TIGER DISCRETIONARY GRANT APPLICATION

UPPER MIDWEST TRANSPORTATION HUB MANLY, IOWA

A rural infrastructure project for a truck/rail intermodal facility in Manly, IA serving northern Iowa and southern Minnesota.

Grant Funds Requested: $7,100,000

Supporting Documents: www.iowadot.gov/tiger15-freight

FY 2015

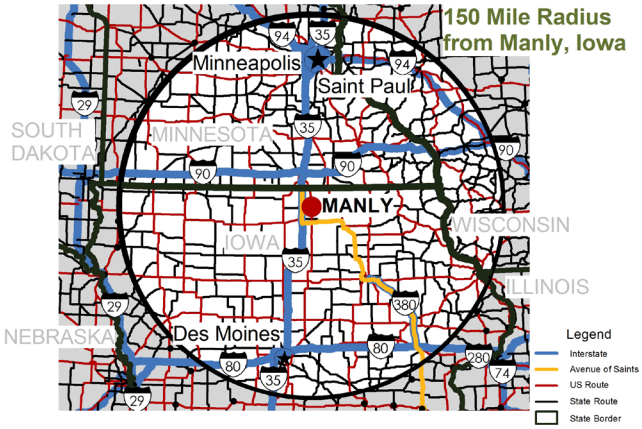
USDOT TIGER

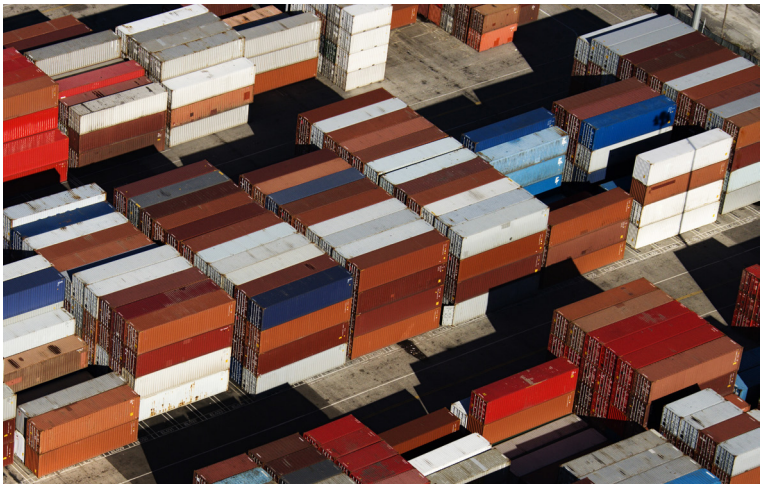
DOT.GOV

Lead applicant:
Iowa Department of Transportation

IOWA DOT

Partnering agencies:
Minnesota Department of Transportation
Worth County





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Changes in this application from original pre-application

Item	Pre-application	Application
TIGER Request	$7,000,000	$7,100,000
Total Project Cost	$15,000,000	$16,165,138
Total Federal Funding	$7,000,000	$7,100,000
Total Non-Federal Funding	$8,000,000	$9,065,138

Executive Summary

This TIGER grant application is for infrastructure construction for the Upper Midwest Transportation Hub (UMTH) project at Manly, Iowa. The project consists of a full-service regional intermodal facility with equipment for loading/unloading containers on railcars and trucks, track infrastructure, a container staging area, and security systems to support the operation.

Figure 1-Strategic location of the UMTH in the Upper Midwest

Objective: The project presents an opportunity to transform the way in which products are shipped in the Upper Midwest. This innovative solution to an intermodal service dilemma promotes regional economic development in the Upper Midwest.
Currently, shippers and receivers of freight in the region have limited access to intermodal service. The north central Iowa location will draw customers from a 150-mile radius or beyond encompassing north central Iowa, southern Minnesota, and a small portion of western Wisconsin with a population of over 7 million. The UMTH will be an independent full-access facility located on a rural short line railroad that interchanges with four railroads (including three Class I railroads) and through other routing alternatives with the remaining four Class I's. The UMTH is near the I-80, I-35, I-90 and I-94 corridors for convenient highway access.

Request: The Iowa Department of Transportation along with the Minnesota DOT and Worth County, Iowa as partnering agencies request a grant of **$7,100,000 or 46 percent** for completion of the UMTH. Matching private funds of **$9,065,138 or 56 percent** are pledged for the cost of the improvement. The project is in a state of readiness and leverages prior continuous public-private investments. The UMTH is the next phase in the development of an existing transportation campus where support services, a fully rehabilitated rail yard and other transportation infrastructure already exist.

Statement of Work: The project request includes construction of infrastructure for a full service intermodal facility and container yard, including a second loop track, loading/unloading tracks, earthwork, pavement, security systems and acquisition of lift equipment and other components.

Transforms the transportation landscape of the Upper Midwest

- **Fills a regional void in intermodal transportation**
- **$781,800,000 in total benefits**
- **Benefits exceeding five times the cost**
- **Payback in less than two years**
- **Lowers shipping costs & develops workforce**

Benefits: The following table summarizes many of the long-term benefits that will accrue with completion of the UMTH.

Table 1 – Long Term Outcomes and Benefits	
State of Good Repair:	• The UMTH will be a state-of-the-art fully functional independent intermodal center with full access to the United States' vast rail and highway network. • Prior private and public investments at the site provide the infrastructure and operational foundation for a limited investment. • UMTH will encourage more short-haul trucking by cutting heavy truck miles on the highway system and, reducing highway maintenance and rehabilitation costs.
Economic Competitiveness	• Reduces transportation costs for intermodal shipments, increasing profitability for regional producers. • Increases access to both domestic and export markets that were previously unavailable or cost prohibitive for the region. • Encourages competitive pricing because of the multiple rail connections available. • Mitigates an emerging trucking capacity shortfall. • Facilitates the growth of agricultural exports from a prime agricultural area. • Provides a better shipping option for identity-preserved grains, origin identified foods and dried distiller's grain (an ethanol by-product.) • Encourages regional growth in warehousing and distribution centers. • Grows access to competitive paying jobs for the regions residents. • Revitalizes communities through more economic activity in a rural region where many disadvantaged areas exist.
Quality of Life	• Increases time savings for motorists by removing heavy trucks from highways. • Promotes more short-haul trucking, which is more attractive to today's workforce and will help recruit additional truck drivers to the profession. • Produces safer, more lifestyle friendly trucking jobs to enhance family and community life.
Environmental Sustainability	• Decreases fossil fuel dependence and reduces emissions due to fewer truck miles and more efficient rail miles. • Avoids adverse environmental impacts by using an existing site and existing rail lines.
Safety	• Increases safety with the modal shift from truck to rail.
Innovation	• Employs state-of-the-art traffic modeling to verify assumptions on the lift volumes and truck miles saved. • Uses a regional approach to solve a problem affecting thousands of shippers.
Partnership	• Leverages strengths of public/private partnerships. • Broad based support from state, local and private entities.
Readiness	• The project is "shovel ready" and can be completed quickly.

Conclusion: Approval of a TIGER grant for the UMTH grant will transform the transportation landscape of the Upper Midwest. Access to new markets, lower transportation costs and increased economic growth will benefit shippers, communities and individuals in this broad, primarily rural, region and leverage a significant private investment.

The Iowa Department of Transportation (Iowa DOT), the Minnesota Department of Transportation (MnDOT) and Worth County, Iowa in coordination with other state agencies and a variety of regional stakeholders, is grateful for the opportunity to present this application for a TIGER Discretionary Grant pursuant to the Consolidated and Further Continuing Appropriations Act, 2015.

The Iowa DOT is the lead applicant and MnDOT and Worth County are partnering agencies in this application. The Iowa Northern Railway (IANR)/UMTH, LLC are project partners and will be sub-recipients of any grant funds awarded. As the lead agency, the Iowa DOT will disperse any grant funds to the sub-recipients through an agreement. The applicant is confident the project can meet all local, state, and federal requirements in order to obligate funds well in advance of September 30, 2017.

Because the benefits of this project accrue to a multi-state area, the project is uniquely suited to a TIGER grant, since limited state funds from either Iowa or Minnesota prevent the completion of this project without a TIGER Discretionary Grant.

Both the Iowa DOT and Worth County have earlier investments in rail infrastructure that make the UMTH more cost effective to develop. Immediate benefits are expected with this investment because previous infrastructure investments have built a foundation for the addition of the UMTH.

1.0 Project Description

1.1 Project Summary

The Upper Midwest Transportation Hub (UMTH) is a full-service regional intermodal facility with equipment for loading/unloading containers on railcars and trucks and associated support infrastructure. By not handling the freight when changing modes, the process reduces cargo handling, improves security, reduces damage and loss, and allows freight to be transported faster.

1.1.1 Users of the Facility

The UMTH will serve communities within a 150-mile radius of Manly (see Fig. 2) by providing intermodal freight transport capabilities. The 150-mile radius contains a population of over 7 million. The area includes north central Iowa, south central Minnesota, a small portion of Wisconsin and reaches nearly to the South Dakota border. The area includes Des Moines, Iowa (pop. 600,000), Minneapolis/Saint Paul, Minnesota, (pop. 3.4 million), as well as the following communities that exceed 50,000 in population: Rochester and Lakeville, Minnesota; Cedar Rapids, Waterloo, Ames, Dubuque, and Iowa City, Iowa; and LaCrosse and Eau Claire, Wisconsin. A larger and more detailed is map included as Appendix A.

