TIGER VIII Submission

Ohio Rail Development Commission
Napoleon, Defiance, and Western Railway

http://www.dot.state.oh.us/Divisions/Rail/Pages/NDW-2016-TIGER.aspx
Executive Summary

The Ohio Rail Development Commission (“ORDC”) respectfully requests TIGER VIII funds to 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 VIII application is to rehabilitate approximately 46 miles of the ND&W’s rail line between Napoleon, Ohio and Woodburn, Indiana (the “Project”). ORDC and the ND&W seek $8,160,000 of TIGER funds to match $3,840,000 of ND&W funds to complete the Project. The Project has significant local and regional benefits, helps to create Ladders of Opportunity for the local residents, and closes a significant infrastructure deficit created by the years of deferred maintenance of the rail line.

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

- Generating, overall, $97,000,000 of quantifiable public benefits over a 20 year period when discounted at 7%;
- Improving Ladders of Opportunity for local residents due to a myriad of employment, environmental and congestion benefits;
- 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 $3,840,000;
- 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 US 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 VIII grant would help advance a project that serves the local and regional population through enhanced transportation options and Ladders of Opportunity, enhances the competitiveness of companies on the line so that they expand and grow in the community, and reduces harm to the environment by keeping trucks off the road. The Project is estimated to accrue over $97,000,000 of benefits over a 20-year period and remedies an infrastructure deficit inherited from the previous owners. The Project is ready to proceed as soon as funding is awarded, and the benefits of the Project fit into the goals of the TIGER program.
Project Description

The Project proposed would rehabilitate a 46 mile segment of rail line, extending from Woodburn, Indiana (near milepost 79.0) to Napoleon, Ohio (near milepost 33.4) (the “Project”).¹ The application seeks $8,160,000.00 (68% of the total $12 million Project Costs) to replace ties/upgrade surface, replace rail, rehabilitate track, make necessary switch improvements, and other track rehabilitation. Standard engineering approaches for railroad track rehabilitation projects will be followed, 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 is attached as Appendix G. 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 below, under “Project Readiness.”

The proposed Project will provide Ladders of Opportunity to existing and future users of the ND&W line by eliminating track deficiencies that currently preclude the ND&W from connecting to both Norfolk Southern (“NS”) in Woodburn, Indiana, and CSX in Defiance, Ohio. ORDC submits 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.

¹ The entire ND&W line is approximately 50.3 miles long; however, approximately 4.8 miles of the line does not serve any active industries. No funding is requested for that segment of the line and rehabilitation and revitalization of that segment is not included in this TIGER VIII grant application.
**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 442,195 people. The rail line parallels US 24, the “Fort to Port” corridor connecting Fort Wayne, Indiana and Toledo, Ohio. (See Selection Criteria for further details on US 24’s role in shaping economic competitiveness.) Maps depicting the entire ND&W line, the Project area, and the location of US 24 relative to the rail line are shown as Figures 1 and 2. A larger format aerial view of the Project location and a map of shipper and interchange locations are attached as Appendix A.

This Project will take place entirely within rural areas. Defiance is the largest city in the Project area with a population of 16,484 people. The City of Defiance and Defiance County are considered a micropolitan statistical area by the Office of Management and Budget, 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. Urban clusters are considered rural based on TIGER VIII 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.

This Project is located in Ohio’s 5th Congressional District and Indiana’s 3rd Congressional District. See Appendix D for support letters from Congressman Robert E. Latta (representing Ohio’s 5th Congressional District) and Senator Rob Portman of Ohio.

![Figure 1: Project Area and Region](image-url)

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3 Ibid.


Figure 2: Project Area Detail

NDW Project Area

IN

INDIANA

OHIO

DEFIANCE

CSXT

US 24

Defiance, OH

Napoleon, OH

ND&W Project Area

US 24

NS

Woodburn, IN

ALLEN

PAULDING

HENRY

OHIO

INDIANA
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 Liberty Center, Ohio westbound along US 24 to Woodburn, Indiana, spanning approximately 50 miles. The ND&W inherited deferred maintenance problems along with the challenges 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 through the first two months of 2016 have moved 317 carloads.

