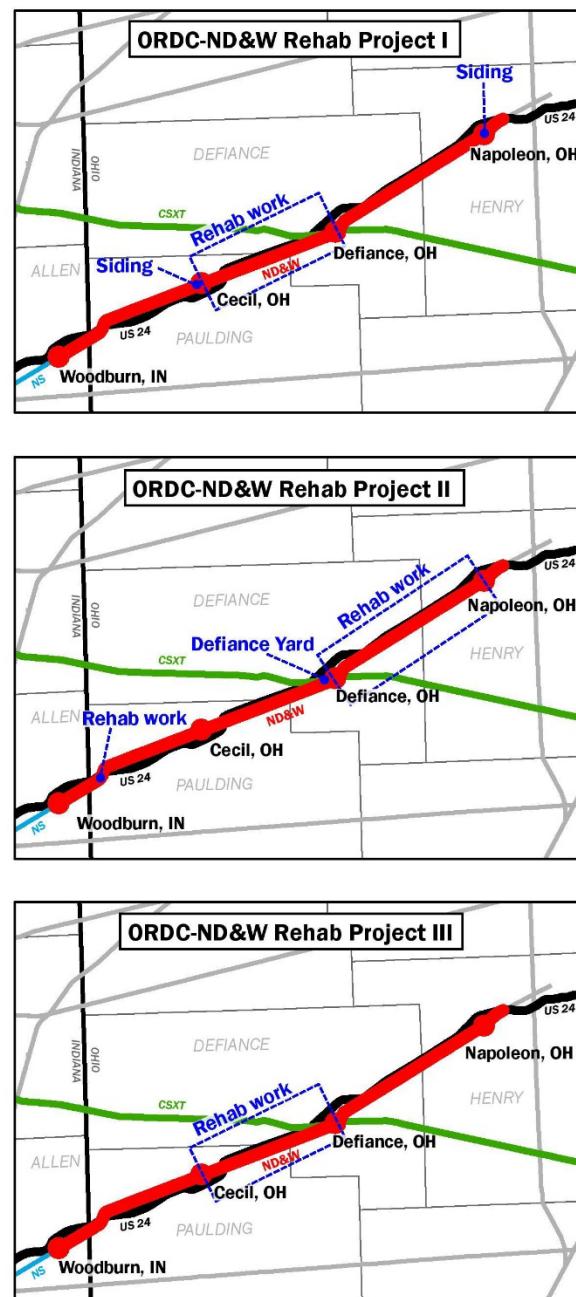
Napoleon, Defiance and Western Railway –

The grant sub-recipient, and the entity who owns the infrastructure to be improved, is the ND&W, a wholly-owned subsidiary of Pioneer Railcorp. The ND&W owns and operates a line from Napoleon, Ohio westbound along U.S. Route 24 to Woodburn, Indiana, spanning approximately 46 miles. The ND&W inherited deferred maintenance problems when it acquired the line in 2012 along with the problems of operating heavy freight mostly on light, 80 lb. rail, and operating on sections of track in an area formerly called the Black Swamp. Its primary commodities are food products, chemicals, aggregates, fertilizer, and other commodities from companies such as Johns Manville and Campbell's Soup Company. The ND&W interchanges with CSX in Defiance, Ohio and NS in Woodburn, Indiana. In 2015, the ND&W moved 2,301 carloads, an increase of 7% over 2014, and 2,321 carloads were moved in 2016, still demonstrating an increasing trend.

The ND&W has made significant investments in the line since acquiring it in late 2012. In addition to its significant acquisition investment, the ND&W has invested heavily in start-up costs, providing 6 locomotives for the operation, acquiring maintenance-of-way equipment, and constructing track improvements at a cost outlay of approximately \$4,100,000. The ND&W also hired 8 local employees at a total compensation package (wages + benefits) averaging approximately \$30/hour.

ND&W also partnered with the Ohio Rail Development Commission (ORDC), an independent agency of the state within the Ohio Department of Transportation, for three significant projects: the first, to construct sidings in Cecil, Ohio, and Napoleon, Ohio, and to begin rehabilitation of the section of track between Cecil and Defiance; the second, to begin rehabilitation of the section of the line between Defiance and Napoleon, two additional miles on the West End, and rebuild Defiance Yard; and

Figure 3: Previous ORDC-ND&W Projects



the third, to continue rehabilitation of the Cecil to Defiance line in order to offer customers a Ladder of Opportunity to explore diversified interchange traffic with both CSX and NS on a volume restricted basis (see Figure 3 on the previous page for project location maps). These projects were funded with \$1,100,000 of ORDC grant and \$1,000,000 of ORDC loan funds, matched by an additional \$498,125 of ND&W funds.