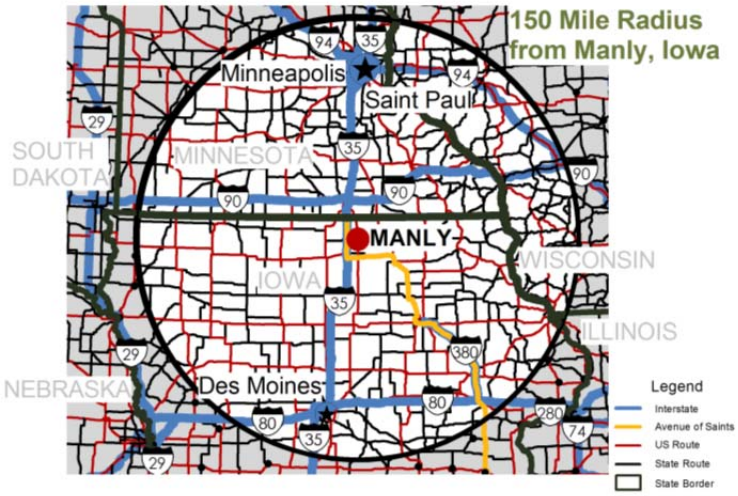


Figure 2 - Area served by UMTH

The service area for the facility may reach well beyond the identified region, but all analysis and projections have been done conservatively on a 150-mile radius service area. In reality, if a manufacturer in Sioux Falls, South Dakota (outside the identified region) has the choice of trucking a container 570 miles to Chicago, 1600 miles to California or 200 miles to Manly, the UMTH likely would be the best choice.

Users of the facility will have new access to intermodal services that can broaden the international and domestic markets open to them and reduce shipping costs, having a positive impact on the value of regional commodities and manufactured goods.

> This project will benefit John Deere, our dealers, and our customers greatly given the need for more efficient intermodal transportation options in the Midwest. We also have several manufacturing facilities and dealer locations within a 150 mile radius of the proposed hub.
>
> *John Deere*

MnDOT and Worth County, IA have joined with the Iowa DOT (the lead applicant) in this application. The benefits of the proposed intermodal facility, located approximately 16 miles south of the Iowa/Minnesota border, clearly will benefit both states as part of a regional solution to limited intermodal transportation options. Worth County has identified this location as a priority for future industrial development and is aggressively marketing the location.

1.1.2 Transportation Challenges

Lack of Intermodal Service within Region

The region served by UMTH suffers from a lack of nearby intermodal infrastructure and service. In 1980, Iowa had *23 facilities* located in 15 cities that were capable of handling intermodal containers or trailers on flat car. Today, trends toward larger intermodal centers in major metropolitan areas have reduced that to one - a single facility located on the western border of the state in Council Bluffs, which is approximately 250 miles southwest of Manly. Minnesota has only the intermodal facilities in the Twin Cities.

The Iowa DOT's Freight Advisory Council (FAC) has identified a lack of intermodal and transload facilities as one of the seven major challenges facing freight movement in Iowa. *Challenges and Options for Improved Freight Movement in Iowa*, prepared on behalf of the FAC, is attached as Appendix B.

> Having intermodal capability in Iowa would support our Midwest manufacturing and distribution operations in Middle Amana and North Liberty, Iowa. The UMTH would allow Whirlpool to avoid costly drayage to Chicago and other more distant intermodal facilities.
>
> *Whirlpool Corporation*

Now, a manufacturer or producer in northern Iowa or southern Minnesota shipping to California typically must pay to dray an empty container from Chicago (nearly 400 miles). When the container is filled, the shipper must pay to truck the filled container back to Chicago. There the container is loaded onto a container train destined for California. Despite the containers commonly moving *through* Iowa from Chicago, there is no local access to directly load those containers on a train destined for California. The additional truck movements can increase the cost to a shipper by up to $1,200 per container. The alternative is to directly truck the product to California, nearly 1,900 miles, generally at a premium cost.

The availability of efficient international and domestic containerization of freight is becoming increasingly important to producers and shippers. Access to broader national or global markets and cost effective intermodal options are a key factor in locating a new business or expanding an existing one. “Transportation Infrastructure” ranks first on site selectors’ list of most important location criteria. The development of a full service intermodal facility to serve the Upper Midwest region will help preserve existing industries by providing better logistical solutions and enhance the ability of the region to attract new industry. Without more efficient intermodal transportation, the Upper Midwest is subject to growing economic risk and possible decline.

Recently, source documentation for food products and product ingredients has become more crucial. The identification of genetically modified grains and organically grown foods is increasingly important to consumers and export recipients. Without a cost effective intermodal alternative, the higher shipping costs will harm agricultural producers. The current limited access particularly harms the smaller producers who target niche markets as a way to diversify risk, meet a growing market demand, and make a living on smaller farms.

Container imbalance

Iowa is a small-consumption state from a global trade standpoint, so it has an imbalance of inbound vs. outbound international shipping containers. According to U.S. Census Bureau data, the 2011 ratio of non-bulk international commerce (statewide) in Iowa is 1:3, inbound to outbound. This creates a severe shortage of empty containers available to Iowa producers. Empty containers must be shipped or drayed into Iowa to meet the demand.

Minnesota’s international commerce is the direct opposite of Iowa’s and is a large consumption state. The 2011 ratio of non-bulk international commerce (statewide) in Minnesota is 6:5, inbound to outbound. Using a regional approach with markets both in Iowa and Minnesota, the Manly location can take advantage of market share, bringing the container balance to an almost even match 1:1 inbound to outbound.

Table 2 - Extrapolated Import and Export Value Ratios

Value of international Commerce (in millions of dollars)

	Imports	Exports	Imports:Exports
Iowa intermodal	1,494	2,896	1:3
Minnesota intermodal -	5,668	4,665	6:5
Combined Intermodal IA/MN	7,162	7.561	7.2:7.6 or (1:1)

Source: U.S. Census Bureau Foreign Trade Statistics, 2011

An efficient and independent regional intermodal terminal at Manly can draw inbound and outbound container loads from a widespread region including much of northern Iowa and southern Minnesota. By capitalizing on this balance of containers within the Upper Midwest region, shippers can eliminate a competitive disadvantage and gain better access to the containers they need.

Trucking industry capacity shortages

The region served by the UMTH currently has an over-reliance on long and medium range trucking (either to a final destination or the Chicago area.) Current and growing capacity constraints in the trucking industry are anticipated to have a major negative impact on shippers. As freight volumes grow, the capacity constraints are only expected to worsen.

The American Truck Association (ATA) currently estimates a driver shortage, or unfilled seats, at between 35,000 and 40,000, but growing rapidly to a shortfall of 239,000 drivers by 2022.

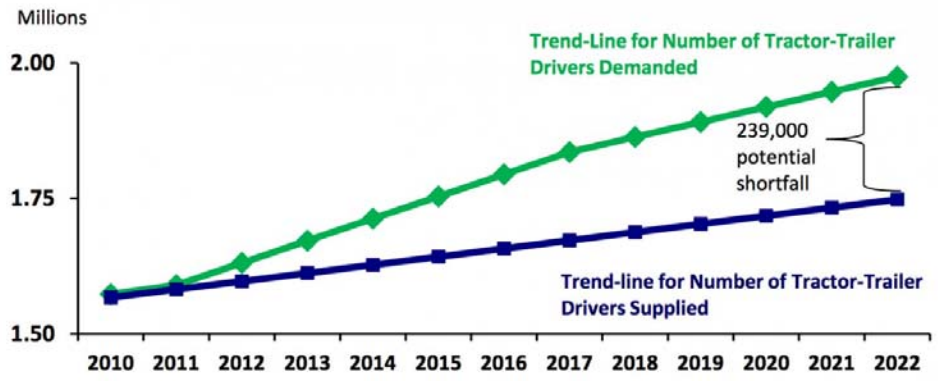


Figure 3- Projected Trends in Truck Driver Availability

The Iowa DOT's FAC has identified driver shortages as one of the seven major challenges facing freight movement in Iowa. *Challenges and Options for Improved Freight Movement in Iowa*, prepared on behalf of the Iowa DOT's FAC is attached as Appendix B.

In a region that relies heavily on trucking, the anticipated driver shortage could cripple the economy of the region, leaving shippers with no or few options to transport their goods.

There are a number of issues that contribute to the current driver shortage, *none of which are easily or quickly remedied.*

- Aging driver population.
- Relatively low pay for drivers.
- Changes in federal hours of service regulations.
- High turnover rates affect the availability and reliability of service, as well as added costs as new employees must be continually trained.
- Clean driver and criminal records limit the candidates qualified as drivers.
- Trucking is a dangerous occupation with fatality rates 11 times higher when compared with the general population.
- Driving is considered an unhealthy lifestyle associated with emotional and psychological problems.
- Cultural shifts make home and family more important, especially to younger workers. Drivers who are away from home miss significant family events, feel disengaged from family members and have strained relationships. Long hours away from home also affect an individual's ties and involvement in the community.

