

Grundy County

Multimodal Transportation Master Plan

APRIL 2024

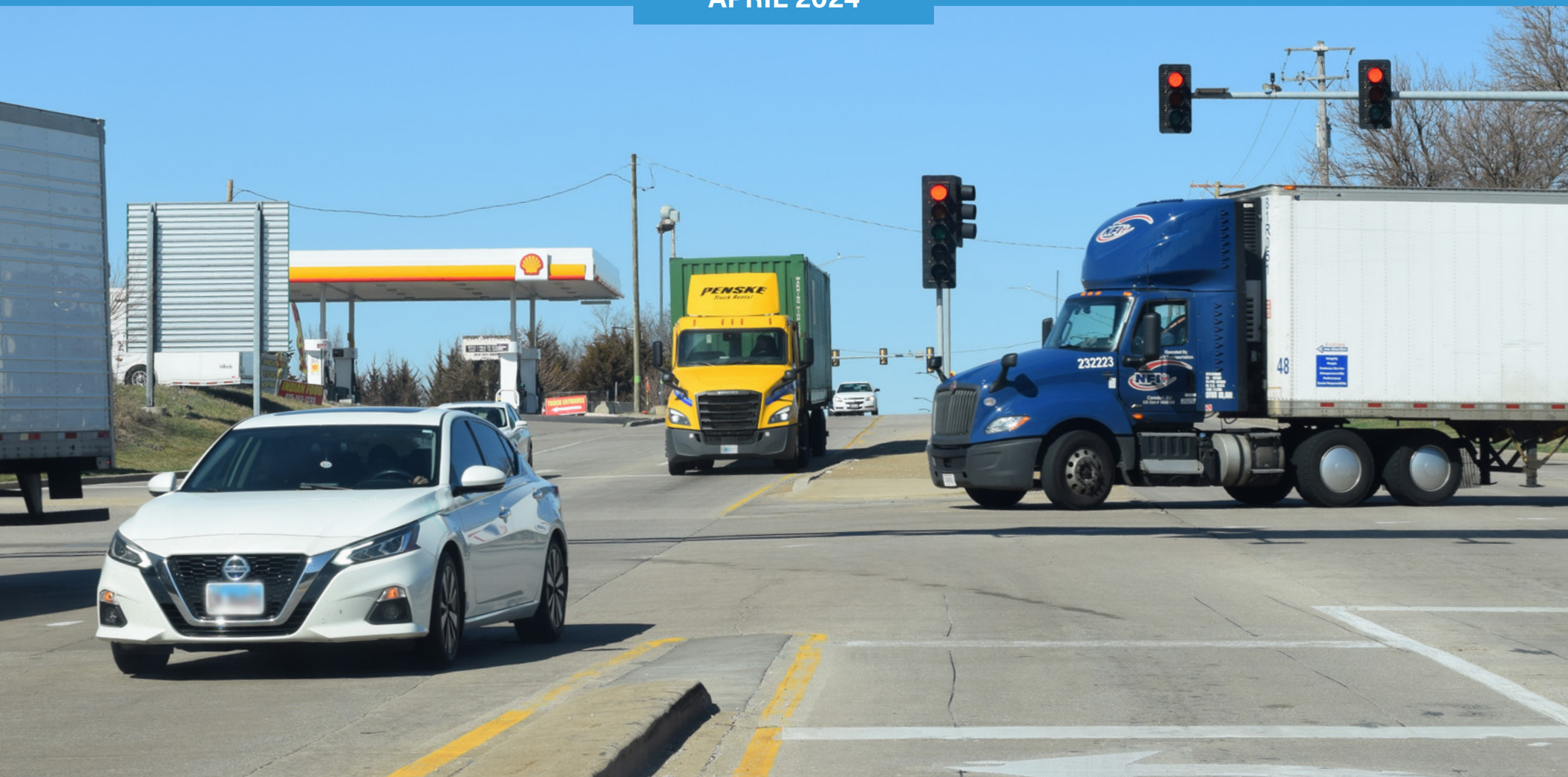


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Acknowledgments

This project was made possible by the support of multiple organizations, including the Illinois Department of Transportation, Grundy County, Grundy Economic Development Council, Will County Governmental League, Village of Channahon, Village of Coal City, Village of Diamond, Village of Dwight, Village of Mazon, Village of Minooka, and City of Morris.



The study team also extends its thanks to the Advisory Committee members, stakeholder groups that participated in various ways, and participating Grundy County residents who helped shape this plan.

Introduction

The Grundy County Multimodal Transportation Master Plan, also referred to as *Grundy Moves*, comes at a key moment for communities across the county. Grundy County has long been at the crossroads of transportation infrastructure – **served by two key Interstates, Class I railroads, and the Illinois River** – which in turn has supported a diverse economic base in manufacturing, agriculture, energy, and other sectors. The county's population grew 7.6 percent between 2010 and 2022, which was the third highest out of 102 counties in Illinois. In recent years, industrial development has grown rapidly, driven by the strength of distribution and logistics sectors across the nation and the access provided by local multimodal transportation system. Between 2017 and 2021, the transportation and warehousing industry in the county grew in value by 73% and increased employment by 27%. Other industries such as professional and scientific services, construction, and manufacturing have seen significant increases as well. While this growth has provided new economic opportunities for the county, it has placed new demands on the transportation network.

The intent of the *Grundy Moves* plan is to reach consensus among local stakeholders on a set of improvements that will meet both existing and anticipated future investment needs for the transportation system. **The cornerstone deliverable of this planning effort is a Transportation Improvement Program (TIP), which lists 49 priority projects.** This TIP considers the transportation network in the county as a whole, and as result makes recommendations for improvement to state, county, municipal, and township facilities alike. It includes both near- and long-term priorities for improvement and is not fiscally constrained to one agency's budget.



Section 1

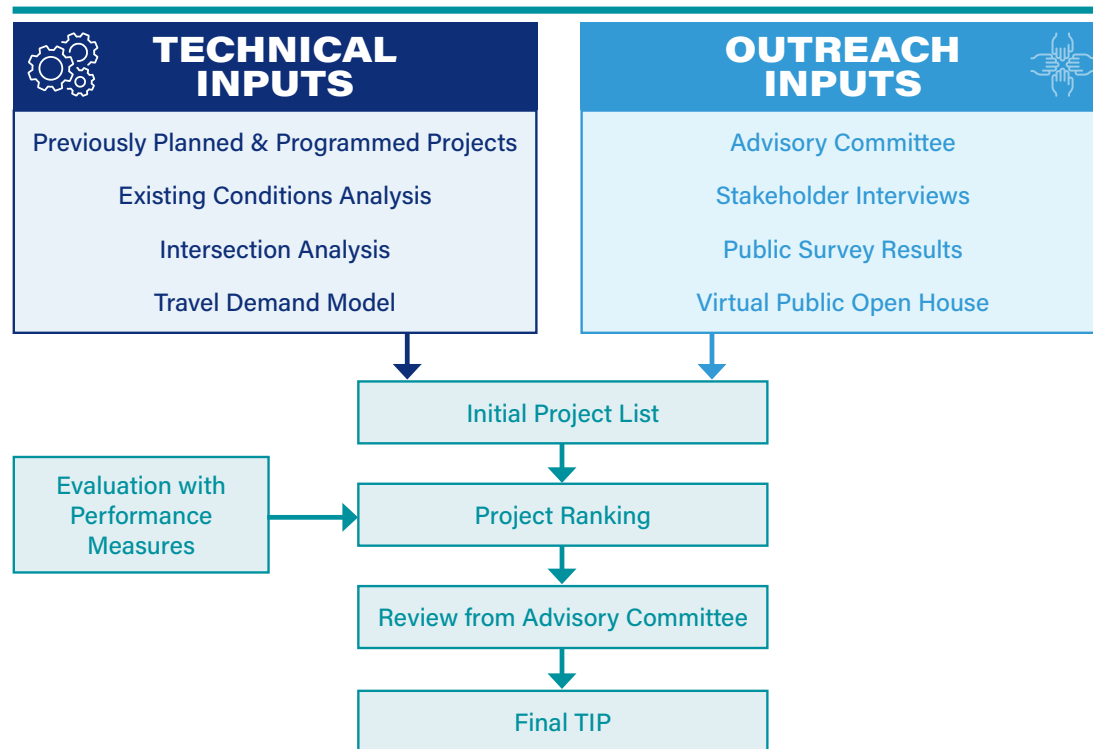
This report summarizes the methodology and findings from the *Grundy Moves* study in five following sections:

- **Stakeholder Engagement** - Describes the stakeholder engagement process, which relied on a combination of engagement activities including the Advisory Committee, public survey, stakeholder interviews, and virtual public open house.
- **Development of the Transportation Improvement Program** – Describes the TIP development process, final set of priority projects, and funding opportunities to support those projects.
 - **Existing Plans and Programs** – Reviews prior public-agency project plans adopted in the study area and currently programmed projects.
 - **Existing conditions analysis** - Reviews existing conditions of the transportation system in Grundy County, identifying current hot spots for safety and congestion, as well as analyses of key intersections.
 - **Travel demand modeling** - Describes the travel demand modeling process and results, which identify anticipated locations of future congestion on the transportation system.
 - **Stakeholder engagement** – Details how stakeholder engagement was used to produce the TIP.
- **Recommended Transportation Improvement Program** – Provides information on the final projects selected to be in the TIP.
- **Emerging Technologies and Innovative Ideas** - Reviews operational and management strategies to further improve performance on the transportation system without major capital investment.
- **Next Steps** – Provide considerations for implementation of the plan and recommends further studies.