Maumee Valley Planning Organization – The grantee and public sponsor of this TIGER application, the MVPO is a regional planning commission serving the five counties of Defiance, Fulton, Henry, Paulding and Williams in Northwest Ohio. MVPO has extensive experience in administering federal funds as they currently administer Community Development Block Grant (CDBG) funds for all five of their member counties, have received several grants from the Economic Development Administration, and have been successful in applying for and administering multiple other state and federal grants during the past 40 years of the organization's existence. MVPO is also designated as the regional transportation planning organization (RTPO) for the five county area and as such is responsible for assisting member counties and communities with identifying transportation needs, applying for grant funds to help address those needs, and then administering the funds once awarded. MVPO ensures a continuing, cooperative and comprehensive planning process for all transportation projects and is also responsible for developing, maintaining, and updating the region's long range transportation plan. Included in that plan is a prioritized Project List that is updated annually. The proposed Project is included on that list as a regional priority for Northwest Ohio.

GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

MVPO's TIGER request will be allocated toward the construction phase of the proposed rail revitalization project. Table 1 below depicts the various components and cost share of the project, demonstrating how funds will be spent for each project element.

Table 1: Napoleon, Defiance & Western Railway Revitalization Project Costs

Material	Description	Total (100%)	TIGER (90%)	ND&W (10%)
Spikes	New	\$ 107,753.29	\$ 96,977.96	\$ 10,775.33
New Ties	Grade # 5 / 7" x 9" x 8' 6"	\$ 1,894,464.00	\$ 1,705,017.60	\$ 189,446.40
New Ties	Grade # 5 / 7" x 9" x 8' 6"	\$ 500,940.00	\$ 450,846.00	\$ 50,094.00
Ballast	New	\$ 589,453.20	\$ 530,507.88	\$ 58,945.32
Tie Plates	Relay	\$ 99,220.00	\$ 89,298.00	\$ 9,922.00
Joint Bars	Relay	\$ 58,995.00	\$ 53,095.50	\$ 5,899.50
Rail Change Out	Relay	\$ 853,875.00	\$ 768,487.50	\$ 85,387.50
Track Bolts	New	\$ 12,239.09	\$ 11,015.18	\$ 1,223.91
Lock Washers	New	\$ 4,223.70	\$ 3,801.33	\$ 422.37
Sales Tax	5.75% + Various Locals (Figured at 6.75%)	\$ 278,178.52	\$ 250,360.67	\$ 27,817.85
	MATERIAL SUBTOTAL	\$ 4,399,341.80	\$ 3,959,407.62	\$ 439,934.18
Contract Labor & Equipment	Description	Total (100%)	TIGER (90%)	ND&W (10%)
Contractor	Tie Installation	\$ 1,079,615.00	\$ 971,653.50	\$ 107,961.50
Contractor	Tie Distribution	\$ 105,200.00	\$ 94,680.00	\$ 10,520.00
Contractor	Tie Disposal	\$ 315,600.00	\$ 284,040.00	\$ 31,560.00
Contractor	Rail Dist. & Install	\$ 1,762,500.00	\$ 1,586,250.00	\$ 176,250.00
Contractor	Tamping/Regulating (As Needed Within Mile/Spot Multi Pass)	\$ 3,758,832.00	\$ 3,382,948.80	\$ 375,883.20
Contractor	Signal Support	\$ 45,885.00	\$ 41,296.50	\$ 4,588.50
Railroad Equipment	Loco, Backhoe, Trucks, Etc.	\$ 153,000.00	\$ 137,700.00	\$ 15,300.00
Various	Contingency (May include Misc. Switch Work - During Mainline Tamping, Etc.)	\$ 380,026.20	\$ 342,023.58	\$ 38,002.62
	LABOR & EQUIPMENT SUBTOTAL	\$ 7,600,658.20	\$ 6,840,592.38	\$ 760,065.82
TOTAL PROJECT COST		\$ 12,000,000.00	\$ 10,800,000.00	\$ 1,200,000.00

As shown above in Table 1, TIGER funds will be utilized for 90% of the total cost of the Project and ND&W will contribute 10% of private funds. The funds being provided by ND&W are committed, unencumbered, and available for immediate use should TIGER funds be awarded. No other federal or non-federal funds will be utilized to complete this Project.

The proposed Project will be fully funded upon awarding of a TIGER grant. All of the above funds will be expended on constructing the items in the scope of work attached in Appendix A. The ND&W has committed \$1,200,000 of private funding to complete the Project and the ND&W will be responsible for any cost overruns during the Project. Both of these ND&W commitments have been memorialized in the Public-Private Partnership Agreement between the ND&W and MVPO attached as Appendix C to this application.

Immediately upon entering into the USDOT Grant Agreement, the Project will be ready to move forward, with all funding committed.