By diverting long-haul moves to intermodal and eliminating the current dray to Chicago (or elsewhere) for a portion of shippers, the current capacity in the regional trucking industry can be extended. By partnering with trucking firms to develop shorter haul fleets, the recruitment of new drivers will be enhanced. UMTH will create an environment where the rail and truck industry can work together to mitigate truck capacity issues.

The Iowa Motor Truck Association recognizes the severity of the truck capacity shortfall and is supportive of the UMTH project. A letter of support is included in Appendix H.

Flexible access to worldwide markets

Minneapolis/St. Paul has intermodal service, but only on direct lanes to the coasts of Canada and the U.S. Pacific Northwest via Canadian Pacific Railway (CP) or BNSF Railway (BNSF). Minneapolis lacks direct intermodal service to/from Texas/Mexico, California and the U.S. East Coast. The intermodal facilities in the Twin Cities are land locked with little room to increase capacity and are located on congested urban streets.

Figure 4 - Direct intermodal lanes from the Minneapolis area

The greatest volumes of commerce for Iowa and Minnesota are to those markets - Texas/Mexico, California and U.S. East Coast. Products typically enter the international intermodal network at Chicago for these destinations. **No direct, competitive, time-sensitive intermodal service to these points exists today from the region.**

With the expansion of the Panama Canal, more containers are expected at U.S. East Coast ports from Asian markets. UMTH can be reached through Class I railroad interline agreements. The growing volume at eastern ports will be able to access the Upper Midwest directly by rail instead of unloading in Chicago and draying freight by truck to the Upper Midwest.

The UMTH facility will broaden the reach of Upper Midwest agricultural, food, and manufactured products, while providing easier and cheaper access to containerized consumer goods. The multiple railroad connections offered by IANR to the UMTH will provide nationwide access, as well as to intermodal facilities in Canada and Mexico, our NAFTA trade partners (see Fig. 5)

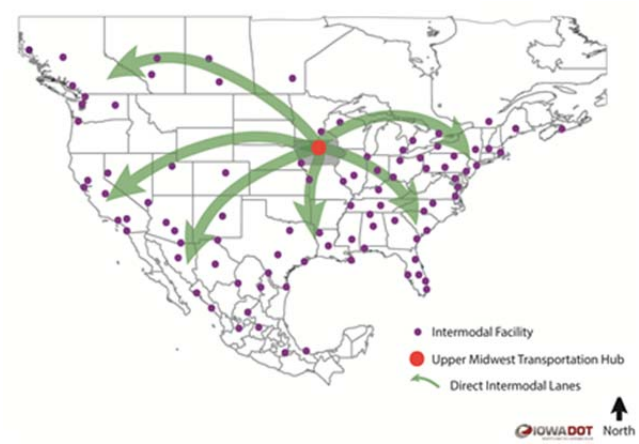


Figure 5 - Intermodal lanes available to IMTH

Many potential shippers are in the area *between* the Twin Cities and Manly so this new access to the international freight network is attractive.

With the UMTH in a rural area, loads will be tendered or picked up quickly, without the inherent congestion experienced in the larger metropolitan areas.

Enhanced transportation of agricultural products from the Upper Midwest

The Upper Midwest needs better access to major consumption and port centers around the world where agricultural products are in demand.

Manly is in the center of one of the highest production regions in the entire country for corn, soybeans, edible beans, distiller grains, corn oils, and food production that needs efficient and reasonable cost transportation options. The 150 mile-radius around Manly in 2013 included:

- 2.4 billion bushels or 61 percent of all corn production in the three states (Iowa, Minnesota and Wisconsin.)
- 423 million bushels or 57 percent of all soybean production in the three states.
- 5.5 billion gallons of ethanol production (39 percent of the national production.)

Iowa is also the largest producer of eggs in the U.S. having 54 million laying hens that produced over 14.5 billion eggs in 2012, with much of the production within 100 miles of Manly. USDA rules now allow egg content in frozen foods exported from the U.S., which will encourage more frozen food processing in the region. Currently, egg products are nearly exclusively trucked. This untapped market presents opportunities for more cost competitive intermodal shipping.

As previously stated, the growing need to maintain accurate sourcing and identity of organic and genetically modified products increases the need for containerized shipping of specialized or niche grain and food products from the region.

The Iowa's thriving biofuels industry is helping to diversify our nation's energy portfolio, improve our nation's energy independence, and reduce transportation fuel use and emissions. Distiller grains, a high protein animal feed that is a high volume byproduct of ethanol production, can also benefit from cost effective intermodal service for shipment to areas with high populations of livestock or to overseas markets.

Congestion

A huge issue the trucking industry faces is highway congestion which cuts into companies' and drivers' profits and wages. In truckers' jargon "if the wheels ain't turning, you ain't earning." The Manly location as a rural location with good access to national rail and truck routes can add more productivity by eliminating drays to more distant intermodal centers. Congestion can largely be avoided at the Manly location since congestion at a level that affects productivity is almost unheard of on the rural interstates and primary highways in this region.

Ladders of Opportunity

By addressing the current transportation challenges, the project will help regional shippers be more competitive, more profitable, and in turn, reinvigorate the rural economy and provide opportunities currently not available to a number of smaller communities within the 150-mile radius that the UMTH project will serve.

A full 38% of the counties within the UMTH's service area are classified as economically disadvantaged or distressed (as identified by the individual states). Appendix A includes a map and listing of disadvantaged or distressed areas. Providing opportunities through additional development and new markets for agricultural and manufactured products in these 51 disadvantaged or distressed counties will have a significant impact in helping these predominantly rural economies, communities and individuals in the following ways:

- Provide greater opportunities for stable jobs that pay well.
- Revitalize rural communities and households by helping regional shippers be more competitive and more profitable.
- Encourage new business development that will strengthen communities and provide additional employment and workforce development.

- Enable a better quality of life for truck drivers through the conversion of long-haul trucking to more short hauls. By spending fewer nights on the road, drivers will be home more and be able to participate more fully in family and community life.

As a freight project, the opportunity to create connections between people is limited; however, the opportunity to support workforce development, large and small businesses and improve the lifestyle of the rural population is significant.

1.2 Detailed Project Description

The UMTH will add intermodal capabilities to the established rail-served Manly Logistics Park. The UMTH will be located within the Manly Transportation Campus, a 350-acre transportation facility that includes three distinct functional units – the Manly Logistics Park, the Manly Terminal, and the IANR Manly Yard (see Fig.6).

Figure 6 - Manly Transportation Campus

The UMTH will be sited within a newly constructed 15,000-foot loop track at the 160-acre Manly Logistics Park. The Park currently has one tenant, Sukup Manufacturing, a metal building fabricator, and room for additional tenants.

The project will develop an intermodal facility capable of handling containers on flat car and trailers on flat car. Upon completion, the UMTH will have independent utility.

A site plan of the UMTH planned development is shown in Fig. 7 on the following page and included in Appendix C. Full-scale intermodal services with the capacity for rapid growth can begin immediately upon completion.

A TIGER grant will facilitate development of UMTH as a complete, full-service intermodal facility by contributing to the cost of construction. Project construction includes:

- Earthwork.
- Construction of a second loop track adjacent to the existing loop track to accommodate added volumes (shown in blue).
- Construction of four interior intermodal strip tracks for staging railcars during container/trailer loading and unloading operations (shown in blue).
- Track switches and crossovers.
- Paving (shown in teal).
- Utilities.
- Lift equipment for loading containers on railcars and trucks.
- Container/chassis storage area.
- Security systems and fencing (shown in red).
- Land acquisition.

Track construction will consist of a total of 21,513 track feet of 112 lb. rail, 10,757 steel cross ties, and 14 turnouts and switches that will link the existing and future track structure to provide maximum flexibiility for routing.

A paved road will allow trucks to enter from the north edge of the facility, crossing over the double loop track and continuing adjacent to the track until reaching the gate.

An automated gate will capture identifying information from entering and exiting trucks. Heavy duty concrete paving will abut the four strip tracks where trucks will be positioned and containers or trailers transferred from truck chassis to rail or vice versa. Additional pavement will accommodate storage of containers and chassis.

Ten-foot fencing with three-strand barbed wire will cordon off the intermodal area to prevent theft or tampering. Lighting, a security system and cameras will supplement the perimeter barrier to provide adequate security.

Lift equipment will initialy consist of two reach stackers and three spotters. Future plans include use of overhead straddle cranes to enhance capacity as lift volume and traffic grows.

The UMTH's expected use in the first full year of operation is projected at 51,000 lifts, growing to nearly 146,000 lifts annually in 2038. Based on forecast data from the U.S. DOT's Freight Analysis Framework (FAF), the first full year volume at the completed UMTH represents a conservative *one percent* of the total estimated Iowa and Minnesota intermodal truck volumes.