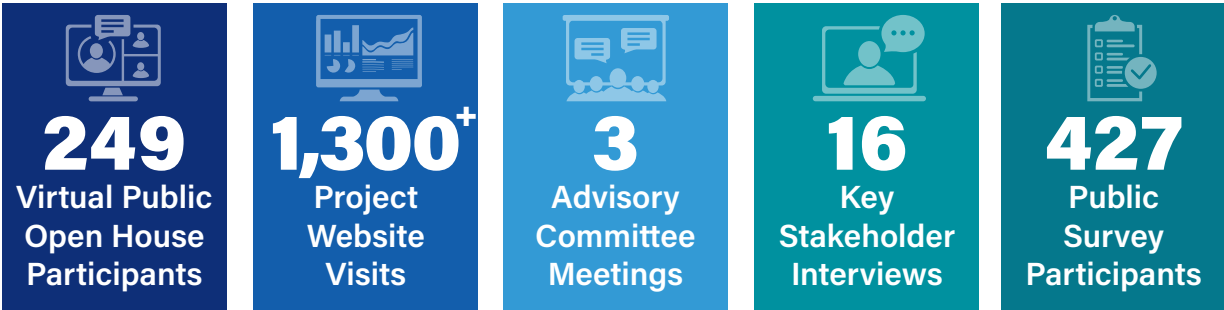
Projects in the TIP reflect consensus among diverse stakeholders across the county, including representatives from public sector agencies and private sector interests. The TIP includes projects identified from prior planning efforts and existing investment programs, a robust stakeholder engagement effort, and original technical analyses conducted as part of the *Grundy Moves* study. The latter includes regional travel demand modeling and intersection analyses of key nodes in the county's transportation network. After project concepts were assembled, the draft TIP was evaluated using performance measures that span the key goals of asset condition, mobility, safety, economic development, environment, and equity. Projects were then ranked into tiers, with the results further refined by the study's Advisory Committee.

TIP DEVELOPMENT



Stakeholder Engagement

Stakeholder engagement was a key component in the development of *Grundy Moves* and was embedded throughout the planning process. The project team developed a Stakeholder Engagement Plan at the beginning of the planning process which outlined the key stakeholder and community outreach activities. This included the establishment of an Advisory Committee, key stakeholder interviews, a public survey, a virtual public open house, and a project website . These engagement activities yielded crucial input during the planning process, which has been incorporated into the final *Grundy Moves* Plan. This rigorous process led to consensus on the transportation improvement program project list.



Advisory Committee

An Advisory Committee was established at the beginning of the planning process to help guide and provide input on major aspects of the plan. The committee included representatives from both the public and private sectors based on recommendations provided by Grundy County and the Grundy Economic Development Council.

Three in-person Advisory Committee meetings occurred at key points in the planning process and members were provided opportunities to influence all aspects of the study, including the development of the TIP. The first two meetings provided the committee with an overview of the technical existing conditions analysis and modeling process and results. The committee was presented with iterations of the draft TIP list and gave feedback on projects to include and criteria for prioritization. In the final meeting, the committee discussed potential transportation technology solutions and the next steps for implementing the plan. The committee also was given the opportunity for feedback on the final prioritized TIP. Public and stakeholder activities and their

Section 2

Advisory Committee Members:

- Ann L. Schneider & Associates
- City of Morris
- Grundy County
- CR Transport and Logistics
- Grundy County Economic Development Council
- Illinois Department of Transportation District 3
- Kendall-Grundy Farm Bureau
- Mid-West Truckers Association
- Narvick Brothers Construction
- Village of Channahon
- Village of Coal City
- Village of Diamond
- Village of Dwight
- Village of Mazon
- Village of Minooka
- Will County Governmental League



associated outcomes were provided at all three meetings and the committee members assisted with promoting public outreach efforts such as the survey and open house.



Figure 1. Advisory Committee Meeting #1 at Morris City Hall

Stakeholder Interviews

Stakeholder interviews were conducted with 16 key stakeholder organizations to solicit feedback and input on transportation concerns, issues, and opportunities to inform the plan. Topics covered included areas of congestion, safety concerns, and general ideas to improve travel in the county. Additionally, industry-specific questions were used to help identify unique travel needs of the various industries in the county. Interviews included organizations representing the following stakeholder groups:

Industrial and Commercial	Real Estate	Logistics	Freight Railroads and Ports	Agriculture	Environmental	Transit and Active Transportation

Public Engagement

The public was engaged with the project in three ways:

Survey

The project team developed and implemented a public survey to collect input from residents, visitors, and workers in Grundy County on key transportation challenges. The results assisted the project team in tailoring project messaging as well as inform recommendations for the TIP. The survey was also one of the first outreach activities and helped introduce the planning process to the public.

A total of 427 survey responses were collected. Over 83 percent of survey respondents were residents of Grundy County, with the remainder either working in or visiting the county.

Virtual Open House

As part of the public outreach process, the project team designed and hosted a virtual public open house to present the plan and its purpose; provide an overview and highlight tasks completed to date; and present initial recommendations as well as the draft projects list for public feedback and input. The virtual public open house was the final major outreach activity completed for *Grundy Moves* and provided an opportunity for public comment and input on plan recommendations.

A total of 249 participants attended the virtual public open house held in December 2023 and January 2024. The open house was open for comment for 36 days and available for viewing afterwards.



Figure 2. Public Survey Social Media Flyer



Figure 3. Virtual Open House Welcome Room



Project Website

GrundyMoves.com was created to assist with public communications and dissemination of project-related materials for the duration of the project. The website, launched in May 2023 contains general plan information, a study area map, outreach information and materials, project timeline, and project contact information. The website was used to disseminate the public survey and the virtual public open house. Over 1,300 visitors have accessed the website for project information as of February 2024.



Figure 4. Grundy Moves Website

Development of the Transportation Improvement Program

This section reviews the development process for the transportation improvement program. It first reviews the sources for the project concepts, then describes the ranking and prioritization process. That process included both technical evaluation and review by stakeholder groups and the public. Finally, this section describes the updatable TIP database, which will allow the county and stakeholders to track project development over time.

Sources for Project Concepts

The TIP methodology was designed to produce a list that addressed current and future needs for the transportation network in Grundy County. Projects were considered based on an unconstrained timeframe and budget. Any jurisdiction of roadway was considered. Projects identified were required to be impactful at a regional scale, meaning they have the potential to impact mobility, safety, and development for the larger Grundy County region. As a result, the analysis excluded routine maintenance projects, which represent the bulk of existing planned and programmed projects.

The TIP drew from four overarching sources:

 <p>Existing Plans and Programs</p>	 <p>Existing Conditions Analysis</p>	 <p>Stakeholder Engagement</p>	 <p>Travel Demand Modeling</p>
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Section 3

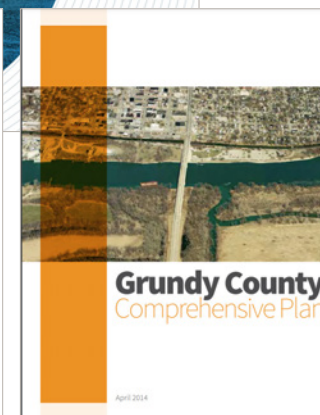
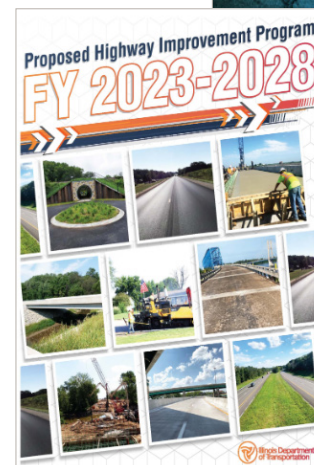




Existing Plans and Programs

The project team reviewed several previous planning efforts and projects currently programmed in the Chicago Metropolitan Agency for Planning's Transportation Improvement Program. The review identified about 30 initial projects sourced from the Illinois Department of Transportation (IDOT), Grundy County, local jurisdictions, and specific corridor studies. These sources included the following:

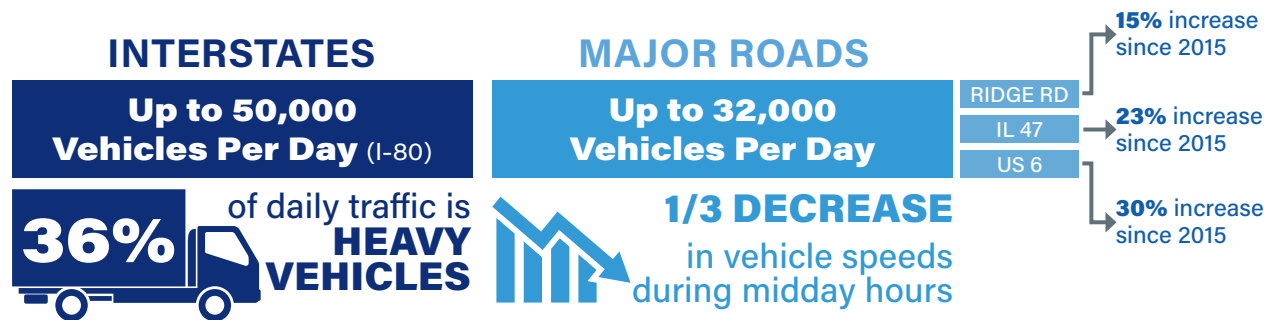
- State sources
 - IDOT Long-Range Transportation Plan
 - IDOT Highway Improvement Program
- Regional sources
 - Chicago Metropolitan Agency for Planning TIP
 - Grundy County Comprehensive Plan
 - GEDC Grundy County Transportation Priorities
- Local sources
 - Minooka Comprehensive Plan and TIP
 - Morris Comprehensive Plan and Downtown Master Plan
 - Channahon Comprehensive Plan
 - Coal City Strategic Plan, Assets Map, and CIP
 - Diamond Comprehensive Plan
- Other sources
 - Corridor Access Studies
 - Peoria Passenger Rail Plan



Existing Conditions Analysis

The existing conditions analysis provided an understanding of current system performance. Key topics include traffic volumes, congestion, safety, asset condition, and non-motorized modes. It also included a high-level review of several key intersections.