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 has also partnered with the ORDC for three significant projects (see Figure 3): 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 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. 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.

Because of the projects identified above, the ND&W and ORDC have a proven track record with regards to the delivery of public private partnerships, and both parties expect all rehabilitation to be completed on time and in a manner consistent with all applicable requirements. There are no significant obstacles to completion of this Project.

Ohio Rail Development Commission — The grantee and public sponsor of this TIGER VIII application, the ORDC is an independent agency of the state within the Ohio Department of Transportation. The ORDC administers rail grade crossing safety and economic development projects for the State. ORDC has extensive experience in administering federal funding for rail infrastructure projects including the administration of the State’s FHWA Section 130 Program and the administration of the $98,000,000 TIGER I CSX National Gateway Clearance Project, which eliminated vertical clearance obstructions along a four-state corridor between North Baltimore, Ohio and Chambersburg, Pennsylvania.
Grant Funds, Sources and Uses

The Project funding breakdown is shown in Table 1 below.

Table 1: Grant Share Breakdown

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIGER VIII</td>
<td>$8,160,000</td>
<td>68%</td>
</tr>
<tr>
<td>ND&amp;W</td>
<td>$3,840,000</td>
<td>32%</td>
</tr>
<tr>
<td>Total</td>
<td>$12,000,000</td>
<td>100%</td>
</tr>
</tbody>
</table>

The Project will be fully funded upon award of a TIGER VIII grant. All of the above funds will be expended on constructing the items in the scope of work attached in Appendix G. The ND&W has committed $3,840,000 of private funding to complete the Project. The ND&W will also 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 ORDC attached as Appendix B.

Immediately upon receiving an award letter and signing a USDOT Grant Agreement, the Project will be ready to move forward, with all funding committed.
Selection Criteria

A. State of Good Repair

Like many shortline railroads around the country, the ND&W inherited decades of deferred maintenance of the rail line. 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, 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 railfans in the area, which are available on the Project website: http://www.dot.state.oh.us/Divisions/Rail/Pages/NDW-2016-TIGER.aspx. 7

In December 2012, when the ND&W took control of the line, track conditions on the line 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 the 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 State Line to Napoleon 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.

However, the ND&W 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 handle. The proposed $12 million TIGER Project will put the active 46 miles of the ND&W into a state of good repair. 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 to the other in Napoleon.

The ND&W has the physical means to complete portions of the work and keep the line in a state of good repair. 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.

B. Economic Competitiveness Ladders of Opportunity

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 Ladders of Opportunity 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 (see Table 2).

### Table 2: ND&W Rail Users

<table>
<thead>
<tr>
<th>Rail User</th>
<th>Location</th>
<th>Jobs</th>
<th>Commodities</th>
<th>Inbound / Outbound</th>
<th>3 Year Average Carloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag Plus</td>
<td>Woodburn, IN</td>
<td>9</td>
<td>Fertilizer</td>
<td>Inbound</td>
<td>18</td>
</tr>
<tr>
<td>Advanced Drainage</td>
<td>Napoleon, OH</td>
<td>36</td>
<td>Plastics</td>
<td>Inbound</td>
<td>26</td>
</tr>
<tr>
<td>Lafarge Cement</td>
<td>Cecil, OH</td>
<td>100</td>
<td>Cement</td>
<td>Outbound</td>
<td>96</td>
</tr>
<tr>
<td>Systech Environmental</td>
<td>Cecil, OH</td>
<td>20</td>
<td>Hazmat Waste</td>
<td>Inbound</td>
<td>143</td>
</tr>
<tr>
<td>Johns Manville</td>
<td>Defiance, OH</td>
<td>651</td>
<td>Various</td>
<td>Inbound</td>
<td>487</td>
</tr>
<tr>
<td>Interstate/Cloverleaf (Transload for Campbell's Soup Company)</td>
<td>Napoleon, OH</td>
<td>1908</td>
<td>Tomato Paste</td>
<td>Inbound</td>
<td>1342</td>
</tr>
<tr>
<td>Glycerin Traders</td>
<td>Defiance, OH</td>
<td>14</td>
<td>Glyceride</td>
<td>Outbound</td>
<td>16</td>
</tr>
<tr>
<td>Oldcastle</td>
<td>Napoleon, OH</td>
<td>80</td>
<td>Plastic Resins</td>
<td>Inbound</td>
<td>40</td>
</tr>
<tr>
<td>Republic Mills</td>
<td>Okolona, OH</td>
<td>14</td>
<td>Flour</td>
<td>Inbound</td>
<td>59</td>
</tr>
<tr>
<td>Other Miscellaneous</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td>74</td>
</tr>
<tr>
<td><strong>Total Jobs</strong></td>
<td><strong>2832</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Carloads</strong></td>
<td><strong>2301</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The 2,301 carloads in 2015 represents 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 (See Figure 4).