Figure 7 - Site Plan for UMTH

Figure 8- IANR Manly Yard

Supporting infrastructure on-site

Supporting the UMTH intermodal yard is IANR's adjacent 90-acre railroad yard known as Manly Yard. Container lifts will be supported by IANR at the Manly Yard to prepare outbound trains for Class I connections. The yard includes 11 classification and switching tracks with an adjacent car repair facility, grain staging tracks, engine house, maintenance-of-way material yard, support tracks, and several other customer transload areas. Manly Yard is the critical support yard for IANR interchange with the adjacent Union Pacific Railroad (UP) and provides track support for the UMTH to receive inbound traffic and prepare outbound traffic for departure. The UP Spine Line that spans from Galveston, Texas to St. Paul and Duluth, Minnesota, is immediately adjacent to the IANR Manly Yard. The IANR provides a diagonal connection between

the UP's Spine Line to the east-west transcontinental Chicago-West Coast line at Cedar Rapids, Iowa. This is a shorter route for freight handled to and from the region to eastern carriers via Chicago.

The yard is capable of providing critical operating support and capacity to UMTH immediately. *No TIGER grant funds are requested for the yard; however the yard provides additional capacity and capabilities to the UMTH by its proximity.*

Located between the Manly Logistics Park and the IANR Manly Yard is the Manly Terminal, which provides for the transfer and storage of liquids and contains a laydown yard for large or oversize components**.** Manly Terminal is expected to begin auxiliary container stuffing and other related services once the UMTH is in place, providing even more capability to shippers. *No TIGER grant funds are requested for the terminal, and the terminal does not directly support the initial operations of the UMTH. However, future container stuffing services at the terminal will enhance the intermodal transportation services available at the Manly Transportation Campus.*

Figure 9 - Manly Terminal

1.3 Project Location

The UMTH is located in rural north central Iowa at Manly (see Fig. 10). The *immediate* area served by the hub includes north central Iowa, southern Minnesota, and a small portion of western Wisconsin. The 150-mile radius that the development expects to serve includes over 7 million persons.

The geospatial location is 43°17'55"N; 93°12'24"W.

The UMTH is not located in an urbanized area as defined by the U.S. Census Bureau and is thus eligible to be classified as a rural project as shown in Appendix A.

Figure 10 – Strategic location of the UMTH in the Upper Midwest

The UMTH will be an independent full-access intermodal facility located on the IANR, a rural short line railroad that interchanges with six railroads (including three Class I railroads) and through other routing alternatives with the remaining four Class I's.

Currently, shippers and receivers of freight requiring intermodal service within the region typically truck commodities to intermodal centers in Chicago, Kansas City, Council Bluffs (Iowa's only intermodal hub), or Minneapolis (where intermodal facilities have more limited routing options) to enter the national rail network.

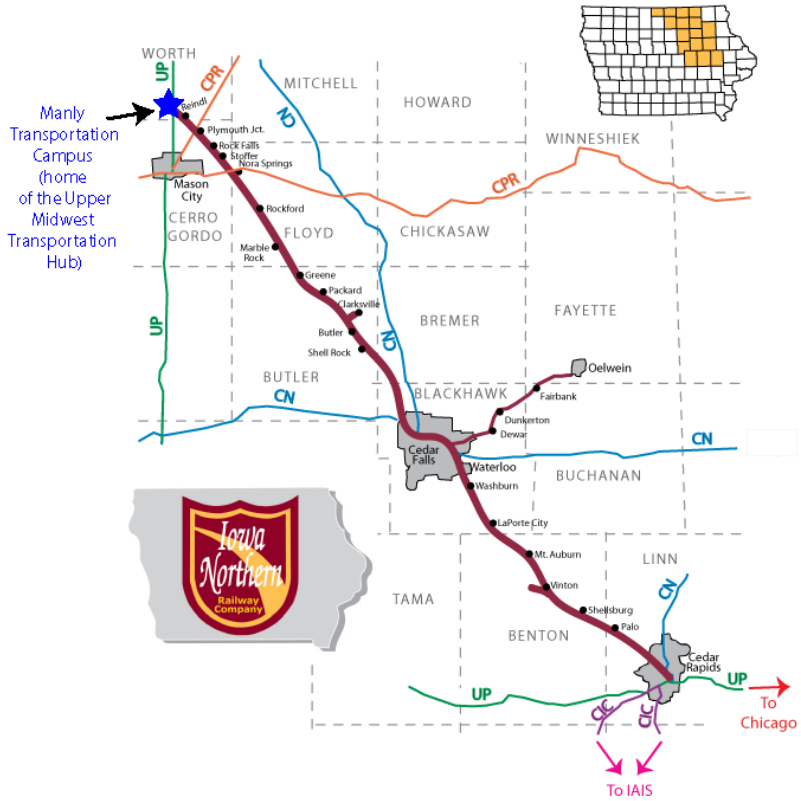
IANR's multiple strategic connections to other rail carriers provide nearly unlimited access to major intermodal traffic lanes. Access to intermodal destinations throughout the nation are available from this Upper Midwest rural location. The UMTH at Manly will be an independent facility open for all of IANR's connecting carriers and all other Class I railroads via multiple routing options.

As an independent intermodal facility, not owned or directly affiliated with a single Class I railroad, the UMTH will have three distinct advantages:

- UMTH will not be limited to shipping or receiving on very limited intermodal lanes, but will be able to offer access to a broad variety of locations because of IANR's multiple rail interchange opportunities.
- Multiple routing options will serve to maintain competitive pricing for facility users.
- Because each interchange carrier has distinct routing, market, and service strengths, allowing access through all interline connections will provide customer's greater leverage in securing desired service, equipment, and pricing.

Clearances on the present IANR main line between Manly and Cedar Rapids, Iowa, are sufficient to handle double-stack container equipment and railcars with a maximum gross weight of 286,000 lbs. IANR has the ability to safely and efficiently accommodate railcars of all types on its network

The IANR network and the location of its connections with other rail carriers are shown in Fig. 11 and explained below.



Union Pacific Railroad (UP) direct interchanges at Manly, Waterloo, and Cedar Rapids, Iowa.

Canadian National Railway (CN) direct interchanges at Waterloo and Cedar Rapids, Iowa.

Canadian Pacific Railway (CPR) direct interchanges at Plymouth Junction and Nora Springs, Iowa.

Cedar Rapids & Iowa City Railway (CIC) direct interchange at Cedar Rapids, Iowa, connecting with Iowa Interstate (IAIS)

Figure 11 - IANR connectivity and rail interchanges

Four other major carriers can be accessed via numerous route options over the carriers that connect directly with IANR including:

- **BNSF**
- **CSX**
- **NS.**
- **Kansas City Southern Railway (KCS)**

Manly is situated at the crossroads of three major national highway corridors (shown in green in Figure 12) with access to the UMTH intermodal facility:

- Interstate 35 between Duluth, Minnesota, and Laredo, Texas.
- Interstate 90 between Boston, Massachusetts, and Seattle. Washington.
- The Avenue of the Saints between St. Paul, Minnesota and St. Louis, Missouri.

Figure 12 - Major highway corridors within reach of UMTH

The 150 mile radius also places corridor portions of I-29, I-80 and I-94 within reasonable reach of the terminal (shown in blue in Figure 12). The UMTH is also served by a rich network of primary and secondary highways that feed freight to and from the facility.

Regional and national trucking firms will be encouraged to locate nearby to facilitate handling intermodal and transload trailers and containers to and from the facility.

2.0 Project Parties

The Iowa DOT is the lead applicant for this TIGER grant application. The application is being prepared by the Office of Rail Transportation, in consultation with IANR, HDR Decision Economics (who prepared the benefit cost analysis), and various other offices within the Iowa DOT, MnDOT, Worth County and other stakeholders.

MnDOT has joined in their support of this application as a partnering agency due to the many benefits that will accrue to southern Minnesota as a result of this north central Iowa project.

Worth County has joined as a partnering agency because this location has been identified as a county priority for future industrial development.

The Iowa DOT's Office of Rail Transportation will administer the grant through a sub recipient agreement with IANR/UMTH, LLC. The Office of Rail Transportation has the expertise and staff to expertly shepherd this grant award. The Rail Office has experience in successfully and efficiently administering federal grants, including:

- Three High Speed and Intercity Passenger Rail (HSIPR) grants.
- Eight FRA Railroad Rehabilitation and Repair (Disaster) Grants.
- Four FHWA SAFETEA-LU federal legislative earmarks.
- $5 million in American Recovery and Reinvestment Act (ARRA) funds when the Iowa DOT allocated that amount of FHWA funds for use on rail projects.

IANR/UMTH, LLC will be the sub recipients of any TIGER grant funds awarded. IANR and UMTH, LLC will share the responsibility of the intermodal operation. IANR is a short line or Class III railroad formed in 1984 following the liquidation of the assets of the Chicago, Rock Island & Pacific Railroad Company (CRI&P).

The IANR network includes 253 route miles of main and branch line trackage in Iowa, including 116.74 miles owned by IANR and approximately 85.26 miles of trackage rights or leases. IANR also

operates two branch lines in Iowa: Oelwein to Waterloo (Fayette and Buchanan Counties) and Forest City to Belmond (Winnebago, Hancock, and Wright Counties).

IANR has past experience meeting federal requirements and reporting on these projects:

- IANR was awarded an FRA Railroad Rehabilitation & Repair (Disaster Assistance) grant in May 2009 for $2,174,800 for critical flood damage repairs.
- IANR was awarded a second Disaster Assistance grant in December 2009 for $2,236,410 for additional long term repairs and mitigation of future flood damages.
- IANR received an FRA Railroad Rehabilitation & Improvement Financing (RRIF) loan in 2007 for $25,500,000. IANR is current on payments and the loan is in good standing.