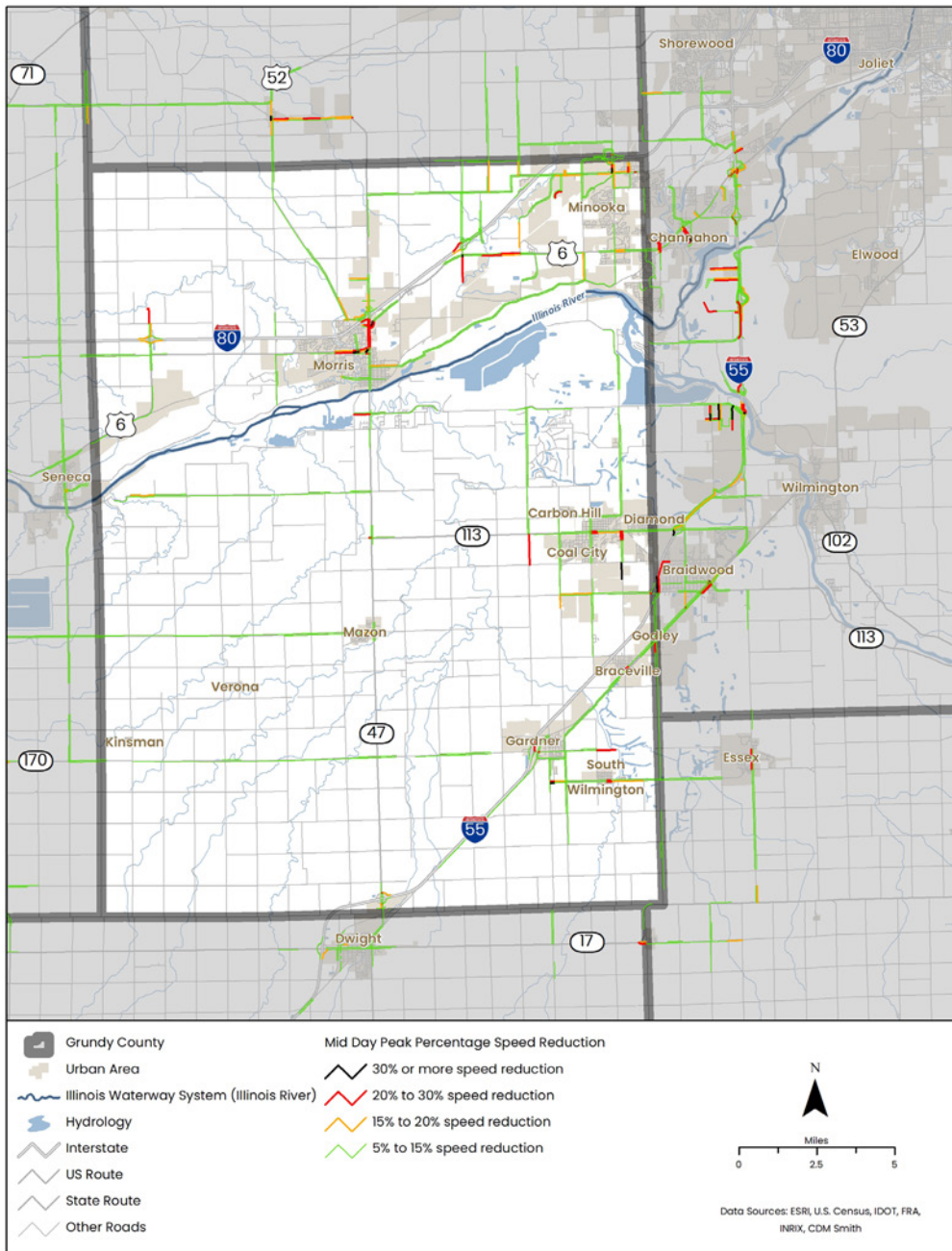
Traffic volumes - The project team analyzed traffic volumes and congestion to understand typical system performance throughout the county. Analysis was derived from IDOT Annual Average Daily Traffic data for 2021. These counts were supplemented by counts performed by the project team in the spring of 2023. The highest volumes in the county were found on I-80 with over 50,000 vehicles a day while other major arterials had up to 32,000 vehicles. These arterials such as IL 47 (in Morris), Ridge Rd (in Minooka), and US 6 (in Morris) have seen volume increases from 15-30% since 2015. Some roadways had over 30% of traffic from heavy vehicles.



IL state average is 20% (IDOT Statewide Vehicle Miles of Travel)



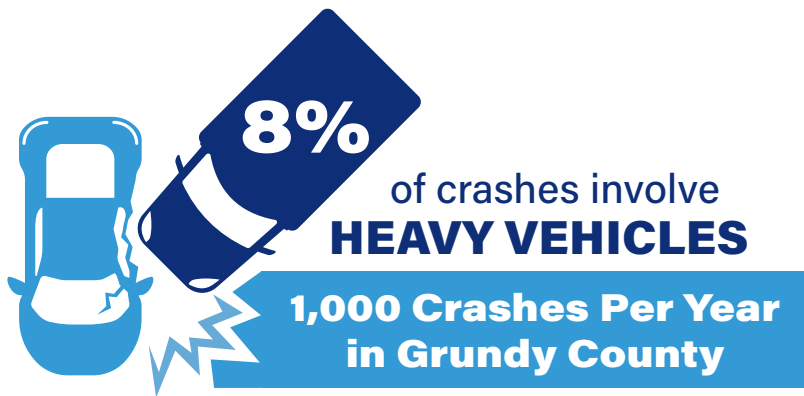
Figure 5. Mid-Day Peak Percentage Speed Reduction Compared to Free-Flow Speeds (2022)



Congestion - Grundy County experiences the highest congestion levels during the midday and PM peak periods. Congestion is concentrated in the main urbanized areas in the north-central and northeast portions of the county. IL 47 and US 6 both experience between a 20 and 30 percent speed reduction compared to free-flow speeds in Morris, and US 6 experiences a 20 to 30 percent speed reduction just west of IL 47 and further east as it approaches Minooka and Channahon. Several local roadways in the Minooka/Channahon area also experience speed reductions of up to 30 percent, including Minooka Road, Ridge Road, and roadways that serve as frontage roads for I-80. There are also road segments over 20 and 30 percent in the eastern portion of the county, near Coal City and Gardner.



Safety - The project team analyzed crash data from 2017-2021 from IDOT. Crashes are centered in populated areas, including Morris, Minooka, and Coal City, as well as along major arterial corridors and interstates. Within these clusters, there are relatively large numbers of crashes at the intersections of IL 47 and Pine Bluff Road, Washington Street and Liberty Street, and Ridge Road and McEvilly Road. There were several major injury or fatal crashes on US 6 between Morris and Minooka, and on IL 47 for most of its extent in Grundy County.

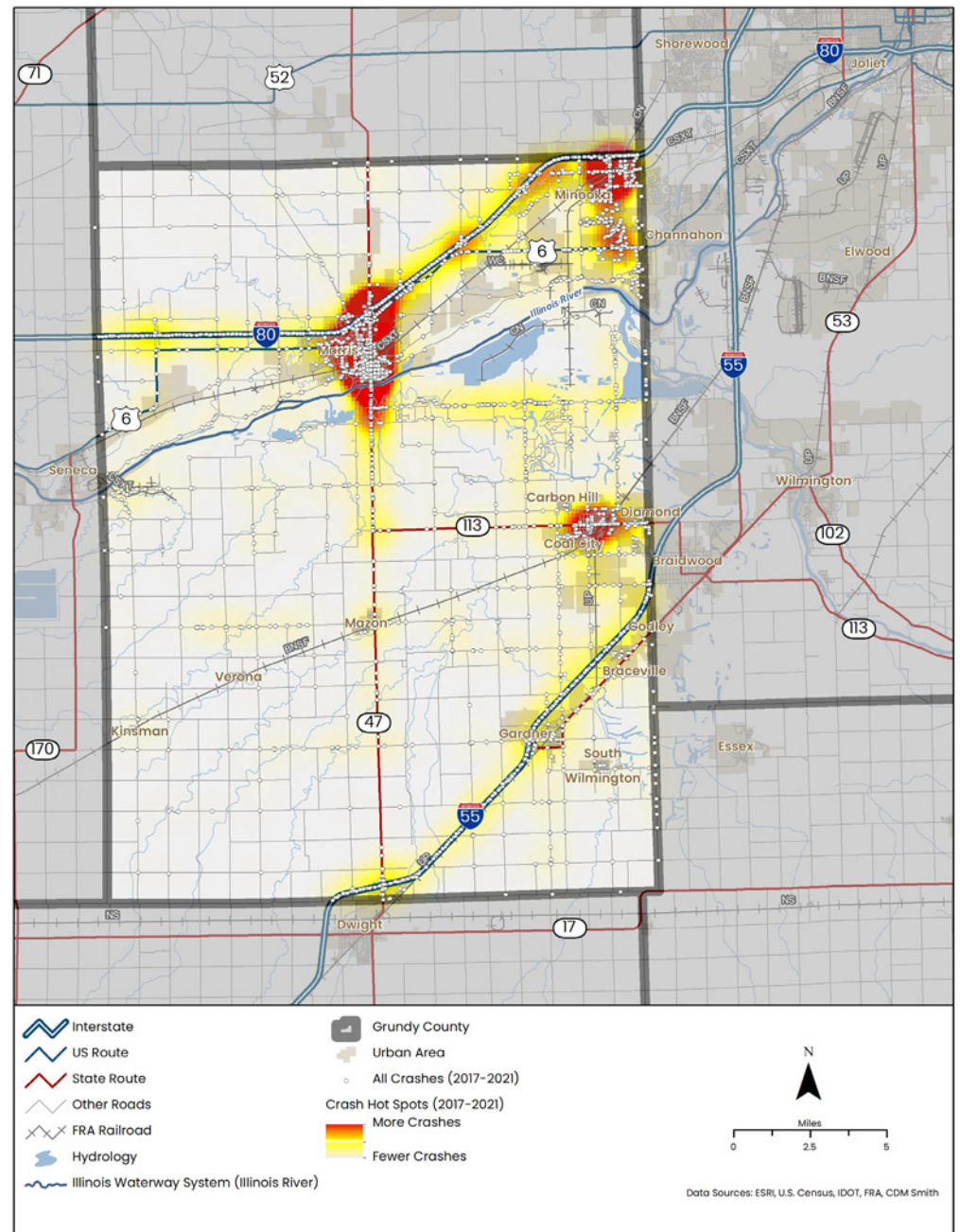


8% of crashes involve **HEAVY VEHICLES**

1,000 Crashes Per Year in Grundy County

Asset Condition - The project team also analyzed transportation asset condition data from IDOT (2022) which provides roadway pavement condition for facilities under the department's jurisdiction as well as some local agency facilities. There are poor roadway conditions on US 6 between Minooka and Morris, for a small segment of I-55, and on IL 53 in Braceville and Gardner. Fair pavement conditions are found on segments of both Interstates and along key local routes, such as portions of Minooka Road and Ridge Road.