MERIT CRITERIA

A. SAFETY

The proposed revitalization of the ND&W will foster a safe means of transporting goods along the rail line and will directly benefit the safety of other modes of transportation. Rail is a significantly safer freight transportation mode than truck. For the period 2001-2014, freight transportation via truck had a per million ton-mile fatality rate averaging 4,452 annually, while rail freight transportation averaged only 807 fatalities annually.⁵ At approximately 4 trucks per railcar, the freight moving across the ND&W line will result in approximately 12,432 trucks being removed from the road. This has a significant safety benefit to the highway system, namely a reduction in fatalities and injuries as a result of passenger vehicle-truck accidents. According to crash records from the Ohio Department of Public Safety, from 2012-2016 in the Ohio counties of Defiance, Paulding and Henry, a total of 1,019 crashes involving a commercial motor vehicle occurred. These crashes resulted in 21 fatalities, 77 incapacitating injuries, and 352 other injuries. Via the Benefits Calculator information located in [Appendix D](#), the rail freight movement results in a reduction of .04 fatalities and 1.03 injuries due to the shift away from truck transportation. These reductions have a value of \$376,000 for fatalities and \$96,203 for injuries.⁶ Over a 20 year period, when discounted at 7%, the cumulative value of the reductions is \$3,983,349 and \$1,019,176 respectively, for a total savings of \$5,002,525 over the 20 years.

The Project will also result in a reduction in potential railroad derailments. As discussed in the next criterion, many derailments occurred on the line that is now the ND&W prior to their acquisition. While the ND&W has experienced no FRA derailments since their takeover, this is more a testament to their conscientious, safety-first culture than the track condition. Although there have been some improvements to the railway, the track is far from being in a state of good repair and in need of the revitalization that the Project proposes in order to ensure safe movement of goods. As there have not been any recent derailments, there is no associated quantifiable value to this benefit, yet there is a distinct safety benefit to the locomotive operators and the surrounding citizens, especially as the ND&W hauls flammable hazardous waste materials to an online customer on a weekly basis. The improved condition of the rail after completion of the proposed Project will further ensure that no hazardous waste materials would be spilled or released due to a derailment.

B. STATE OF GOOD REPAIR

Like many shortline railroads around the country, the ND&W inherited decades of deferred maintenance of the rail line when it was acquired. The low level of previous investment, coupled with the light 80 lb. and 90 lb. rail on the line and the poor condition of the subbase of the track,

⁵ A Modal Comparison of Domestic Freight Transportation Effects on the General Public: 2001-2014, <http://www.nationalwaterwaysfoundation.org/documents/Final%20TTI%20Report%202001-2014%20Approved.pdf> (last visited October 16, 2017)

⁶ See TIGER Benefit-Cost Analysis (BCA) Resource Guide, https://www.transportation.gov/sites/dot.gov/files/docs/Tiger_Benefit-Cost_Analysis_%28BCA%29_Resource_Guide_1.pdf (last visited April 19, 2016).

resulted in an extremely dilapidated rail line. Previous operators often had a truck following many of its trains so that a conductor on the ground could see when wheels derailed and immediately report it to the engineer. Train speeds in some locations were less than walking speed. Minor derailments were an almost daily occurrence. From maintenance records and information from employees of the former railroad, the ND&W estimated that in 2012 there were at least 130 derailments. Many viewed the rail line as having the worst track condition in Ohio, and numerous videos and pictures of the condition were taken by rail fans in the area, which are available on the TIGER 2017 Project website: <http://www.mvpo.org/tiger-2017>.⁷

In December 2012, when the ND&W took control of the line, track conditions began to improve dramatically. While the ND&W track is still FRA Exempt and track speeds are still 10 MPH or less, the ND&W has improved both the eastern and western portions of the line, and reopened the center portion, though with loaded carloads restricted to five at a time.

With the help of numerous public partners, the ND&W has invested heavily in the line. In a three year period (2013, 2014, & 2015), the ND&W invested \$4.1 million in track work including the installation of 14,400 ties, 1,500 gauge rods, and 160 sticks/6,240 feet of relay rail, as well as the ancillary work of surfacing and tamping. The majority of this work was done using ND&W forces.

Both the States of Ohio and Indiana have recognized the significant level of investment and improvement in the ND&W line. Ohio, through the ORDC, has invested \$1,110,000 in grant funds and \$1,000,000 in loan funds covering the 42.2 mile section of track from the Indiana/Ohio State Line to Napoleon, Ohio to augment ND&W investment. The State of Indiana, through the Indiana Department of Transportation, has approved \$90,000 in grant funds to help improve the ND&W tracks used for interchange with NS in Indiana. As a result, the ND&W can now handle 15 loaded cars on the Defiance to Napoleon section of the line, 15 loaded cars on the Cecil to Woodburn portion of the line, and 5 loaded cars on the formerly out of service Cecil to Defiance portion of the line.

In addition to recognizing the level of investment that has gone into the ND&W line, the Ohio Department of Transportation (ODOT) has also placed special emphasis on maintaining it in a state of good repair as it is part of the state's 'Strategic Transportation System (STS)'. This system was established by ODOT for Ohio's long range transportation plan, Access Ohio 2040⁸, and is known as the backbone of Ohio's transportation system (see Figure 4). In the plan, ODOT acknowledges that all of Ohio's vast transportation network needs to be kept in a state of good repair, however, the facilities that make up the STS have an even greater importance. In addition to being part of the STS, the ND&W line is also included in the Ohio Freight Plan, 'Transport Ohio' as part of the state's 'Strategic Freight System'. It is clear that keeping the ND&W in a state of good repair is consistent with statewide plans and is crucial not only to the northwest Ohio region, but to the entire State of Ohio.