IANR will oversee the construction of the intermodal facility within the existing loop track of Manly Logistics Park (MLP).

The UMTH, LLC was recently formed by principals of IANR. IANR is a financially sound rail operator. IANR is currently going through an equity recapitalization that will provide funds to not only build the UMTH intermodal facility, but to also finish substantial improvements to the tracks. This track upgrade, expected to be completed by in 2017, will allow IANR to raise track speeds to support the competitive transit times needed to add double stack container trains to our line.

IANR, UMTH, LLC, and the Manly Logistics Park (MLP) where the UMTH will reside are all related parties under common control. Fig. 14 illustrates the corporate relationships and responsibilities.

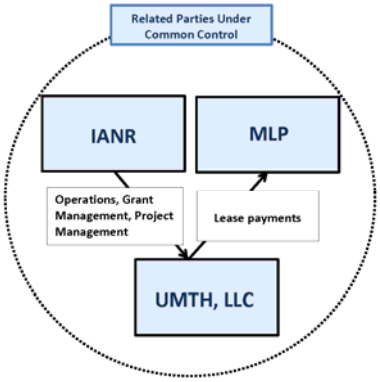


Figure 13 - IANR/UMTH, LLC corporate relations

IANR has the operating personnel, expertise and resources to get this new opportunity underway as quickly as possible. IANR and UMTH, LLC will share the responsibility of the intended intermodal operation.

Iowa DOT is confident that IANR/UMTH, LLC is capable of making this project a success based on prior experience. IANR management team has an entrepreneurial spirit and has shown vision, resiliency, flexibility and determination to make past projects successful. IANR has effectively managed other projects using state and federal funding and will again manage the construction of the UMTH and the private funding provided by IANR/UMTH, LLC. As equity partners in all aspects of the Manly Logistics Campus, IANR is well positioned to successfully manage a federally funded TIGER infrastructure project and meet expectations for regional and local benefits as described in this application.

Letters from the project parties involved are included in Appendix H

3.0 Grant Funds and Sources / Uses of Project Funds

This application requests **$7,100,000** in TIGER grant funding coupled with **$9,065,138 in matching funds**. Private matching funds provided by IANR/UMTH, LLC will make up 56% of the total project cost.

Table 3 – Grant Funds and Sources		
Source	**Amount**	**Percentage**
TIGER grant request	$7,100,000	44%
IANR/UMTH, LLC funds:	$9,065,138	56%
Total Project Cost:	**$16,165,138**	**100%**

The grant funds will be used to fund 44% of the UMTH development.

- The Iowa DOT, as the grant recipient, will utilize the experienced staff within the Office of Rail Transportation to administer the grant and assure that all federal and state requirements are met. The Iowa DOT will prepare sub recipient agreements to IANR/UMTH, LLC for any TIGER grant received. The Office of Rail Transportation may call upon other personnel within the department for specialized expertise. This may include environmental and contracting specialists that have experience in working with FHWA and FRA funded projects.
- IANR/UMTH, LLC as sub recipients will enter into an agreement with the Iowa DOT to construct the UMTH intermodal facility.

Private funds provided by IANR/UMTH, LLC will fund the remaining 56% of the construction. The facility when complete will be fully functioning and have independent utility.

The Iowa DOT depends on annual appropriations from the Iowa Legislature for any rail development funding. Unfortunately, at this time, the legislature is still in session and has not yet approved a FY2016 appropriation. Consequently, the Iowa DOT does not have any funds available for a match, despite our strong support of this project. However, Iowa DOT has contributed $3 million for earlier phases of the Manly Logistics Park. MnDOT also has limited rail development funding and finds it problematic to commit state funds toward an infrastructure project in another state. Worth County has previously contributed $1.5 million for earlier phases of the Manly Logistics Park and has no additional funds to apply toward a match.

3.1 Project Budget Summary

A detailed project budget is included as Appendix D and summarized below.

Table 4 – Project Budget Summary	
Item	**Cost**
Track construction – land, rail, loop track, strip tracks, crossovers	$ 7,469,464
Intermodal Facility – paving, utilities, security & equipment	$ 8,695,674
Total	**$ 16,165,138**

3.2 Public and Private Investments in Supporting Infrastructure.

Though IANR has received Federal loans and grants in the past, no federal funds have been expended on this project nor are other federal funds sought for the project other than this application.

The infrastructure in place at the Manly Logistics Campus will provide meaningful support to the expansion into intermodal markets. Without the existing rail yard support and infrastructure in place, development of a greenfield intermodal facility of this magnitude would be over double the estimated cost of this TIGER project application. A greenfield development would require additional land acquisition, grading, trackage, and other improvements beyond those included in this application.

Without the partnership of TIGER funding to leverage past investments(discussed below) and considerable the private match from IANR/UMTH, LLC, the full construction and operation of the UMTH would take years to complete. The full investment of $7.1 million in TIGER funding will provide the needed capital to build the UMTH and begin reaping *immediate* benefits.

3.2.1 Past Investments

The existing infrastructure at the Manly Transportation Campus has seen significant growth through state, local and private investment since 2006.

Table 5 – Past Investment Summary

Iowa state investment	$	4,100,000
Worth County highway investment	$	1,715,000
Public investments subtotal	$	5,815,000
Manly Transportation Campus investments by IANR, MLP, MT (Private investment)	$	24,775,237
Other private development	$	6,500,000
Private investment subtotal	$	31,275,237
Total Past Investments to date	***$***	***37,090,237***

Public investments in the Manly Transportation Campus demonstrate the commitment of both state and local officials in the Manly Transportation Campus.

Iowa DOT investments

- The Rail Revolving Loan and Grant (RRLG) program provided a $3 million loan at zero percent interest to develop the Manly Logistics Park and construct the existing loop track. A copy of the project summary is included in Appendix E.
- The Highway Division has invested $1.1 million in incremental costs for road improvements on Iowa Highway 9 and U.S. Highway 65 directly related to increased truck traffic at the facility. These improvements include improved access and capacity to the facilities, turning lanes, increased pavement strength, and facility access roads.

Worth County

- Worth County demonstrated their local support by providing matching funds in the amount of $1.5 million for the Iowa DOT's RRLG loan to develop the Manly Logistics Park
- Worth County has invested $215,000 in local road improvements to support the Manly Logistics Campus.

Private investments in rail and other infrastructure at the Manly Transportation Campus by the Manly Logistics Park, Manly Terminal, and IANR have totaled nearly $25 million. Other private investments have included $3 million from Union Pacific Distribution Services to prepare ground for a storage facility for wind energy components. Customers of the Manly Transportation Campus have invested $3.5 million for infrastructure as tenants. See Appendix E for detail on past and future investments

3.2.2 Future Investments

The Iowa DOT has a $2.9 million highway improvement project planned for FY2016 on U.S. Highway 65 from Manly to Mason City.

The Manly Transportation Campus also has future growth planned in facilities that will be served by IANR.

- Viafield is planning a major fertilizer storage and transload operation with an investment of $8 million on property adjacent to the IANR Manly Yard. New Heaven Chemicals is planning a sodium methylate production facility with an investment of $15 million at Manly Terminal. Private investments in these two facilities total $23 million.
- Upon completion of the UMTH, a $20 million cold and freezer storage warehouse and cross-dock facility is planned by Florilli Logistics – a refrigerated trucking and logistics firm based in West Liberty, Iowa. This is expected to provide major shipping advantages to regional meat producers and processors through reduced shipping costs and new shipping options for cold chain products. Construction of the cold storage facility with private funding is *contingent* on development of the intermodal facility. *No TIGER grant funds are requested or needed for construction of the cold storage facility; however, these additional benefits are not likely to occur without an award to the UMTH.*

The addition of the UMTH's intermodal services is anticipated to bring other new tenants to the Campus or at other locations nearby to take advantage of the flexible, economical shipping options.

4.0 Selection Criteria

Table 6- Benefit Estimates by Long-Term Outcome for the Full Project, Millions of 2014$

Long-Term Outcomes	Benefit Categories	Benefit Estimate 7% Discount Rate
State of Good Repair	Avoided Pavement Maintenance Costs	**$133.1**
Economic Competitiveness	Shipper Savings due to Modal Switch from Truck to Rail and Choice of More Direct Intermodal Routes	**$118.9**
Livability	Reduced Road Congestion due to Modal Switch from Truck to Rail	**$83.3**
Environmental Sustainability	Emission Cost Savings due to Modal Switch from Truck to Rail	**$19.9**
Safety	Accident Cost Savings due to Modal Switch from Truck to Rail	**$426.5**
Total Benefit Estimates		**$781.8**

Table 7 – Estimation of Short-term Economic Impacts (IMPLAN Model- see B/C for details)

	Direct	Indirect	Induced	Total
Total Employment (job-years)	104.5	50.5	85.5	240.5
Labor Income (millions of 2014$)	$6.20	$3.24	$4.16	$13.60
Value Added (millions of 2014$)	$6.79	$5.14	$7.38	$19.31

4.1 Primary Selection Criteria

4.1.1 State of Good Repair

By encouraging shorter truck hauls, the UMTH will reduce the miles heavy trucks spend on the highway system. A total of 1.53 *billion* saved truck miles are anticipated through 2038. This is reflected in reduced highway maintenance costs, particularly in pavement resurfacing and maintenance costs. Typically, the benefits of a state of good repair are realized in terms

Truck Miles Saved
1.53 billion

Reduced Pavement Maintenance Costs
$133.08 million

of increased cycle times between maintenance work orders. The Economic Analysis provided by HDR Decision Economics and included in full as Appendix K, estimates a savings of $133.08 million in reduced pavement maintenance costs over a 22 year period of operation.