Rail to rail competition can make a significant 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 ORDC 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 points 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. See Appendix A for a map of interchanges and communities on the rail line.

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 3 months of 2016, Johns Manville in Defiance, Ohio has already moved 16 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 50% 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. The average median family income of all four counties in the Project area are well below the national average as shown in Table 3.

<table>
<thead>
<tr>
<th>County</th>
<th>Median Family Income</th>
<th>USA Mean Family Income</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defiance (Ohio)</td>
<td>$48,853</td>
<td>$53,482</td>
<td>$4,629</td>
</tr>
<tr>
<td>Paulding (Ohio)</td>
<td>$45,204</td>
<td>$53,482</td>
<td>$8,278</td>
</tr>
<tr>
<td>Henry (Ohio)</td>
<td>$52,526</td>
<td>$53,482</td>
<td>$956</td>
</tr>
<tr>
<td>Allen (Indiana)</td>
<td>$49,124</td>
<td>$53,482</td>
<td>$4,358</td>
</tr>
</tbody>
</table>
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 proposed TIGER Project would provide Ladders of Opportunity by greatly enhancing that potential.

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 in Toledo to I – 469 in 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, US 24 and the ND&W rail line are in very close proximity.

Unfortunately, while the “front door” of the Fort to Port corridor, US 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 Ladders of Opportunity 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 additional Ladders of Opportunity for area residents, due to additional jobs being created.

C. Quality of Life

No Project should move forward unless it has a positive quality of life improvement for the residents who use and surround the Project. The communities the ND&W Project will take place in involve three counties in Ohio and one in Indiana: Paulding, Defiance and Henry in Ohio; and Allen in Indiana. Three of these four counties are currently experiencing unemployment rates higher than respective State average.8,9 The approximately 2,832 jobs at the rail users on the ND&W line are integral to helping provide effective Ladders of Opportunity 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.

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Goods travelling via the rail Project are equivalent to 12,432 trucks and approximately 680,531 Ohio truck miles\textsuperscript{10}, 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 local citizens 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 \$0.009.\textsuperscript{11} 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 \$0.01 per truck ton mile of highway maintenance costs.\textsuperscript{12} By removing approximately 12,432 trucks and the associated 433,522,620 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 can 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.\textsuperscript{13}

### 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.\textsuperscript{14} Each year after the completion of the 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.\textsuperscript{15} A switch to truck would require an additional 107,805 gallons of diesel fuel.\textsuperscript{16}

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.\textsuperscript{17}

\textsuperscript{10} 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 C and illustrates the benefits of this Project.


\textsuperscript{13} Discussions with ND&W, April 20, 2016.


\textsuperscript{15} ORDC Benefits Calculator, Appendix C.

\textsuperscript{16} ORDC Benefits Calculator, Appendix C.

\textsuperscript{17} ORDC Benefits Calculator, Appendix C.
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 ("NOx" which is a generic term for both NO and NO₂ formed during combustion), all pollutants and/or greenhouse gases 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.¹⁸

Freight truck transportation is “considerably more energy intense than rail on a ton-mile basis,”¹⁹ and is responsible for approximately 77% of all freight transportation greenhouse gas emissions.²⁰ 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.²¹ 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 VIII NOFA BCA Appendix.