⁷ See "Worst Tracks We Have Ever Seen," <http://trainfanatics.com/the-worst-tracks-ever-seen/>, and "World's Worst Railroad Track," <https://www.youtube.com/watch?v=TrvLK24VIEs>

⁸ See "Access Ohio 2040", www.access.ohio.gov

Although some improvements have been made to the line, the ND&W still cannot effectively serve its customers' needs and provide optimum opportunity to its customers with excepted track and severe limits on the number of loaded cars it can currently handle. The line is also still far from being in a state of good repair.

Figure 4: Ohio's Strategic Transportation System



The proposed \$12 million TIGER Project will bring the active 46 miles of the ND&W into the state of good repair needed to increase economic competitiveness of the area and serve the public in doing so. Due to the significant impacts completing the Project would have to the Northwest Ohio/Eastern Indiana region, the Project is supported by the State, members of Congress, local elected officials, private businesses impacted by the rail, and economic development officials. Letters of support obtained for the Project are located in [Appendix E](#) and are available on the Project website. As additional letters of support are obtained, they will be added to the website.

The ND&W has the physical means to complete portions of the work and maintain the line in a state of good repair after project completion. The ND&W has access to the equipment and maintenance of way employees it needs to maintain its track in a state of good repair once the TIGER Project is completed. When the Project is completed, the ND&W will have FRA Class I track that is able to handle 30 car trains from one end of the active track in Woodburn, IN to the other in Napoleon, OH.

C. ECONOMIC COMPETITIVENESS

Short line and regional railroads with two Class I connections can help their customers prosper in the marketplace by offering them competitive rail access which in turn enables their shippers to prosper, affording economic opportunities for their employees.

Two Class I connections enable a small railroad to offer their customers alternatives such as:

- Finding competing prices and service/logistics to a destination;
- Providing shippers with alternative gateways, (e.g. NS offers interchanges with western railroads in Kansas City and Dallas while CSX offers western connections in St. Louis);
- Providing alternative access to common ports or access to different ports;
- Providing single line access and the inherent price advantages to customers and suppliers on two major rail systems instead of just one (e.g. avoiding costly and time consuming Class I railroad switching charges); and
- Providing customers with competition for ancillary railroad services such as supplying the proper car type in the quantity needed.

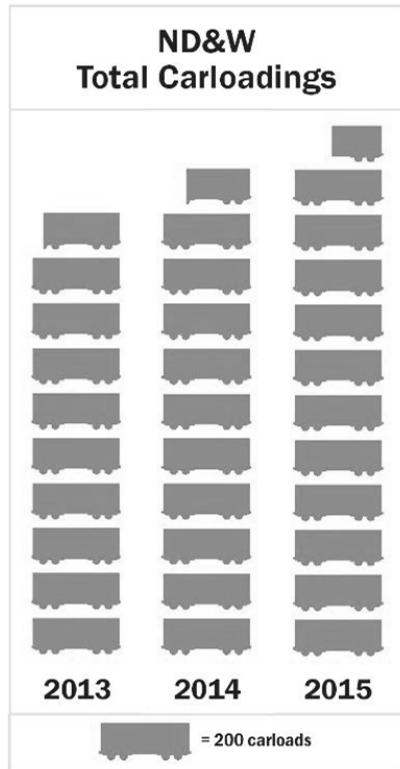
The ND&W serves a variety of rail users who will benefit from the above competitive advantages. They are as follows:

Table 2: ND&W Rail Users

Rail User	Location	Jobs	Commodities	Inbound / Outbound	3 Year Average Carloads (2015)
Ag Plus	Woodburn, Indiana	9	Fertilizer	Inbound	18
Advanced Drainage	Napoleon	36	Plastics	Inbound	26
Lafarge Cement	Cecil	100	Cement	Outbound	96
Systech Environmental	Cecil	20	Hazmat Waste	Inbound	143
Johns Manville	Defiance	651	Various	Inbound	487
Interstate/Cloverleaf (Campbell's Soup Company Transload)	Napoleon	1908	Tomato Paste	Inbound	1342
Glycerin Traders	Defiance	14	Glyceride	Outbound	16
Oldcastle	Napoleon	80	Plastic Resins	Inbound	40
Republic Mills	Okolona	14	Flour	Inbound	59
Other Miscellaneous					74
Total Jobs		2,832	Total Carloads		2,301

The 2,301 average carloads in 2015 represented an increase of 317 cars (16%) over the carload total of 1,984 in 2013, the first year of ND&W operation. The 2014 carloadings were 2,144. The ND&W was able to generate this 16% increase in traffic at a time when railroad carload traffic in general had been stagnant or decreasing. 2016 again saw an increase in carloads from 2015, with 2,321 carloads.