Adding intermodal container service at the UMTH to the menu of already available transportation services at the Manly Transportation Campus will provide a truly full service rail facility. The UMTH will add services currently unavailable in the region to ship intermodal containers. This will transform the way in which products can be shipped by harnessing the strengths of both the rail and trucking industry, adding a new dimension of service and reliability to the multimodal transportation system.

The new construction at UMTH will be a state-of-the art logistics facility that will provide a wide variety of services to producers, shippers and receivers. It will be built at a high standard of construction that will provide decades of reliable and efficient transportation support to the region. Steel cross ties rather than wood, concrete or composite material will be used in the construction for maximum longevity and reliability of the investment. Reinforced concrete paving will support the truck traffic within the center as well as the container and chassis storage.

Figure 14 - Steel tie construction at the Manly Logistics Park, 2014

The existing Manly Logistics Park where the UMTH is located has been developed to date with an eye toward expansion. The track improvements required for the UMTH will not require any demolition, only additions to the existing track structures (additional loop track, connecting tracks, and switches.) A lesser amount of grading and earthwork will be required due to the careful preplanning for expansion.

IANR's rehabilitated Manly Yard is immediately south of the UMTH. These tracks will be essential in supporting the expanded rail operations at the UMTH intermodal facility. It will provide an immediate capacity to receive inbound intermodal trains and stage outbound trains for departure into the North American railroad network

IANR will provide rail service to the intermodal facility managed with UMTH, LLC. IANR's history has shown a commitment to a state of good repair. When initially purchased in 1994, the line was badly deteriorated; handling less than 15,000 revenue cars annually at under 10 mph. IANR has since rehabilitated the line and yard to handle the demands of modern rail equipment and volumes and is now handling 60,000 revenue cars annually at an average speed of 25 mph.

IANR will supervise and construct the rail lines for the facility with the same quality construction that has been used at the Manly Logistics Park and IANR Manly Yard. The construction is expected to be resilient and withstand weather-related events. The construction will stand the test of time and has been designed to allow future expansion when volumes increase.

Lift revenues from the UMTH will provide the resources to operate and maintain the intermodal facility, including lease payments to the Manly Logistics Park. Revenues from increased freight rail traffic will provide the resources to IANR to maintain and operate its infrastructure supporting the UMTH.

The highway system in the region is in a good state of repair to support the truck operations that are associated with the UMTH. In addition to normal maintenance and repair of the highway system, Iowa DOT and Worth County have invested over $1.2 million in highway improvements to accommodate heavy truck traffic in the area. In 2017, the Iowa DOT is planning to rehabilitate Highway 65 from Mason City to Manly as part of on-going maintenance and repair.

4.1.2 Economic Competitiveness

The Iowa DOT's FAC undertook an exercise in 2013 to identify impediments to freight transportation in Iowa. The Council identified seven key issues; two were singled out as issues that impacted the competitiveness of Iowa's producers and receivers that are addressed by this application:

- A lack of intermodal and transload facilities in Iowa.
- A shortage of truck drivers.

The UMTH will advance President Obama's goals to increase exports and improve America's competitiveness in a global economy.

Higher transportation costs for products shipped or received via intermodal container now affect the competitiveness of existing businesses and discourage new businesses from locating in the region. One of the effects of capacity constraints in the trucking industry is an increase in prices, when available trucking services can even be obtained. The UMTH will address both of these identified issues in the region it will serve.

Improved efficiency, reliability and lower costs

The UMTH, located in the Upper Midwest, will be a transformative answer to growing truck driver shortages and efficient access to the national and international intermodal shipping network. Long term outcomes will improve the efficiency and reliability of moving goods in the region and the nation and lower shipping costs through the following:

- UMTH as an independent facility (not owned or located on a Class I railroad) will have the freedom to route shipments *throughout* the national intermodal system through its interchange abilities with all Class I railroads. The UMTH will *not* be limited to specific destinations or intermodal shipping lanes as many other intermodal facilities are.
- UMTH and IANR will offer the most competitive freight rates with the leverage that comes with multiple connections to other regional or national railroads.
- A more direct, efficient, and reliable intermodal solution will allow Upper Midwest shippers to better compete in the global economy by reducing the costs of export and domestic containerized cargo.
- Trucking firms can concentrate on shorter hauls which are more attractive to employees and cost effective for their customers.
- Driver retention and recruitment will be enhanced with a conversion to more short-haul trucking.
- Businesses will have a competitive option to long-haul trucking and be able to take advantage of lower costs by eliminating truck drays of containers to distant intermodal facilities.
- Regional business and industry will be able to be more competitive and profitable through enhanced flexibility and cost savings in shipping.
- UMTH will open new avenues for agricultural producers in the Upper Midwest to containerize and ship origin identified grains and food products throughout the U.S. and the world.

Benefits to shippers quantified

Perhaps the most important benefit is the long-term economic benefits to the users of UMTH. The proposed project would contribute to enhancing the economic competitiveness of the area, region, and nation through improvements in the mobility of goods within and across the Upper Midwest.

Shipper Savings
$118.95 million

The benefit cost analysis determined that through 2038, the project will generate $118.95 million in shipper savings due to the modal switch from truck to rail and the choice of more direct intermodal.

Assumptions that were used and annual savings

Detailed base case information is not available on confidential freight rates, but certain assumptions have been made in an attempt to quantify the long term benefits to shippers. One key assumption is the source of the lifts for the intermodal operations. After numerous discussions with shippers, producers, and trucking companies, an assumption has been made that:

- Some existing intermodal moves will be diverted from more distant facilities, like the congested Chicago area.
- There will be a conversion of current truck moves to intermodal as a consequence of the opening of UMTH.
- The existence of a regional intermodal terminal will provide "induced loads" that will originate because of the existence of the new intermodal facility.

The discussions also provided reasonable estimates of the logistics involved and potential savings as a consequence of the intermodal facility in Manly.

A conservative approach has been taken on the truck-miles saved as a consequence of the opening of UMTH, with:

- Existing intermodal moves diverted from more distant facilities, like Chicago, netting a 250-mile savings.
- Conversion from other truck moves netting a 750-mile savings. A sampling of various destinations was used to establish the number of miles saved.

These same assumptions were used as a basis for truck ton-mile savings in calculating reduced highway maintenance and rehabilitation costs.

Table 8 – Projections of Use and Savings as a result of UMTH

Year of Oper-ation	Lifts (excluding induced lifts)*	Truck Miles Saved per Year, by Year**	Shipper Savings (discounted at 7 %)***
2017	2,375	1,603,125	$108,907
2018	51,000	31,875,000	$3,642,729
2019	72,000	43,200,000	$5,767,488
2020	81,000	45,765,000	$7,478,869
2021	93,960	52,147,800	$8,546,199
2022	110,419	60,730,560	$9,626,894
2023	121,928	70,108,416	$8,692,970
2024	131,682	79,009,137	$7,520,754
2025	128,073	76,843,701	$6,836,102
2026	129,354	77,612,138	$6,452,769
2027	130,647	78,388,259	$6,090,932
2028	131,954	79,172,142	$5,749,384
2029	133,273	79,963,863	$5,426,989
2030	134,606	80,763,502	$5,122,672
2031	135,952	81,571,137	$4,835,419
2032	137,311	82,386,848	$4,564,274
2033	138,685	83,210,717	$4,308,334
2034	140,071	84,042,824	$4,066,745
2035	141,472	84,883,252	$3,838,703
2036	142,887	85,732,085	$3,623,449
2037	144,316	86,589,406	$3,420,265
2038	145,759	87,455,300	$3,228,474
	Total	**1,533,054,212**	**$118,949,321**

* Values from Table 2, Benefit Cost Analysis
** Values from Table 10.2, Benefit Cost Analysis
*** Values from Table 10.4, Benefit Cost Analysis

Diverted and converted loads require an estimate of actual freight savings vs. straight truck moves to existing intermodal facilities. One factor of consideration will be lower intermodal charges from high-density intermodal hubs like Chicago, so an estimate of net freight savings has been assumed with:

- Diverted intermodal movements save $350 per lift.
- Conversion from straight highway move by truck save $450 per lift.
- New "induced" business was omitted to maintain a conservative estimate of benefits.

The assumptions for savings in truck miles and cost are conservative. The induced demand from new business not currently in the base case will further improve the metrics, since the corresponding benefits will accrue within the same capital and operating costs.

Florilli Logistics, an Iowa based trucking company that handles large volumes of both refrigerated and dry freight within the region and the entire country, compared the assumptions with confidential traffic flow data in-house and confirmed that the assumptions were reasonable.

The Iowa DOT used analysis from the state-of-the-art Iowa Traffic Analysis Model that now includes freight and rail components to verify that these assumptions were realistic. See Section 4.2.1 Innovations, for additional information on this innovative new tool.