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.²² While there is no readily accepted and studied value for the benefits of a reduction of CO, numerous 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.²³ This has a yearly value of $52,309, and a 20 year value of $554,162 when using a 7% discount rate.²⁴ A reduction in particulate matter, much like CO, also has significant health improvements to citizens in the region.

The final measured pollutant is NOₓ, 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 NOₓ, which has a yearly value of $131,075.²⁵ When discounted 7% annually, the value of those NOₓ savings has a cumulative value of $1,388,610 when summed over twenty years.²⁶

Total, the environmental savings of reduced diesel fuel consumption, CO₂, CO, PM, and NOₓ 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.

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²¹ ORDC Benefits Calculator, Appendix C.
²³ ORDC Benefits Calculator, Appendix C.
²⁵ ORDC Benefits Calculator, Appendix C.
E. Safety

Rail is a significantly safer freight transportation mode than truck. For the period 2001-2009, freight transportation via truck had a per million ton-mile fatality rate over 700% higher than rail freight transportation.\textsuperscript{27} 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. Via the ORDC Benefits Calculator, 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.\textsuperscript{28} Over a 20 year period, when discounted 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. 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. 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.

F. Secondary Evaluation Criteria

1. Innovation

This Project combines the efforts of a State Rail Agency, ORDC (the applicant), and the ND&W (a private railroad) in an effort to receive a TIGER VIII grant (a federal grant). This arrangement requires numerous agreements amongst the parties, including a Public Private Partnership agreement between ORDC 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. While this arrangement is hardly unique, it does continue ORDC’s longstanding efforts at multi-agency, multi-jurisdiction coordination, which has previously included Norfolk Southern’s Heartland Corridor, and CSX’s National Gateway (the recipient of a TIGER I grant). Both projects were successfully completed and are benefiting Ohio and the eastern US at this time. 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

As mentioned earlier, ORDC and the ND&W have partnered numerous times on other projects and have partnered once again for this application. ORDC has contributed $2,100,000 in grant and loan financing to the ND&W for a series of successful projects beginning in early 2013. In addition, this TIGER Project would not be possible without significant support from the Defiance County Economic Development Office, many regional and local partners listed in Appendix D, and the Ohio Department of Transportation.\textsuperscript{29} All of the parties involved plan to continue to make the ND&W line a focal point of development efforts in the area.


\textsuperscript{29} Letters of support are also available on the Project’s website.
This Project is also the continuation of the Fort to Port project between ODOT, ORDC and the various community stakeholders. US 24 is a major shipping route in Northwest Ohio, with trucks representing one third of the traffic. In 2008, ODOT began the process of turning US 24, previously a two-lane rural route, into a four-lane divided highway from Maumee, Ohio in the east to the Ohio-Indiana border in the west, where it connected with an identical project undertaken by Indiana DOT to widen US 24 from the Ohio-Indiana border to I-469 in Ft. Wayne. This project is now complete. For much of its length, the ND&W closely tracks US 24, and sites along the rail line would have excellent access to the new divided highway, making them extremely attractive development sites. The ND&W Project helps leverage and better utilize the $580,000,000 total investment in the Fort to Port project by enhancing transportation options for businesses who wish to locate in the corridor.
Benefit-Cost Analysis

The full benefit-cost analysis is located in Appendix C. 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.
Project Readiness

The Project will be ready to move forward quickly after the grant is awarded. ND&W has already committed matching funds 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 B, ORDC’s Public Private Partnership agreement with ND&W.) The Project schedule follows a typical construction season in Ohio and Indiana. Based upon a grant award and go-ahead letter in October 2016, the anticipated start date is March 1, 2017 and the entire Project can be completed by no later than October 31, 2017. (See Appendix E, the Project Schedule, for further details on construction timelines.)

ORDC has completed a draft environmental document for a Categorical Exclusion, and as soon as funding is awarded and a grant agreement executed, the Project will be added to Ohio’s Statewide Transportation Improvement Program and the environmental document approved (See Appendix F). ORDC is also coordinating with the Indiana Department of Transportation 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.