Figure 5: ND&W Carloadings



Rail to rail competition can make a big difference for shippers on railroads with multiple connections. For example, a 50 ft. boxcar of tomato paste coming from California to Indiana or Ohio for interchange with the ND&W for Interstate & Cloverleaf, costs \$7,064 via an NS interchange in Woodburn while it costs \$7,234 via a CSX interchange in Defiance – a difference of \$170. For a 60 ft. boxcar, the differential in pricing rises to \$203. The other major traffic carried by the ND&W moves under private contract rates that MVPO cannot publish in this application.

For over a decade, the Woodburn to Liberty Center Line was in effect two short lines. Service to Woodburn, Antwerp, Cecil, and Paulding shippers on the west side of the line went exclusively through its interchange with NS at Woodburn. Service to Defiance, Napoleon, Liberty Center and locations in-between went exclusively through its interchange with CSX at Defiance. The center portion of the line from Cecil to Defiance was out of service.

Because of the inherited track conditions, the ND&W continued these operating practices when it acquired the line.

Through diligent efforts and a public-private partnership, the ND&W was able to invest enough in the Cecil to Defiance portion of the line to open it up for limited rail service last year. Even though the ND&W can only carry 5 loaded cars across the line at a time, it has proven there is both a need and demand for such service.

For example, in the first 9 months of 2017, Johns Manville in Defiance, Ohio has already moved 81 cars of traffic over the NS Woodburn interchange that formerly was handled via the CSX interchange in Defiance. Similarly, cold storage shippers, Interstate and Cloverleaf, who previously exclusively used CSX routing, have used NS for about 65% of recent moves. Despite the investments of both the railroad and its public partners, shippers on the ND&W cannot take full advantage of the dual rail option because of the track conditions on segments of the line. With the proposed TIGER Project and the ND&W's ability to handle up to 30 loaded cars anywhere on the railroad, the ND&W will be able to provide effective, efficient, competitive rail access for all of its shippers.

Improving rail logistics in the ND&W service area is especially important due to economic challenges the region currently faces. It is important that the area keep and attract the higher paying jobs that rail users generally provide. According to American Community Survey data for 2015, the median household income of all four counties in the Project area are below the national amount, as shown in Table 3 on the following page. In addition, the per capita income of all four counties is also below that of the United States for 2015, as demonstrated in Table 3.

Table 3: Project Area Economic Conditions

County	Median Household Income	Difference from U.S.	Per Capita Income	Difference from U.S.
Defiance (OH)	\$ 50,663.00	\$ 3,226.00	\$ 24,143.00	\$ 4,787.00
Paulding (OH)	\$ 45,550.00	\$ 8,339.00	\$ 23,836.00	\$ 5,094.00
Henry (OH)	\$ 53,835.00	\$ 54.00	\$ 25,205.00	\$ 3,725.00
Allen (IN)	\$ 49,092.00	\$ 4,797.00	\$ 25,770.00	\$ 3,160.00
United States	\$ 53,889.00	-	\$ 28,930.00	-

Lack of effective rail service and competitive rail rates on the rail line has been somewhat of a deterrent to the area meeting its full potential for continuing economic development. The potential for more well-paying jobs along the ND&W is tremendous.

The ND&W lies along what Indiana and Ohio officials have designated the “Fort to Port” corridor of economic opportunity. The “Fort” is Fort Wayne, approximately 17 miles west of Woodburn, Indiana, and the “Port” is the Port of Toledo, approximately 45 miles northeast of Napoleon, Ohio. Over the last three decades, Ohio has spent nearly \$410,000,000 and Indiana has spent approximately \$170,000,000, a total of about \$580,000,000 to transform US 24 from a largely 2 lane rural road to a 4 lane divided highway from I – 475 on the southwest side of Toledo to I – 469 on the east side of Ft. Wayne. From Napoleon to Defiance, US 24 provides a “front door” to the development of thousands of acres with the road on the north and the ND&W line providing the “back door” on the south with land in between slated for industrial park development. For the other sections of the line, U.S. 24 and the ND&W rail line are in very close proximity.

Unfortunately, while the “front door” of the Fort to Port corridor, U.S. 24, has been brought up to state of the art standard for highways, the “back door,” the ND&W rail line, has lagged far behind. The rail access and competition that the proposed TIGER Project would engender by returning the ND&W to a state of good repair, would provide tremendous economic potential by greatly enhancing existing economic development sites along the rail line. There are 765 currently developable acres at nine industrial parks along the ND&W line, and thousands of additional acres of potentially developable land.

The attractiveness of these industrial parks is directly related to the ability of the ND&W to effectively and efficiently serve the sites. By increasing the size of ND&W trains to 30 loaded cars, and by enabling prospective new companies to reap the benefits of competitive rail rates, the proposed Project will greatly enhance the attractiveness of area industrial development sites. Any company moving into these sites will provide tremendous economic growth, especially for residents of the area, as job opportunities become available and the local economy improves.

In addition to all the benefits previously mentioned, the proposed Project would also support and help the region to fully capitalize on a transload facility currently being built in Napoleon, Ohio.