The year by year truck miles saved and shipper savings are summarized in Table 7.

Jobs and community revitalization

Short term impacts in additional jobs and income will also accrue between 2015 and 2016 during construction, further boosting the economy of this region. The project is expected to generate 240.5 job-years during the project' construction. It is also expected to create $19.31 million in value added benefits, including $13.60 million in labor income. This includes $1.19 million in income expected to benefit low wage earners.

Short term impacts during construction
240.5 job-years
$19.31 million value added
$13.60 million labor income

Construction and operation of the UMTH will provide opportunities to rural residents and communities in the service area. In the more rural parts of the Upper Midwest, which includes a large portion of the 150-mile service area of the UMTH, good paying jobs are scarce. The service area includes 51 counties that are classified as disadvantaged or distressed by their respective states. By encouraging the location of additional industrial or distribution centers and making existing companies more profitable, the potential for more and better paying jobs and the associated education and training activities is far greater. Many rural communities dwindle in size and vitality as job-seekers move elsewhere. Other workers suffer long, expensive commutes to more populated areas for jobs. If more well-paying jobs are made available locally, communities will be revitalized and disadvantaged individuals will benefit.

The Manly Transportation Campus has submitted an application to the Iowa Economic Development Authority (IEDA) for consideration as a certified site. Certified sites undergo rigorous evaluation to be judged suitable and relatively "risk free" for industrial development. Once certified, the Manly location will be marketed by the IEDA encouraging even further development.

4.1.3 Quality of Life

The UMTH project will contribute to enhancing livability and quality of life through the reduction in highway congestion by displacing heavy truck travel to rail. The reduction in congestion represents a time savings for the remaining on-road motorists that is quantified in the benefit cost analysis. Due to the modal switch and shorter intermodal routes, congestion savings is valued at $83.31 million through 2038

Congestion Savings
$83.31 million

Any conversion from long-haul trucking to shorter drays for regional commodities will provide opportunities to attract new truck drivers to the profession. The ability to be "off road" for longer periods of time will provide a better quality of life for the drivers. Creating jobs where drivers can be home and fully participate in home and family life, while still earning a living in a rural location where attractive jobs can be scarce, is a benefit that cannot easily be quantified. Just being able to attend a child's ball game or be home each day will dramatically improve the quality of life for hundreds of families.

Though trucking per se is a dangerous occupation, it stands to reason that some of the emotional and psychological issues (loneliness and depression in particular) will be mitigated by a more "normal" home life that short-haul truckers can experience.

Diverting hauls to a rural region rather than the intermodal facilities in high congestion metropolitan areas would also reduce the risk of work related injuries or crash fatalities.

4.1.4 Environmental Sustainability

A long-term decrease in energy use and greenhouse gas emissions is expected to result from shifting freight from truck trips to rail. An estimate of the value of reducing greenhouse gas and critical air contaminants associated with transporting goods on rail as opposed to truck can be calculated. The benefit cost analysis estimates $19.92 million in emissions reductions through 2038.

Emissions Reductions
$19.92 million

The UMTH is located in rural, north central Iowa, and is consistent with local land use plans and policies. Existing surrounding land uses are agricultural, with the Manly UMTH facilities zoned as light industrial.

The proposed project would be implemented using an existing site and utilize some existing rail lines to service the facility. Even the currently undeveloped portion of the UMTH, where new track and other facilities will be constructed, is located adjacent to an existing loop track and has been disturbed for years by agricultural production. This avoids adverse impacts to water quality, wetlands, and threatened and endangered species that would be associated with greenfield development because none of these resources are present on the existing site.

4.1.5 Safety

Fatality and injury rates per mile of freight carried by truck are greater than the fatality and injury rates for an equal volume of cargo when shipped by rail.

Safety Benefits
$426.49 million

Through 2038, $426.49 million in safety benefits were calculated in the benefit cost analysis. This is based on fewer truck miles due to the modal shift, using the standard TIGER guidelines for accident values.

The Iowa DOT has also performed a site review at 380th Street for safety improvements that may be warranted at the highway/railroad crossing with UP and IANR due to site restrictions and additional train traffic that will result from the UMTH. Discussions will be ongoing with UP, IANR and Worth Co. about possible solutions at this location.

4.2 Secondary Selection Criteria

4.2.1 Innovation

Though public/private partnerships are not cutting edge, they offer a means by which public benefits can be gained with a lower taxpayer investment. The UMTH is a good example of this with a 56% investment of private funding to yield total public benefits of over $781.75 million in total benefits (discounted at 7%) over the 22-year lifecycle.

iTRAM

The Iowa DOT has developed a second generation statewide travel demand model known as iTRAM –Iowa Traffic Analysis Model. This innovative tool was developed using HSIPR (High Speed Intercity Passenger Rail) grant funding. The Iowa DOT iTRAM model was amongst the first of its kind in the U.S. to include truck, rail and water commodity movements in a statewide travel demand model. Since rail freight can offer solutions to roadway congestion, the FRA was intrigued by the idea of building upon an existing statewide travel demand model to make an even more robust planning tool. The FRA chose to fund this project with $500,000 in federal funding and the Iowa DOT contributed the remaining $100,000 for development of this cutting edge modeling tool.

The modeling tool successfully integrates multiple public and private data sources to develop freight demand modeling recommendations.

The model can provide rail network "what-if" scenarios, which allows the agency to examine changes in commodity flows if a rail network were to change.

The iTRAM model was used to analyze the county by county inbound and outbound movements of freight in the 150-mile radius service area. Potential intermodal loads were identified and assigned to intermodal lanes by origin and destination. Because the iTRAM model has multiple data sources all of which are disaggregated to the county level, the amount of potential volume that could be diverted to rail was determined with a high level of specificity.

The projections provided by iTRAM validate that the projections for use and growth at the UMTH are conservative. Projections in earlier planning and grant applications were based solely on the more generalized FAF3 data and discussions with shippers and trucking companies. The much more robust and site specific data that was produced by iTRAM provides a high level of confidence that the UMTH can be a successful intermodal facility.

A white paper describing the development of the iTRAM model and a technical memo describing the specific way in which projections were developed for this project is included as Appendix F.

Regional approach

This project uses an innovative multi-state regional approach to solving a dilemma for thousands of

shippers in the region. The lack of competitive intermodal services and a growing crisis in the long term capacity of the trucking industry is difficult to address. The unique combination of location and access draws upon the characteristics of a *region* and is not state centric. Drawing upon a larger population base than is available anywhere in Iowa alone, but available at this location, makes a rural intermodal facility feasible.

This project also uses a regional approach to address the imbalance of inbound and outbound international shipping containers. With a service area essentially straddling the border between a producer state such as Iowa, and a consumption state such as Minnesota, a more equitable balance can be obtained without long drays of empty containers.

There is also the potential for large consumption markets that have large numbers of empty containers (like Dallas-Ft. Worth, Memphis, and Indianapolis) to relocate some of those empty containers for re-loading. Shipping lines may decide to use UMTH as a location to use as an alternative to shipping empty containers back to Asia without backloads. With large volumes of production, the region served by UMTH will almost always have a potential load for outbound movement.

Though Manly at first glance appears an unlikely location for a new intermodal facility, all indications are that Manly is the most likely location in the Upper Midwest region to succeed as an independent, full service intermodal facility. Appendix G addresses many of the unique and innovative reasons by answering the question "Why Manly?"

4.2.2 Partnership

Iowa DOT is presenting this application in cooperation with MnDOT, Worth Co. and IANR/UMTH, LLC. Iowa DOT has also made past financial contributions to the Manly Transportation Campus and made highway improvements to accommodate increased heavy truck traffic.

MnDOT has joined in this application as a partnering agency, recognizing that many of the problems created by a lack of sufficient and flexible intermodal capability that plague Iowa are also present in Minnesota.

Worth County, Iowa has also joined in this application as a partner since this location has been identified as a priority for future industrial development. Worth County is actively marketing the Manly location through their economic development office, Winn-Worth Betco. Worth Co. has made highway improvements to accommodate increased heavy truck traffic in the region.

IANR/UMTH, LLC will inject private funding into a project that will leverage a smaller amount of federal grant funds to create a development that generates significant public benefits.

Since 1984, the State of Iowa through the coordinated and combined efforts of the Iowa DOT, Iowa Railway Finance Authority, and Iowa Economic Development Authority, along with Worth County has provided loans, grants and other support to assist IANR in bringing the rail line up to a safe and efficient operating condition and developing the Manly Logistics Park to support the new services that UMTH will make available.

The UMTH is strongly supported by a variety of agencies, elected officials, organizations and others including – the Iowa Economic Development Authority; the Iowa Department of Agriculture and

Land Stewardship, the Iowa DOT; MnDOT, Worth County, other federal, state, and local government officials.

The Iowa Motor Trucker Association, the Iowa Association of Business, economic development officials in the area and many potential users of the facility also support the project.

Letters of support to date are included in Appendix H. However since additional letters are expected, the most current letters of support should be viewed on the Iowa DOT's web page at www.iowadot.gov/tiger15-freight.