Figure 6. Crash Hot Spot Analysis, 2017-2021





Grade Crossings - Four Class I railroads operate in Grundy County with over 60 crossings in the county. The Burlington Northern Sante Fe (BNSF) crossings have the largest total delay due to having the most train traffic. The BNSF tracks see approximately 64 trains pass each day, compared to 22 daily trains for the Union Pacific Railroad (UP) corridor and low single-digit numbers of trains each day for the other railroads. Due to the high frequencies on BNSF tracks, a closely spaced series of at-grade crossings, and local traffic volumes, at-grade crossing delays in Grundy County are highest in Coal City where there are about 1,000 minutes of daily delay. Outside of Coal City, the IL 47 grade crossing at the BNSF in Mazon also experiences large delays, with nearly 200 minutes of daily delay.

Non-motorized Network and Transit - The project team also reviewed the current state of the non-motorized and public transportation networks in Grundy County and found many areas without bicycle and pedestrian infrastructure such as sidewalks and safe crosswalks. Locations that do provide this infrastructure include downtown Morris where the commercial district has wide sidewalks and pedestrian-oriented streetscaping that encourage 'park once' behavior. In addition, the centers of Coal City and Minooka provide some non-motorized facilities. The I&M Canal State Trail provides regional recreational bicycling that parallels the Illinois River and traverses the entire county with multiple access points.

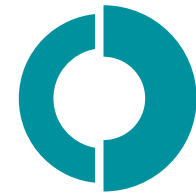
Grundy Transit System (GTS), the county's on-call transit agency, operates similar to paratransit services. According to GTS data, the service provided 16,030 on-demand rides in Fiscal Year (FY) 2023, with 53 percent of rides provided for senior or disabled residents. The two municipalities that produced the most ridership were Morris (63 percent) and Minooka (13 percent). Common destinations include large retail locations and distribution centers in Minooka.



IMPROVEMENTS
needed for
bike/pedestrian
infrastructure and
connections



TRANSIT USE
has bounced back
from pandemic
ridership lows



HALF
of transit riders are
elderly or disabled

Intersection Analysis – The project team completed a planning-level assessment of safety and geometrics at 12 key intersections within the study area. These locations were identified based on review of congestion and safety data and in consultation with Grundy County and project staff. All intersections currently meet the FHWA capacity guidelines. Assessing pavement markings at all intersections to determine where they need repainting is recommended. High-level notes for individual intersections are in Table 1 on the following page.

Travel Demand Modeling

The study process also included travel demand modeling, which allows for future transportation conditions to be estimated based on socioeconomic growth and roadway network characteristics. Modeling scenarios help to identify likely future locations of congestion or operational issues, to assess the impact of potential projects on reducing future congestion. It also provides a stress-test on the roadway network to understand the impact of potential changes in land use over time.

The travel demand model developed for Grundy County was extracted from the larger Chicago Metropolitan Agency for Planning (CMAP) model and refined to better represent local traffic conditions. For example, the model was calibrated using the traffic counts collected for this study, providing base-year 2023 average weekday traffic volumes at key locations. The Grundy County model assumes no additional infrastructure changes for **the future year of 2050**, aside from the larger planned capital projects already included in the CMAP model. In addition to the baseline future growth assumptions, the project team developed two alternate future year scenarios based on varying intensity of industrial development. The industrial development areas were based on existing industrial areas and zoning, and do not reflect planned or preferred locations. Most of these locations are in the northern portion of the county.

Figure 7. Intersection Analysis Locations

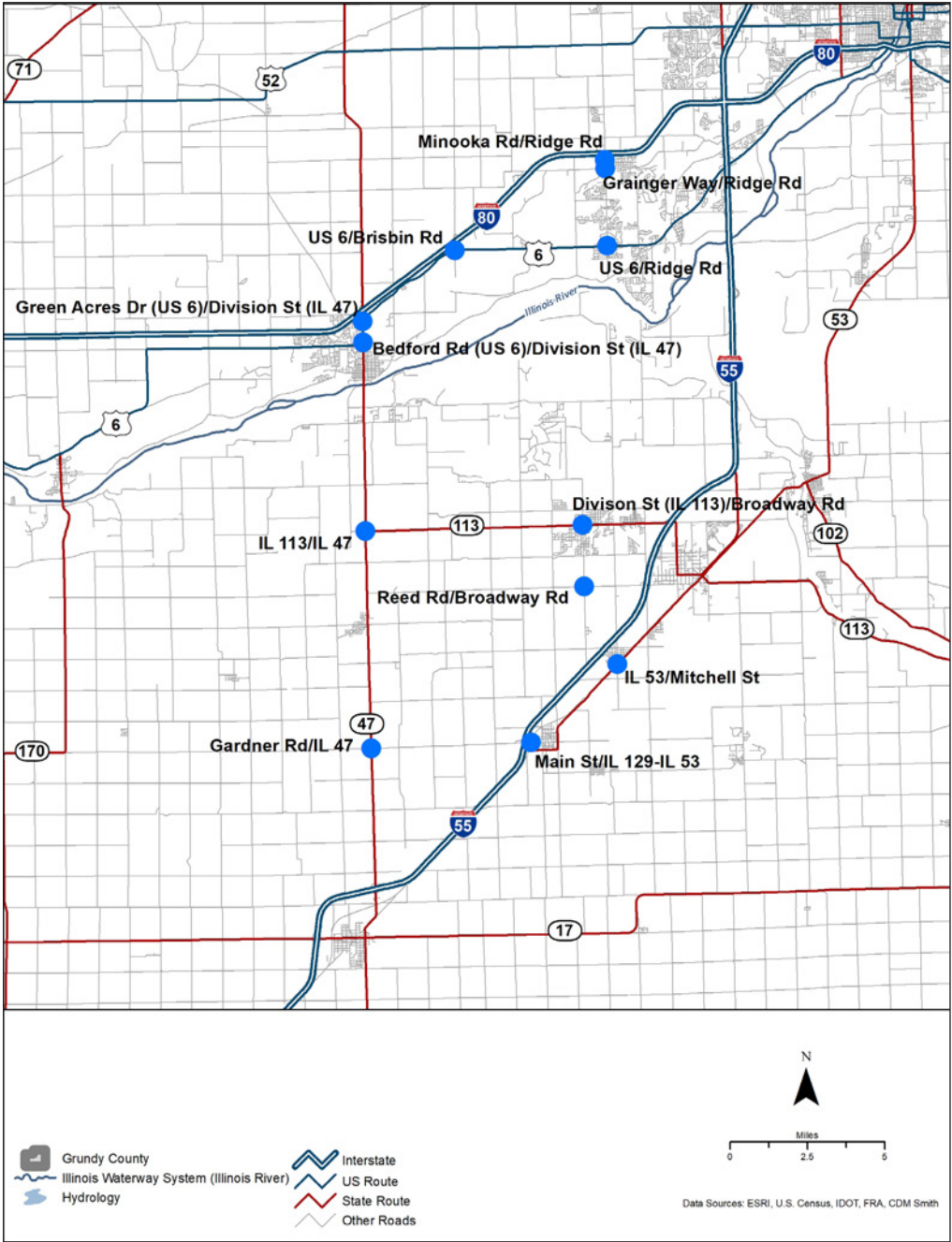


Table 1. Intersection Analysis Notes

Intersection	Municipality	Notes
Minooka Road and Ridge Road	Minooka	This intersection should be considered as part of a system of improvements along Ridge Road from Minooka Road through the I-80 interchange.*
US 6 and Ridge Road	Minooka	Further study does not appear to be warranted at this time.*
US 6 and Brisbin Road	Morris	Further study does not appear to be warranted at this time.
US 6 / Green Acres Drive and IL 47 / Division Street	Morris	Future add-lanes may be needed with increased demand. Access management on the west approach is recommended to improving safety and access.
US 6 / Bedford Road and IL 47/ Division Street	Morris	The introduction of private driveway access control along IL 47 and correcting the slight skew of the intersection should be future considerations.
IL 113 / Division Street and Broadway Road	Coal City	As future growth increases traffic volumes, more detailed analysis of this intersection is recommended. Limited right-of-way on IL 113 will provide a challenge for capacity improvement; however, Broadway Road appears to have sufficient right-of-way provided access control limits are included.
Reed Road and Broadway Road	Coal City	Future add-lanes to a three-lane or five-lane section to address significant growth would encounter few if any obstacles. Additional right-of-way should be obtained in conjunction with any adjacent development.
IL 53 and Mitchell Road (CR 8000)	Braceville	The 45-degree skew should be corrected to 90 degrees if Mitchell Road were to be realigned or relocated.
Main Street and IL 129/IL 53	Gardner	Further study does not appear warranted at this time.
Gardner Road and IL 47	Goodfarm Township	Further study does not appear warranted at this time.
IL 113 and IL 47	Morris	Consider evaluation of the intersection for traffic signal warrants.
Grainger Way and Ridge Road	Minooka	This intersection should be considered as part of a system of improvements along Ridge Road from Minooka Road through the I-80 interchange.*

*Subject to more thorough study depending on emerging economic development.



Results

Model outputs were reviewed to identify locations with poor performance on the roadway network under various future year scenarios. This review primarily included two measures, representing different dimensions of congestion:

- Volume-to-capacity (VC) ratios, which indicate whether traffic volumes exceed capacity for a roadway (i.e., a result over 1 indicates that volumes exceed capacity)
- Congested speeds over free-flow speeds, which normalize low travel speeds in model outputs by uncongested conditions.

Figure 8. Future Year Congestion, Base Scenario

Base Scenario - The base future year scenario relies on underlying growth assumptions in the CMAP model and does not account for any additional industrial land use. The model indicates that most road segments are forecast to remain well under capacity and expected to operate under free-flow conditions.