This facility is being constructed by the ND&W to allow for rail to truck (and vice versa) transloading. For those industries without direct rail access in the area, a developed team track facility can open new markets that were not previously accessible by truck only. This improvement would provide previously unavailable rail access for industries that produce or consume commodities that move in rail quantities. Longer haul trucks are eliminated by utilizing freight rail to bring those commodities as close to the final destination as possible, with only the last few local miles hauled via truck. The results would greatly benefit all parties involved; freight savings to the shipper, additional business to the railroads, the creation of local jobs, and further reduction in carbon emissions by converting the freight to rail. The proposed Project would considerably benefit and enhance the transload facility's potential, further enhancing the economic competitiveness of the scope of the ND&W's revitalization.

D. ENVIRONMENTAL SUSTAINABILITY

Railroads are approximately four times more fuel-efficient than trucks and are able to move one ton of freight 480 miles on one gallon of fuel.⁹ Each year after the completion of the proposed Project, the railroad is estimated to use approximately 25,632 gallons of diesel fuel to deliver goods sourced to and from the companies on the line, to locations such as California and Texas.¹⁰ A switch to truck would require an additional 107,805 gallons of diesel fuel.¹¹

Any cost savings on logistics will allow shippers to pass those savings directly onto their customers. Over the next twenty years, a minimum of 2,156,100 million gallons of fuel will be saved by moving freight on the ND&W line by rail instead of truck. Based on a diesel cost of \$2.13/gallon, this will result in annual savings of \$229,624 and a 20 year present value of approximately \$2,432,647, using a 7% discount rate.¹²

These reductions in diesel fuel consumed also affect the air quality of the Project area. Diesel engines give off a significant amount of a variety of different emissions, including carbon dioxide ("CO₂"), carbon monoxide ("CO"), particulate matter ("PM"), and nitrogen oxide ("NO_x," which is a generic term for both NO and NO₂ formed during combustion), all pollutants and/or greenhouse gasses that contribute to climate change. Diesel exhaust itself is also likely to be carcinogenic to humans by inhalation and may be a cause of other respiratory health issues.¹³

⁹ See Congressional Budget Office, Social Cost Pricing in Freight Transportation, https://www.cbo.gov/sites/default/files/cbofiles/attachments/49838-Social_Cost%20_Pricing_Freight_Transportation.pdf (last visited October 16, 2017).

¹⁰ ORDC Benefits Calculator, [Appendix D](#).

¹¹ ORDC Benefits Calculator, [Appendix D](#).

¹² ORDC Benefits Calculator, [Appendix D](#).

¹³ See U.S. Dep't of Transportation, Federal Highway Administration, Chapter 2: National Freight Transportation Trends and Emissions, https://www.fhwa.dot.gov/environment/air_quality/publications/effects_of_freight_movement/chapter02.cfm (last visited October 16, 2017).

Freight truck transportation is “considerably more energy intense than rail on a ton-mile basis,”¹⁴ and is responsible for approximately 77% of all freight transportation greenhouse gas emissions.¹⁵ The freight moved by rail over the ND&W line results in a reduction of approximately 1,198 tons of CO₂ on a yearly basis.¹⁶ This reduction in CO₂ is valued at \$1,027,589 over the next 20 years using the value for a ton of CO₂ as illustrated in the TIGER NOFA BCA Appendix ([Appendix D](#)).

CO is a gas that is integral to the formation of ground-level ozone, otherwise known as smog. The rail freight associated with this Project will result in a yearly reduction of 1.27 tons of CO when compared to the same movement via truck.¹⁷ While there is no readily accepted and studied value for the benefits of a reduction of CO, myriad of health benefits due to the reduction in smog throughout the Project area is expected. Ozone is also a significant greenhouse gas, contributing to global climate change, and the reduction of CO will reduce the formation of ozone at ground level.

PM is another environmental pollutant of concern. The freight travelling the ND&W line has a net reduction of PM of approximately 0.16 tons annually.¹⁸ This has a yearly value of \$52,309, and a 20 year value of \$554,162 when using a 7% discount rate.¹⁹ A reduction in particulate matter, much like CO, also has significant health improvements to citizens in the region.

The final measured pollutant is NO_x, another important emissions group. The freight moving along the ND&W rail line is responsible for a reduction vs. truck of approximately 18.34 tons of NO_x, which has a yearly value of \$131,075.²⁰ When discounted 7% annually, the value of those NO_x savings has a cumulative value of \$1,388,610 when summed over twenty years.²¹ Total, the environmental savings of reduced diesel fuel consumption, CO₂, CO, PM, and NO_x have an annual value of \$440,654. Over 20 years, the 7% discounted value of these savings amounts to \$5,403,008. Reducing the environmental impact footprint of freight transportation is a key goal in the movement to halt climate change, and this Project will address that goal in a meaningful way, both now and in the future.

¹⁴ See Transportation Air Quality Selected Facts and Figures February 2016 https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/factbook2016.pdf (last visited October 16, 2017).

¹⁵ See U.S. Dep’t of Transportation, Federal Highway Administration, Chapter 2: National Freight Transportation Trends and Emissions, https://www.fhwa.dot.gov/environment/air_quality/publications/effects_of_freight_movement/chapter02.cfm (last visited October 16, 2017).