5.0 Project Readiness

5.1 Technical Feasibility

The proposed project is consistent with the existing light industrial zoning. There are no bridges or waterways involved in the construction that will require state or local permitting. Plans are complete for the development and represent standard high quality construction practices that will withstand the test of time. Cost estimates were prepared by IANR using standard rail construction costs. IANR has rehabilitated their line extensively and are familiar with both material and labor costs. The Iowa DOT has confidence in the cost estimate. There are no state legislative barriers to timely completion and the project is broadly supported on a regional, multistate and local level.

All necessary pre-construction activities will be complete to allow grant funds to be obligated no later than June 30, 2017; in fact, because the project is "shovel ready" the entire project is expected to be complete prior to that date.

5.2 Financial Feasibility

The Upper Midwest Transportation Hub (UMTH, LLC) was recently formed by principals of IANR. IANR is a financially sound railroad operator. IANR is currently going through an equity recapitalization that will provide funds to not only build the intermodal facility, but to also finish substantial improvements to the tracks.

Iowa DOT will provide oversight on the grant and IANR will oversee the construction and operations of the intermodal facility, which will be within the existing loop track of Manly Logistics Park (MLP).

IANR/UMTH, LLC will match 56% or $9.065 million through non-federal funds including land conveyance by an existing shareholder ($2.724 million) and through operating cash flows

Table 9 – Funding Distribution

Item	TIGER Grant	IANR/UMTH, LLC	
Land Conveyance		$2,724,193	
Rail		$ 577,500	
Track Construction		$1,412,362	
TIGER Grant	$7,100,000	----	
All Other Expense		$4,351,083	**Total**
Project Cost	**$7,100,000**	**$9,065,138**	**$16,165,137**

Iowa DOT has worked with both IANR and MLP on projects with matching funds. The department has confidence in the financing package offered by IANR/UMLH, LLC. .

See Project Party letter from IANR in Appendix H for more detail.

5.3 Project Schedule

The UMTH is "shovel-ready." A fully funded TIGER grant and the associated matching contribution will be expended over an 18-24 month period. A rapid construction schedule is anticipated, with construction activities beginning immediately upon completion of agreements. All property has been optioned under a preexisting agreement and conveyance will be rapid. A Project Schedule is included as Appendix I.

All necessary pre-construction activities will be complete to allow grant funds to be obligated no later than June 30, 2017 and the project is anticipated to be completed in 2016 well before the September 30, 2022 date for final expenditures.

5.4 Assessment of Project Risks and Mitigation Strategies

The UMTH is a straight forward construction project with no unusual risks associated with it. Standard risks include those that affect timelines such as a delay in NEPA clearance, unexpected complications in preparation of grant agreements, and funding delays. The UMTH is not located in an area that is prone to extreme flooding, the primary risk of extreme weather. The Iowa DOT has experience in working through these possible complications on other federal projects and is confident that the required timelines can be met for completion of this project.

5.5 Environmental Reviews

5.5.1 NEPA

Iowa DOT consulted with an FRA environmental specialist in 2013, who advised the Iowa DOT to complete an initial environmental review and submit a completed FRA Categorical Exclusion (CE) Worksheet with the application. Without a federal action (i.e. grant award), the FRA was unable to take further action toward completing the CE. The Iowa DOT's Office of Location & Environment and Office of Rail Transportation have previously worked with the FRA on other projects that require a CE and are fully familiar with FRA's NEPA requirements.

As recommend by FRA, the Iowa DOT conducted a desktop NEPA review of the project and is confident that the project will not have significant impact on the environment, either individually or cumulatively. The completed CE Worksheet is included as Appendix J. After review of the 16 classes of action listed in the CE Worksheet, the Iowa DOT considered the applicability of three classes to the proposed project. However, it is unclear whether the proposed project fully meets the requirements of any of these three classes. The three classes are 1) Financial assistance for the construction of minor loading and unloading facilities, provided that proposals are consistent with local zoning, do not involve the acquisition of a significant amount of land, and do not significantly alter the traffic density characteristics of existing rail or highway facilities; 2) Minor rail line additions including construction of side tracks, passing tracks, crossovers, short connections between existing rail lines, and new tracks within existing rail yards, provided that such additions are consistent with existing zoning, do not involve acquisition of a significant amount of right of way, and do not substantially alter the traffic density characteristics of existing rail lines or rail facilities; and 3) Assembly or construction of facilities or stations that are consistent with existing land use and zoning requirements, do not result in a major change in traffic density on existing rail or highway facilities and result in approximately less than ten acres of surface disturbance.

If the proposed project does not meet the requirements of these three classes of action, the project would qualify for categorical exclusion under Section 4(e) of FRA's May 26, 1999, *Procedures for Considering Environmental Impacts*. Specifically, the proposed project will satisfy the seven criteria for exclusion of actions not excluded under subsection (c) and (d).

Iowa DOT will work closely with the FRA and the Iowa DOT's Office of Location & Environment, which is responsible for NEPA compliance, to complete the remaining requirements to obtain an approved CE, including obtaining a Clean Water Act Section 402 permit from the Iowa Department of Natural Resources, consultation with the State Historic Preservation Office on the results of the Phase I archaeological survey, and notification to the Tribes. Completion of these remaining tasks is expected to be routine and cause no significant delays in the project schedule.

5.5.2 State and Local Planning

The Iowa DOT's Freight Advisory Council (FAC), the Iowa DOT's State Rail plan, the MnDOT's draft State Rail Plan have all acknowledged the lack of intermodal service as a hindrance to growth and competitiveness in the Upper Midwest.

The Iowa DOT's State Freight Plan and an update to the federally compliant State Rail Plan are currently under development and will address the lack of intermodal facilities.

One freight improvement strategy included in Iowa's draft State Freight Plan is to "Optimize the freight transportation network to minimize cost and travel time and improve supply chain efficiency." This objective includes increasing the availability of transload and intermodal facilities to increase the connectivity in the system, resulting in elevated efficiency for all modes of freight transportation, as well as the expansion of the system to handle larger capacities.

The draft Iowa State Freight Plan will include the results of an exercise conducted with the FAC (detailed in Appendix B) to identify impediments to efficient freight movement. Two of the seven identified impediments address rail/truck multimodal shipments. They are:

- Examine strategies that provide more local rail connections and intermodal centers to decrease the distance exports must be trucked to get to a transload or intermodal facility.
- Evaluate ways to make it feasible and cost effective to invest in rail transfer facilities within Iowa to reduce transportation costs for Iowa's producers and receivers of goods.

MnDOT's Draft Rail Plan acknowledges that intermodal services in Minnesota are limited geographically and by capacity. One of its stated Freight Rail Goals is to "expand intermodal service access options throughout the state."

This project is also part of the Iowa Statewide Transportation Improvement Program as an illustrative project. See Appendix L for references to planning documents.

The Iowa DOT and the MnDOT also recognize the importance of rail infrastructure on the continued economic health of the Upper Midwest by their support for short line and regional railroads (as well as Class I railroads), through their planning processes and a history of financial assistance available to railroads and rail-served industry, particularly in rural locations

The UMTH, by meeting the multi-state needs identified in these planning documents holds the power to transform the way shippers approach shipping in the Upper Midwest, by increasing market access and lowering shipping costs.

6.0 Results of Benefit Cost Analysis

HDR Decision Economics was contracted by the Iowa DOT to conduct a rigorous analysis of the expected cost, benefits and the assumptions that went into the benefit cost calculations. As discussed in section 4.2.1, the Iowa DOT also did an independent analysis of volume assumptions and concurred with the initial estimates. Appendix K includes full documentation on the Benefit Cost Analysis

Total benefits
$781.75 million

Benefit/Cost ratio
5.62

Payback period
1.51 years

Many of the individual benefits summarized below (from the Benefit Cost Analysis) have been discussed in the respective selection criteria. The benefit cost analysis has taken a conservative approach to estimated volume and cost saving.

A modest investment of $7,100,000 in TIGER funding, coupled with $9,065,138 in private investment are expected to yield $781.75 million in total benefits (discounted at 7%) over the 22-year lifecycle.

A positive benefit cost ratio is a prerequisite for consideration for an award. The project proposed in this application will see benefits (discounted at 7%) exceeding *5 times* the cost – a benefit/cost ratio of 5.62 and a payback period of only 1.51 years.

Table 10: Benefit Estimates by Long-Term Outcome for the Full Project, Millions of 2014$

Long-Term Outcomes	Benefit Categories	7% Discount Rate	3% Discount Rate
State of Good Repair	Avoided Pavement Maintenance Costs	$133.1	$214.5
Economic Competitiveness	Shipper Savings due to Modal Switch from Truck to Rail and Choice of More Direct Intermodal Routes	$118.9	$189.4
Livability	Reduced Road Congestion due to Modal Switch from Truck to Rail	$83.3	$134.3
Environmental Sustainability	Emission Cost Savings due to Modal Switch from Truck to Rail	$19.9	$35.1
Safety	Accident Cost Savings due to Modal Switch from Truck to Rail	$426.5	$697.6
Total Benefit Estimates		$781.8	$1,270.9

7.0 Federal Wage Certification

The applicant will comply with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code (Federal wage rate requirements), as required by the FY 15 Appropriations Act. A certification to that effect is included in Appendix M and may be found at www.iowadot.gov/tiger15-freight.