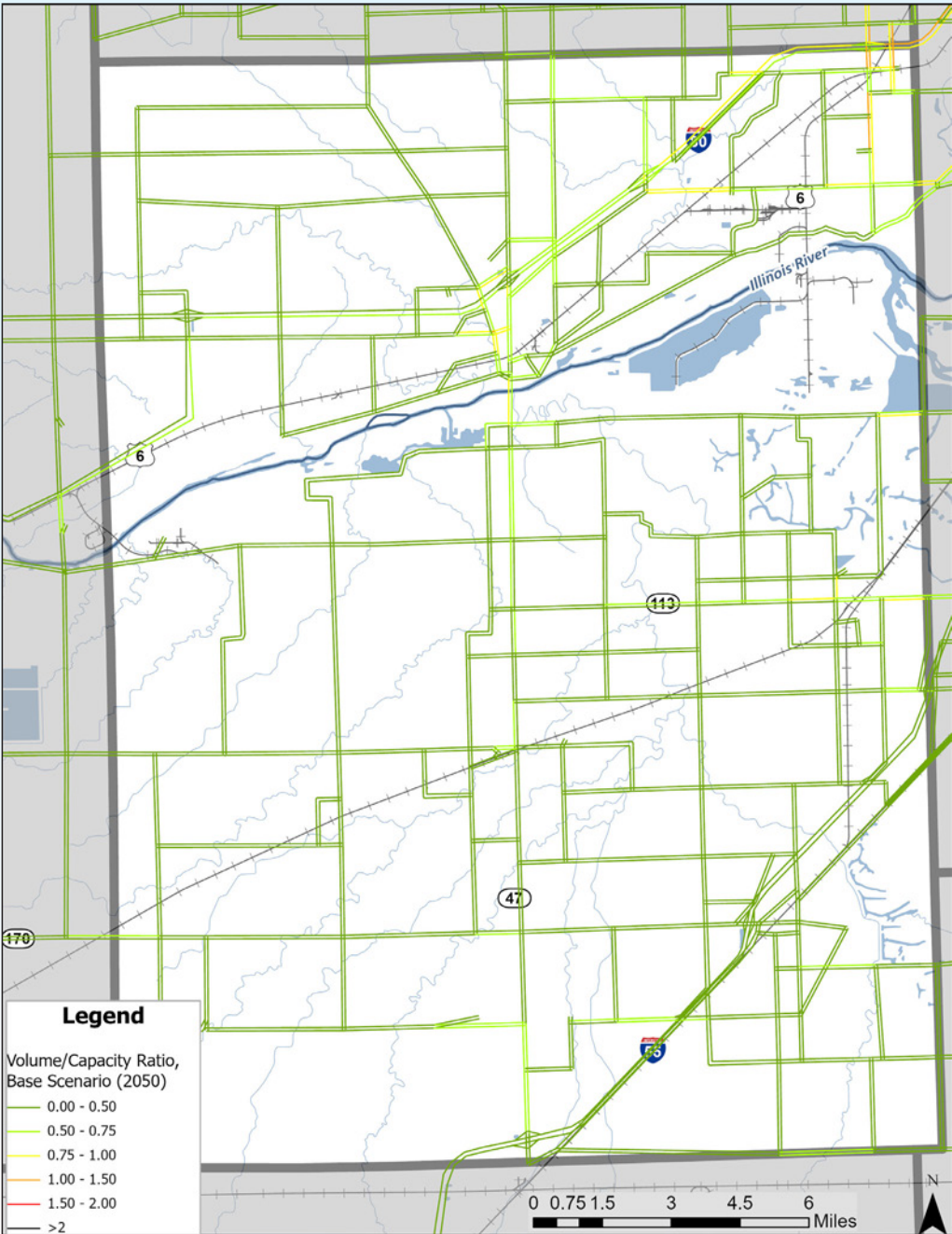
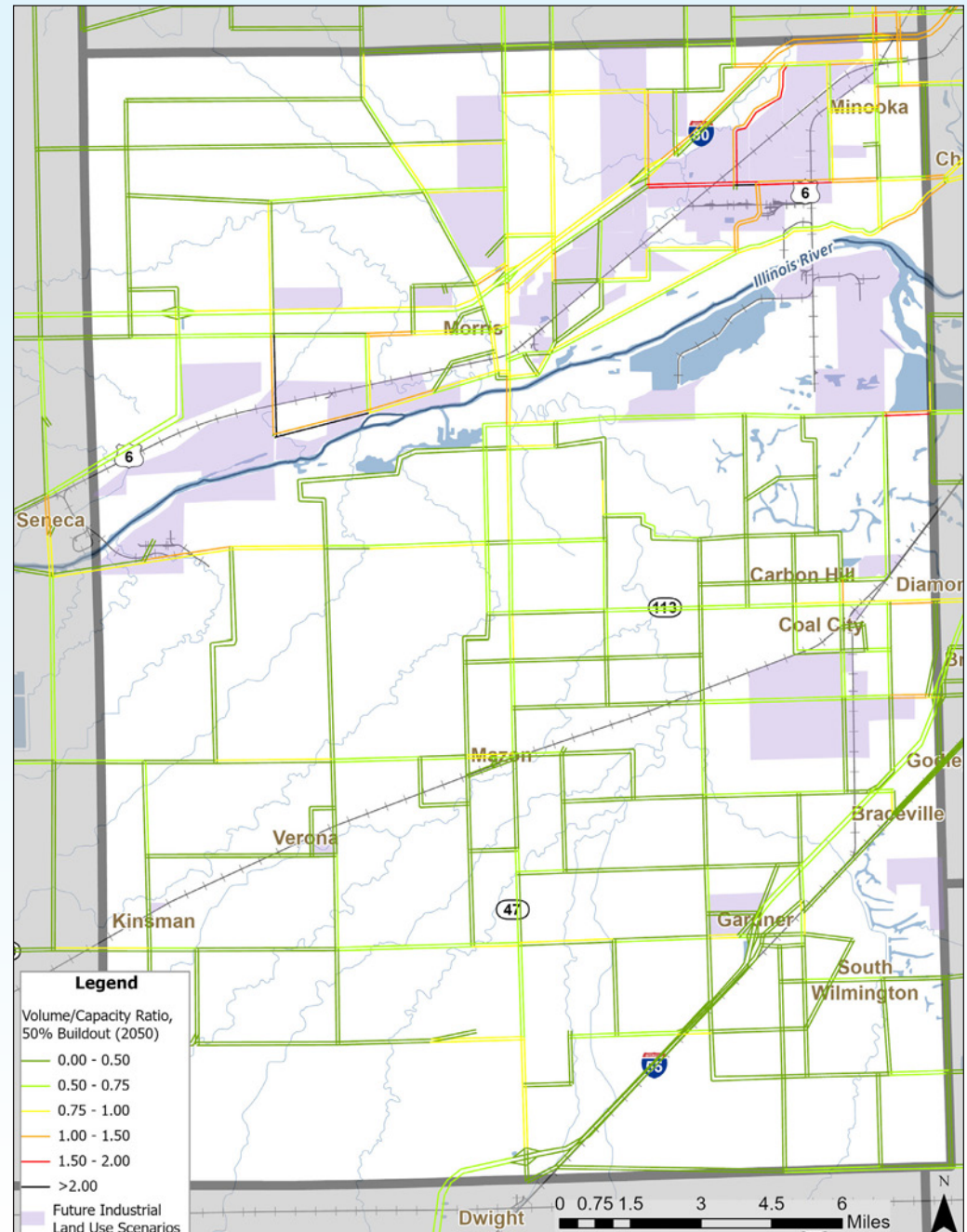


Figure 9. Future Year Congestion, Partial Buildout

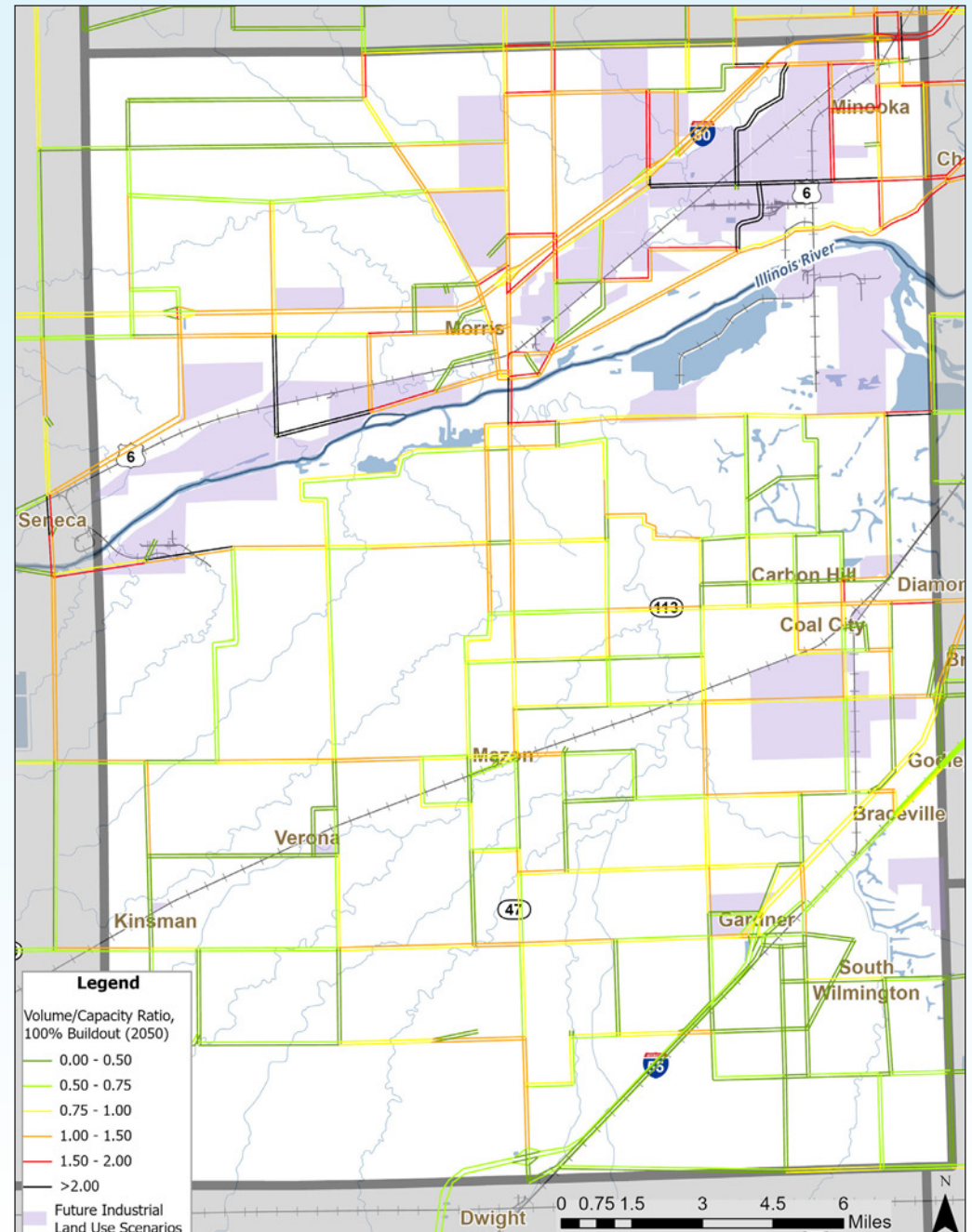
Partial Build-out Scenario - In the partial build-out scenario, roadway congestion on multiple facilities in Minooka and Channahon worsens compared to the base case, particularly along US 6 and Tabler Road, where V/C ratios exceed 1.5. Significant congestion also occurs on IL 47, especially over the Illinois River between Benton Street and Pine Bluff Road, where the V/C ratio reaches 2.3. I-80 in Minooka experiences V/C ratios ranging from 1.0 to 1.5. Some facilities near Morris experience a slight increase in congestion, especially along US 6/Bedford Road/Green Acres Drive, Nettle School Road, and Old Stage Road (see note below), although congestion on these facilities remains relatively low.