¹⁶ ORDC Benefits Calculator, [Appendix D](#).

¹⁷ See TIGER Benefit-Cost Analysis (BCA) Resource Guide, https://www.transportation.gov/sites/dot.gov/files/docs/Tiger_Benefit-Cost_Analysis_%28BCA%29_Resource_Guide_1.pdf (last visited October 16, 2017).

¹⁸ ORDC Benefits Calculator, [Appendix D](#).

¹⁹ See TIGER Benefit-Cost Analysis (BCA) Resource Guide, https://www.transportation.gov/sites/dot.gov/files/docs/Tiger_Benefit-Cost_Analysis_%28BCA%29_Resource_Guide_1.pdf (last visited October 16, 2017).

²⁰ ORDC Benefits Calculator, [Appendix D](#).

²¹ See TIGER Benefit-Cost Analysis (BCA) Resource Guide, https://www.transportation.gov/sites/dot.gov/files/docs/Tiger_Benefit-Cost_Analysis_%28BCA%29_Resource_Guide_1.pdf (last visited October 16, 2017).

E. QUALITY OF LIFE

No Project should move forward unless it has a positive quality of life impact for the residents who use and surround the Project. The communities where the Project spans involves three counties in Ohio and one in Indiana: Paulding, Defiance and Henry in Ohio; and Allen in Indiana. Defiance County is currently experiencing unemployment rates higher than respective State average, while both Paulding and Henry Counties are experiencing unemployment rates higher than the National average^{22, 23}. The approximately 2,832 jobs dependent on the rail users of the ND&W line are integral to providing actual economic opportunities to the communities along the rail line.

This Project will also improve the quality of life for all affected Northwest Ohio residents by reducing truck traffic, which will in turn reduce emissions and pollutants, noise pollution, and highway and road congestion.

Goods travelling via the rail Project are equivalent to 12,432 trucks and approximately 680,531 Ohio truck miles²⁴, which but for the rail infrastructure would be traversing the Northwest Ohio area highways along the Project. Eliminating these trucks and keeping them off the road will allow approximately 49,728 additional cars to use the roadways each year, allowing locals to traverse the roads to and from their daily jobs easier and safer. The immediate benefit to residents of Northwest Ohio is the significant reduction in pollutants and traffic congestion caused by trucks. This will also significantly reduce noise pollution and greenhouse gasses emitted in the Project area, further improving Northwest Ohio residents' quality of life. Congestion savings per ton mile eliminated are estimated to be valued at \$.009²⁵. Total ton-miles saved over an all-truck transportation option for the goods moved over the rail Project are 433,522,620, thus, the congestion savings of the Project are valued at \$3,901,703 yearly and \$41,334,697 over twenty years given a 7% discount rate.

Trucks create a disproportionate amount of wear on the highway system. Because of this, it is estimated that each truck removed from the highway saves \$.01 per truck ton mile of highway maintenance costs.²⁶ By removing approximately 12,432 trucks and the associated 433,522,620

²² Ohio Department of Job and Family Services, Office of Workforce Development – Bureau of Labor Market Information, “Ohio Unemployment Rates August 2017,” <http://ohiolmi.com/laus/ColorRateMap.pdf> (last visited October 16, 2017)

²³ Indiana Department of Workforce Development, “County Unemployment Rates August 2017 – Non Seasonally Adjusted,” <http://www.hoosierdata.in.gov/docs/state/mapin/2017/mapinmth08.pdf> (last visited October 16, 2017)

²⁴ ORDC has developed a Rail Benefits Calculator, in conjunction with CDM Smith in 2010, which estimates the environmental and highway maintenance savings that a given set of rail traffic is responsible. The Benefits Calculator has been attached as Appendix D and illustrates the benefits of this Project.

²⁵ See Congressional Budget Office, Social Cost Pricing in Freight Transportation, https://www.cbo.gov/sites/default/files/cbofiles/attachments/49838-Social_Cost%20_Pricing_Freight_Transportation.pdf (last visited October 16, 2017).

²⁶ See Congressional Budget Office, Social Cost Pricing in Freight Transportation, https://www.cbo.gov/sites/default/files/cbofiles/attachments/49838-Social_Cost%20_Pricing_Freight_Transportation.pdf (last visited October 16, 2017).

ton-miles from the Project corridor and nation, an additional benefit of the Project will be a reduction in highway maintenance costs. Yearly, this reduction is valued at approximately \$4,335,226, and for a twenty year period after completion of the Project is valued at \$45,927,446, using a 7% discount rate. The residents of Northwest Ohio will benefit by a diversion of those maintenance funds to projects that further enhance their transportation options.