NOTE: Although showing high VC ratios, areas near Nettle School Road and Old Stage Road are unlikely to experience congestion in 2050, as properties there are not likely candidates for industrial development due to the potential for flooding.

Full Build-out Scenario - Locations with existing congestion either persist or intensify in the full build-out scenario. Interstate facilities are less severely impacted in this scenario, while arterial, collector, and local road facilities are more impacted. Numerous facilities throughout Minooka, Morris, and Seneca exhibit V/C ratios over 1.5. Some locations have V/C ratios above 4.0, indicating severe congestion. For example, the segment of US 6 between Brisbin Road and McLindon Road has a V/C ratio of 5.4.

Figure 10. Future Year Congestion, Full Buildout



Along with the survey, the open house allowed for comments from participants. Key feedback themes from the open house included:



Improving intersections



Relieving traffic



Balancing environmental equity and preservation with economic development



Improving pedestrian and bike infrastructure



Specific suggestions regarding projects listed on the draft TIP

Stakeholder Engagement

Outreach inputs for potential projects also were considered in addition to the technical inputs. Detail on the stakeholder engagement process is contained in Section 2, and the following are the ways it directly shaped the TIP. The Advisory Committee was a key part of the TIP development process, confirming projects identified from other sources as well as identifying new project concepts. It was presented with the initial list of planned and programmed projects and then informed as sources brought in new projects. Iterations with the committee led to some projects being dropped and others being added.

Additionally, the stakeholder interviews allowed the project team to hear directly from important users of the network on concerns which brought about other potential projects. Interview participants acknowledged transportation challenges as Grundy County continues to grow. Stakeholders noted the county is rapidly transforming from an economy largely based on agriculture to one based on industry, warehousing, and logistics. While this growth is welcomed by most stakeholders, it raises concerns regarding congestion, the environment, and the quality of life of residents. Interviewees noted that proactive planning for transportation improvements to manage development and the associated traffic impacts is crucial.

Most broadly, this study engaged the public in the TIP development through a survey and virtual open house which solicited responses about specific areas of concern to generate more potential projects. Survey respondents identified minimizing the negative effects of truck traffic as the biggest transportation need in Grundy County. This was followed by relieving congestion, providing more transit and bike and/or pedestrian options, and improving safety. Respondents also noted specific areas for improvement on local roads including Ashley Road, Gore Road, Lisbon Road, McEvelly Road, McLindon Road, and Ridge Road as well as major roadways including I-80, US 6 (in various locations), IL 47, and IL 113.



Ranking and Prioritization Process

After the full TIP list was established and confirmed by the project team and Advisory Committee, a prioritization process was used to rank projects. Projects were scored using a multi-criteria analysis rubric and followed these steps:

- Identified six key goals and performance metrics within those goals
- Weighted the goals to reflect local priorities
- Developed a project evaluation tool to evaluate project concepts
- Ranked projects into three high-level tiers

The six goals were presented to the Advisory Committee, and members were able to propose weighting for the goals through a brief follow-up survey. The project team averaged the proposed weightings to arrive at the final weighting scheme shown in **Figure 11**.

The project team identified data sources that reflected the goals through performance metrics. This was followed by developing a scoring system and applying the weights provided by the Advisory Committee to produce the final scores. With the appropriate scores and weights, the project team found natural breaking points in the stratified project list and grouped them into three tiers. The tier allocations were discussed with the county and the Advisory Committee, and it was agreed to make minor adjustments for a small number of projects because of unavailable data or reasonable future development timelines. These tiered lists were presented to the public as part of the open house.

Transportation Improvement Program

Database Development

The project team built a Microsoft Access database to house the project information for the TIP and allow for future updates. The database system is designed to input, store, and print project information. It is likely that the Grundy County Highway Department will maintain and update the TIP Database after the completion of this study. It is assumed that members of this study's Advisory Committee and other stakeholders will coordinate with the county to track the implementation of the recommendations of the study over time.

TIP Project Prioritization Goals and Weights

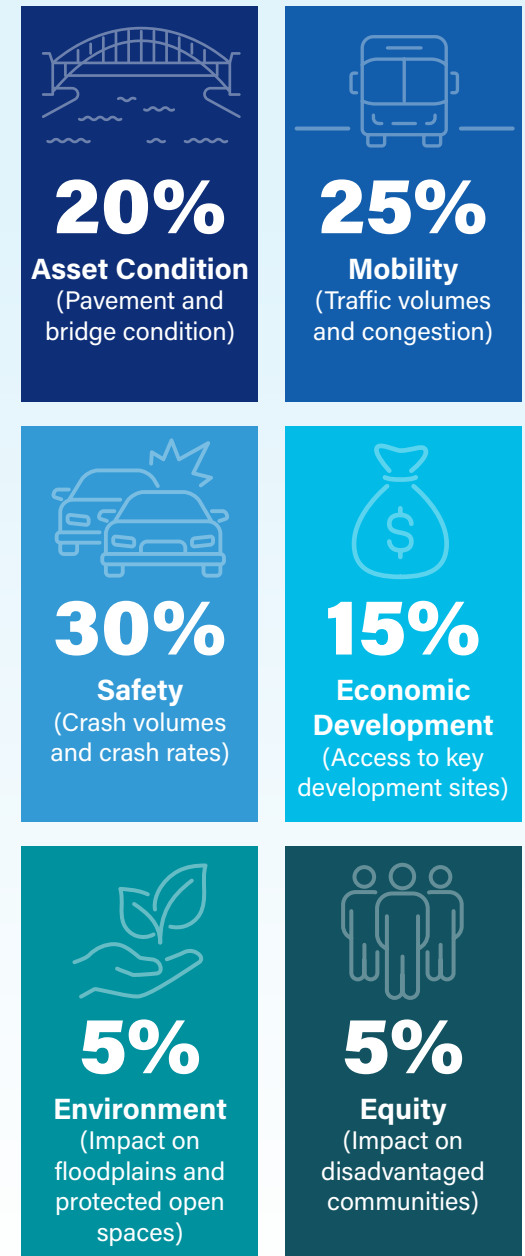


Figure 11. TIP Databased Mock-Up

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Main Menu - TIP Database

GRUNDY MOVES
Grundy County Multimodal Transportation Master Plan

Help Admin

Add Project Report Go

Edit	ProjectID	Title	Lead Agency	Type	Limits	Municipality	Oper
	0			New Road			
Edit	1	US 6	IDOT	Road Widening	IL 47 to Ridge Rd		
Edit	2	I-80	IDOT	Road Widening	IL 47 to I-55		
Edit	3	Ridge Rd/I-80 Interchange	IDOT	Interchange/Intersection Improvement			
Edit	4	IL 47/US 6-Green Acres Dr (north)	IDOT	Interchange/Intersection Improvement			
Edit	5	IL 113	IDOT	Road Widening	IL 47 to I-55		
Edit	6	Ridge Rd	Grundy County/Minooka/Channahon	Road Widening	McEvilly Rd to Hansel Rd		
Edit	7	IL 47/I-80 Interchange	IDOT	Interchange/Intersection Improvement			
Edit	8	US 6	IDOT	Road Widening	IL 47 to Saratoga Rd		
Edit	9	Gore Rd	Morris	Road Widening	Lisbon Rd to IL 47		
Edit	10	McEvilly Rd	Grundy County	Road Widening	Vista Ct to Ridge Rd		
Edit	11	Lisbon Rd	Grundy County	Road Widening	Sherrill Rd to Gore Rd		
Edit	12	Broadway Rd	Grundy County/Coal City	Road Widening	Spring Rd to Braceville Rd		
Edit	13	Brisbin Rd/I-80 Interchange	IDOT	Interchange/Intersection Improvement			
Edit	14	McLindon Rd	Aux Sable Township/Minooka	Road Widening	Minooka Rd to US 6		
Edit	15	Pine Bluff Rd/Lorenzo Rd	Grundy County	Road Widening	IL 47 to I-55		
Edit	16	Brisbin Rd	Aux Sable Township/ Saratoga Township	New Road	US 6 to Bungalow Rd		
Edit	17	IL 47/US 6-Bedford Rd (south)	IDOT	Interchange/Intersection Improvement			
Edit	18	Reed Rd/Jagtown Rd	Grundy County/Coal City	Road Widening	IL 113 to Broadway St		
Edit	19	Brisbin Rd	Grundy County	Road Widening	US 6 to Sherrill Rd		
Edit	20	Minooka Rd, O'Brien Rd, Sherrill Rd	Grundy County	Road Widening	Tabler Rd to IL 47		
Edit	21	I-55	IDOT	Road Widening	Gardner to Will Co Line		
Edit	22	US 6/Seneca Rd	IDOT	Road Widening	Main St (Seneca) to I-80		
Edit	23	Grainger Way	Minooka	Road Widening	Minooka Rd to entrance to Grainger facilities		
Edit	24	Tabler Rd	Aux Sable Township	Road Widening	Minooka Rd to Nounyon		

Records: 14 of 30

From a technical perspective, the database consists of four major parts: input form, input table, query, and reports. The input form is used to type in new project information such as project location, phase, year, cost, etc. When the user finishes the project input, the user submits the information in the form and the data is automatically saved into an input table. The data in the input table can be searched, analyzed, and exported into different formats.