Travel time reductions for the average highway user have not been calculated for this Project; however, due to the reduction of over 12,432 trucks from the road, creating 49,728 additional spaces for passenger cars, this is a benefit that clearly exists. Another metric that can be quantified is the reduction in number of train starts due to the increased length of trains after completion of the Project. It is estimated that train starts will be reduced by 25-50 starts yearly, and that this will result in the savings of an additional 8,000 gallons of diesel, a value of \$17,040 annually.²⁷

F. SECONDARY EVALUATION CRITERIA

1. Innovation

This Project combines the efforts of a regional planning organization, MVPO (the applicant and grant recipient), and the ND&W (a private railroad) in an effort to receive a TIGER grant. This arrangement requires agreements amongst the parties, including a Public Private Partnership agreement between MVPO and the ND&W to allocate the duties of applying for the grant, construction oversight, monitoring and invoicing requirements, and reporting duties during and after construction. With MVPO's continued involvement in many of the communities along the railway, it is anticipated that quality of life factors will be ensured during this process. MVPO will keep working with communities to make improvements to infrastructure and support community development ventures.

There are several brownfield sites along railways in the region, all in different phases of remediation. The revitalization of the ND&W line will encourage redevelopment and cleanup of these sites. This will in turn encourage greater economic opportunities and boost sustainability efforts in reuse and infill development.

While rail construction and rail infrastructure has remained largely the same over the past century and longer, the methods to fund this infrastructure have changed significantly, and this Project is another step in that evolution.

2. Partnership

The partnership between MVPO and ND&W will create numerous benefits to the region at large. MVPO works with communities and private businesses routinely across the five-county region. MVPO as the grant recipient is uniquely positioned to administer the TIGER grant, as the organization has been writing and administering grants for decades. In addition, Maumee Valley

²⁷ Discussions with ND&W, April 20, 2016.

Planning is also designated as a Regional Transportation Planning Organization by ODOT and is accustomed to large transportation and infrastructure projects. MVPO counts many partnerships within its long history that have been involved in the development of this grant application. The TIGER Project would not be possible without significant support from the Defiance County Economic Development Office, the Henry County Community Improvement Corporation, the Paulding County Economic Development Office, and all of the County Commissioners, along with our other local business partners ([see Appendix E for letters of support](#)). All of the parties involved are committed to making the ND&W line a focal point of development efforts in the area.

Expanding industrial corridors along the railway is of great importance to MVPO and its partners, as the organization strives to create investments in the region to bolster quality of life and livability. The revitalization of the ND&W line will inevitably continue the investment in the region, through providing greater economic opportunities, supporting sustainable efforts in reducing emissions, and encouraging greater quality of life for residents. MVPO will continue to partner with organizations and entities that seek to strengthen the region's assets and communities.

PROJECT READINESS

The proposed Project will be ready to move forward quickly after the grant is awarded. The Project is very feasible both technically and from a financial standpoint, as the work to be done includes replacement of ties and upgrading surface, rail replacement, track rehabilitation, necessary switch improvements, and other track rehabilitation, and all matching funds are committed. The proposed improvements will all take place within ND&W-owned right of way, so no right of way will need to be acquired as part of this Project. ND&W has already committed matching funds in the amount of \$1,200,000 and no other agreements or approvals related to financing the Project are pending. ND&W has committed to covering any cost overrun that the Project may experience. (See [Appendix C](#), MVPO's Public Private Partnership agreement with ND&W).

The Project schedule follows a typical construction season in Ohio and Indiana. Based upon a timely grant award and a notice to proceed, the anticipated start date is January 1, 2018 and the entire Project can be completed by no later than October 31, 2018. (See [Appendix F](#), the Project's Gantt chart, for further details on construction timelines.) This timeline can be adjusted depending on when the notice to proceed would be issued. The table below shows major milestone dates based on the current project schedule.

Table 4: Project Schedule

Milestone	Period of Time to Complete	Anticipated Date of Completion
Procurement	60 Days	March 1, 2018
Rail and OTM Deliveries	46 Days	April 10, 2018
Tie Unloading	63 Days	May 1, 2018
Tie Distribution	63 Days	May 1, 2018
Rail and OTM Distribution	56 Days	June 12, 2018
Tie Installation	91 Days	July 1, 2018
Rail and OTM Installation	112 Days	August 7, 2018
Tie Disposal	56 Days	August 21, 2018
Ballast Deliveries	145 Days	September 25, 2018
Ballast Unloading	131 Days	September 25, 2018
Tamping and Regulating	126 Days	October 16, 2018
MOW & Signal Support	243 Days	October 31, 2018

A draft environmental document for a Categorical Exclusion was completed by the ORDC, and as soon as funding is awarded and a grant agreement executed, the Project will be added to Ohio's Statewide Transportation Improvement Program (STIP) and the environmental document will be approved (See [Appendix G](#)). Coordination with the Indiana Department of Transportation is also occurring to obtain a Categorical Exclusion for the rehabilitation work between Woodburn, Indiana and the Ohio-Indiana border. The environmental clearance process will be able to be finalized immediately after funding is secured.

The full benefit-cost analysis is located in [Appendix D](#). Not including the private benefits accrued to the railroad for reduced transportation costs due to increased speeds on the line, the total 20 year discounted public benefits of the Project are \$97,667,677, 8.13 times the \$12,000,000 Project cost.