Recommended Transportation Improvement Program

There are a total of 49 projects identified through the transportation improvement program project selection process. They have been broken into three tiers based on the prioritization goals and weights mentioned previously in **Section 3**. Most projects are concentrated in the north and east portions of the county where future development is mostly likely to be located. The following pages provide the detailed list as well as maps illustrating the project locations.

Improvements to the county's most important assets represent the top tier or priorities in the TIP. These include modernization and widening projects on I-80, important US and state routes like US 6 and IL 113, and local arterial roads like Ridge Road, McEvilly Road, and Pine Bluff Road. Improvements to key interchanges or intersections were also included such as IL 47 at I-80 and Green Acres Drive, and Ridge Road at I-80.

Projects in the second tier include several more road modernization and widening projects for local jurisdiction roads and two more for IDOT jurisdiction roadways, I-55 near the Will County line and US 6 near Seneca. Additionally, there are three new potential I-80 interchanges and intersection improvements at IL 47 and Bedford Road—which are already programmed.

Third tier projects are comprised of some road widening and several new road connections that will mainly increase mobility in the northeast quadrant of the county. There are also more unique project scopes including a new Illinois River Bridge and extending Metra to the county.

Tier 1 projects scored the highest and contain 15 proposed projects. Tier 2 is next with 16 proposed projects and is then followed with Tier 3 containing 18 projects.



Section 4



Photo courtesy of Google Earth

Table 2. Transportation Improvement Program Detailed List, Tier 1 Projects

Tier	Road/Intersection	Extent	Jurisdiction	Category	Source	Map ID
1	US 6	IL 47 to Ridge Rd	IDOT	Road Widening	Stakeholders, TDM, survey	A
2	I-80	IL 47 to I-55	IDOT	Road Widening	Previous plan, ECA, TDM, stakeholders, survey	B
3	Ridge Rd/I-80 Interchange		IDOT	Interchange/Intersection Improvement	ECA, stakeholders, IA	C
4	IL 47/US 6-Green Acres Dr (north)		IDOT	Interchange/Intersection Improvement	ECA, TDM, IA, stakeholders, survey	D
5	IL 113	IL 47 to I-55	IDOT	Road Widening	Previous plan, TDM, IA, AC feedback	E
6	Ridge Rd	McEvelly Rd to Hansel Rd	County/Municipal	Road Widening	Previous plan, survey, TDM	F
7	IL 47/I-80 Interchange		IDOT	Interchange/Intersection Improvement	ECA, stakeholders	G
8	US 6	IL 47 to Saratoga Rd	IDOT	Road Widening	Previous plan, partially programmed, ECA, stakeholder	H
9	Gore Rd	Lisbon Rd to IL 47	Municipal	Road Widening	TDM	I
10	McEvelly Rd	Vista Ct to Ridge Rd	County	Road Widening	TDM, AC Feedback, survey	J
11	Lisbon Rd	Sherrill Rd to Gore Rd	County	Road Widening	Previous plan	K
12	Broadway Rd	Spring Rd to Braceville Rd	County/Municipal	Road Widening	Previous plan	L
13	Brisbin Rd/I-80 Interchange		IDOT	Interchange/Intersection Improvement	Stakeholders	M
14	McLindon Rd	Minooka Rd to US 6	Township/Municipal	Road Widening	TDM	N
15	Pine Bluff Rd/Lorenzo Rd	IL 47 to I-55	County	Road Widening	Stakeholders, TDM	O

ECA = Existing Conditions Analysis, IA = Intersections Analysis, TDM = Travel Demand Model

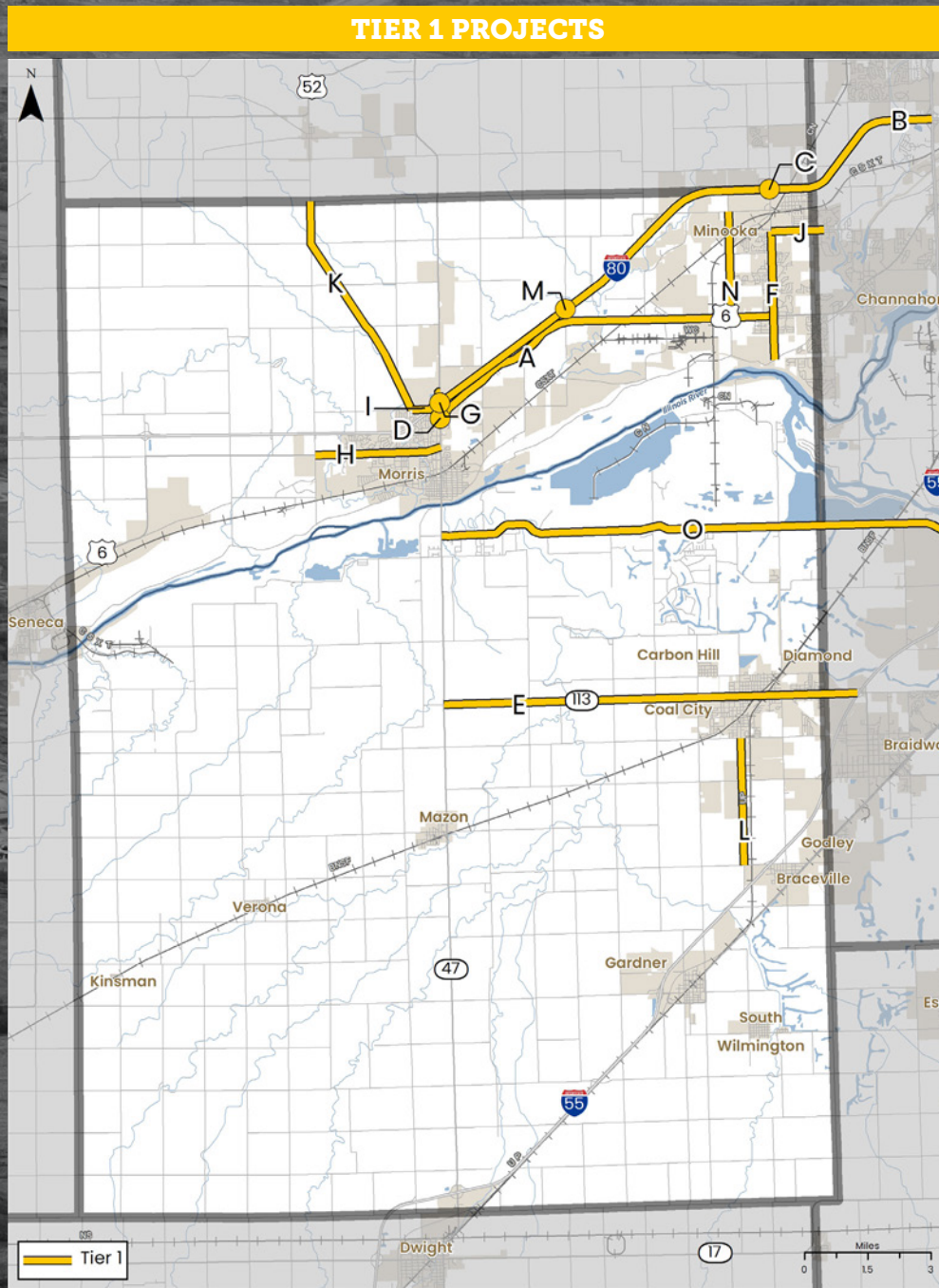


Figure 12. Tier 1 Projects

Table 3. Transportation Improvement Program Detailed List, Tier 2 Projects

Tier	Road/Intersection	Extent	Jurisdiction	Category	Source	Map ID
16	Brisbin Rd	US 6 to Bungalow Rd	Township / Municipal	New Road	AC feedback	P
17	IL 47/US 6- Bedford Rd (south)		IDOT	Interchange/Intersection Improvement	IDOT study for US 6, ECA, TDM, IA, stakeholders, survey	Q
18	Reed Rd/Jugtown Rd	IL 113 (North) to Broadway St (East)	County/Municipal	Road Widening	ECA, stakeholders, previous plan, TDM, IA	R
19	Brisbin Rd	US 6 to Sherrill Rd	County	Road Widening	Previous plan, TDM	S
20	Minooka Rd, O'Brien Rd, Sherill Rd	Tabler Rd to IL 47	County	Road Widening	AC feedback, TDM	T
21	I-55	Gardner to Will Co Line	IDOT	Road Widening	Previous plan, stakeholders	U
22	US 6/Seneca Rd	Main St (Seneca) to I-80	IDOT	Road Widening	TDM	V
23	Grainger Way	Minooka Rd to entrance to Grainger facilities	Municipal	Road Widening	Stakeholders	W
24	Tabler Rd	Minooka Rd to Nouryon	Township	Road Widening	TDM	X
25	Ashley Rd	Granville Rd to Bungalow Rd	Municipal	Road Widening	TDM, survey	Y
26	Saratoga Rd/I-80 Interchange		IDOT	New Interchange	Previous plan	Z
27	Shepley Rd/I-80 Interchange		IDOT	New Interchange	Previous plan	AA
28	Minnoka Rd/I-80 Interchange		IDOT	New Interchange	ECA, TDM	BB
29	Granville Rd	IL 47 to Ashley Rd	Municipal	Road Widening	TDM	CC
30	Dupont Rd	Gonnam Rd to Kinsman Rd	County	Road Widening	TDM	DD
31	IL 113	BNSF and UP Railroads	IDOT	Grade Crossing	ECA, stakeholders, previous plan	EE

ECA = Existing Conditions Analysis, IA = Intersections Analysis, TDM = Travel Demand Model

TIER 2 PROJECTS

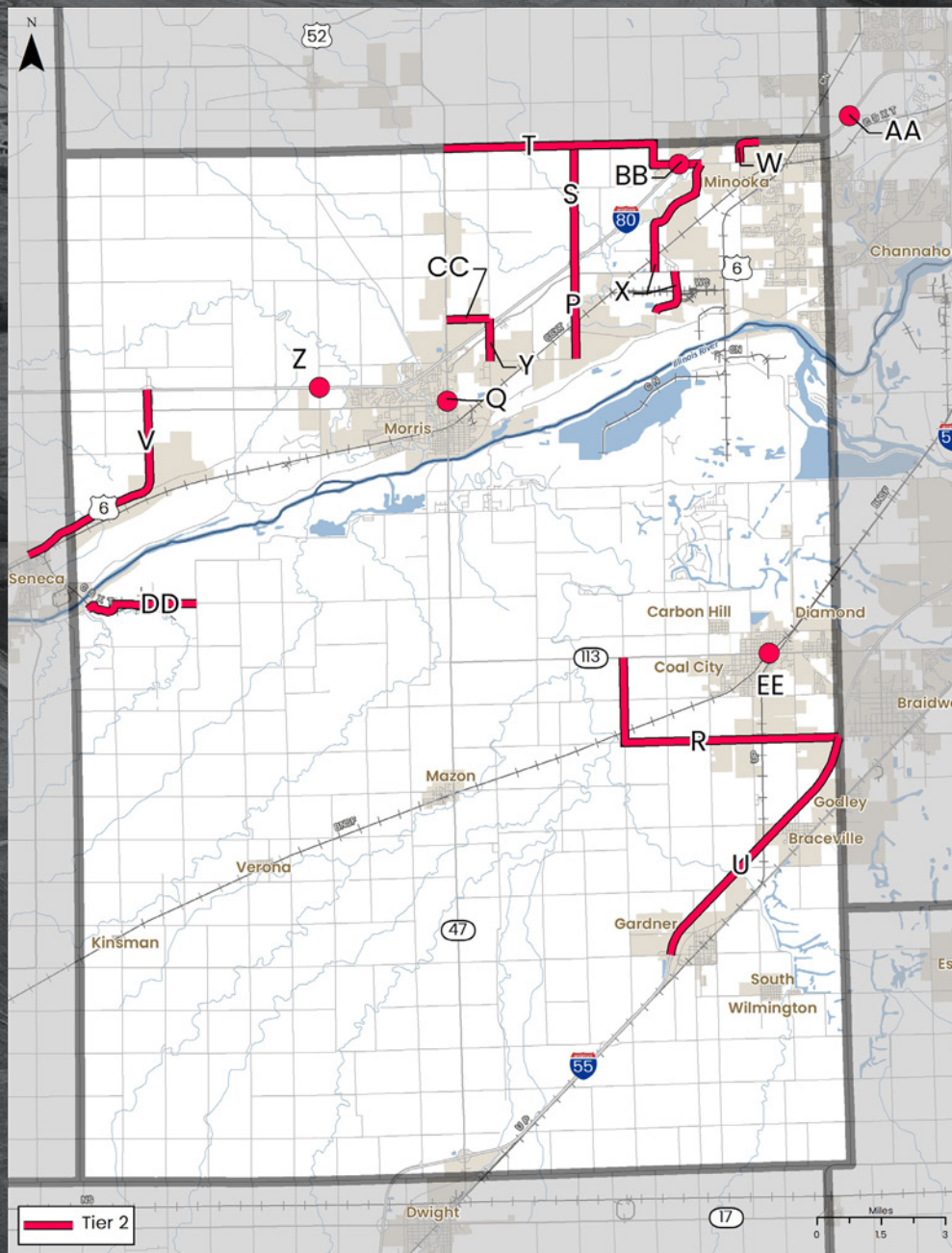


Figure 13. Tier 2 Projects

Table 4. Transportation Improvement Program Detailed List, Tier 3 Projects

Tier	Road/Intersection	Extent	Jurisdiction	Category	Source	Map ID
32	I-55	1.5 miles south and north of IL 47	IDOT	Road Widening	Previous plan, stakeholders	FF
33	Brannick Rd	Ridge Rd to McLindon Rd	Municipal	Road Widening	AC feedback, TDM	GG
34	Hansel Rd	Ridge Rd to Cemetery Rd	Municipal	Road Relocation	Previous plan	HH
35	Sand Ridge Rd Extension	US 6 to Tabler Rd	County/Municipal	New Road	Previous plan	II
36	Sherrill Rd	O'Brien Rd to Ridge Rd at I-80	County/Municipal	New Road	Previous plan	JJ
37	Grand Ridge Rd	IL 47 to School District Facility	Municipal	Road Widening	AC feedback	KK
38	Illinois River Bridge	New crossing between IL 47 and I-55	TBD	New Road	ECA, stakeholders, survey	LL
39	IL 47	Southmor Rd to IL 113	IDOT	Road Widening	AC feedback, survey	MM
40	New Road	Aux Sable Liquid Products/US 6 to Sand Ridge Rd Extension	TBD	New Road	Previous plan	NN
41	Ridge Rd Extension	Hansel Rd to Old Kerry Grove	TBD	New Road	Previous plan	OO
42	Livingston Rd Extension	Dwight Rd to Old Rte 66	TBD	New Road	AC feedback	PP
43	New Collector	Hansel Rd to McLindon Rd	County/Municipal	New Road	Previous plan, stakeholders	QQ
44	Metra Extension		Regional Transit Authority	Transit	Previous plans, survey	RR
45	Wapella St	Western terminus to Rivers Edge Dr	Municipal	Road Widening	AC feedback	SS
46	McGinty St Extension	McGinty St to Girot Ln	County/Municipal	New Road	Previous plan	TT
47	New Collector	US 6 to Bell Rd	County/Municipal	New Road	Previous plan, stakeholders	UU
48	Sherrill Rd	Roods Rd to LaSalle Rd	County	New Road	Previous plan	VV
49	Sherrill Rd	Townhouse Rd to Lisbon Rd	County	New Road	Previous plan	WW

ECA = Existing Conditions Analysis, IA = Intersections Analysis, TDM = Travel Demand Model

TIER 3 PROJECTS

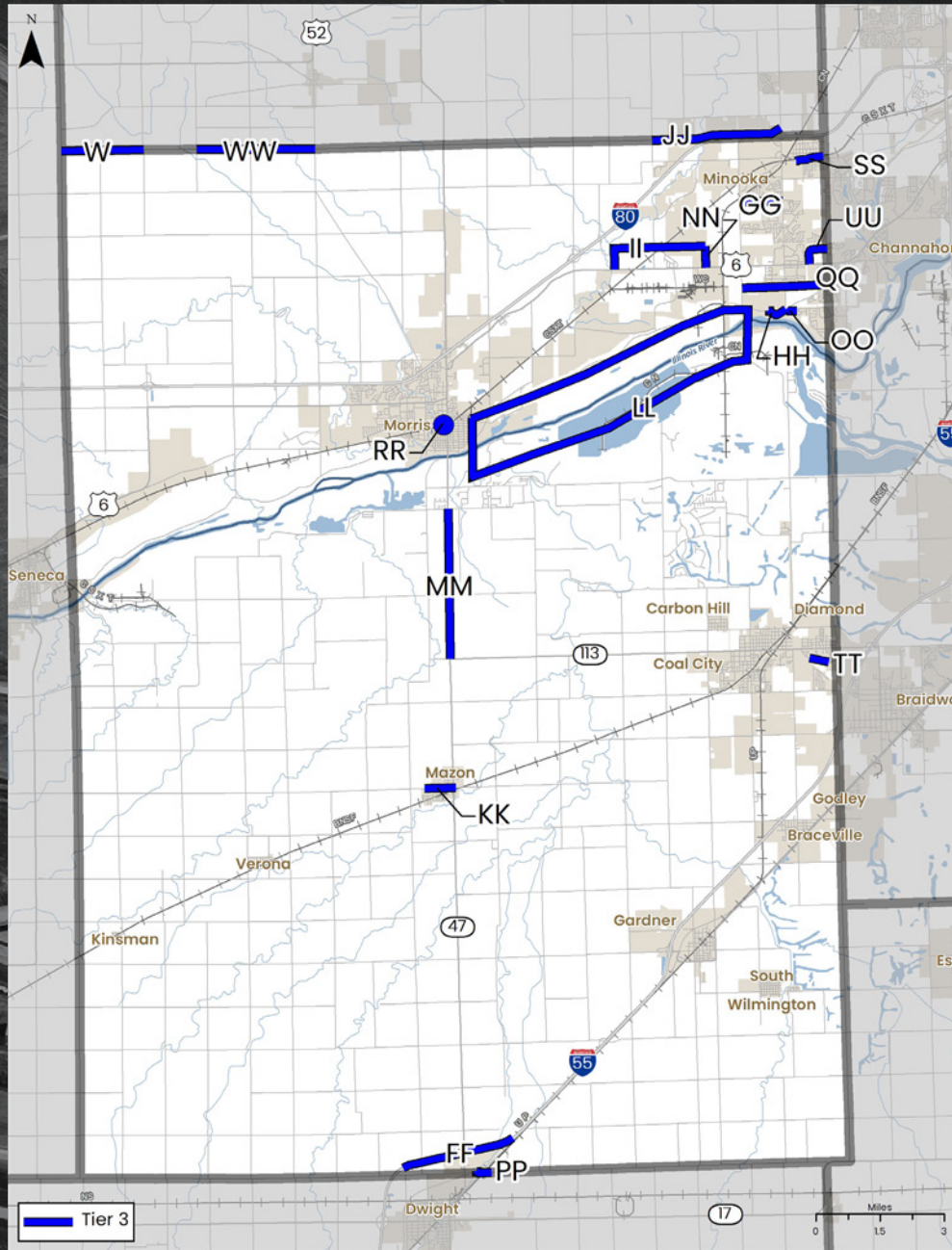


Figure 14. Tier 3 Projects

Section 5

Intelligent Transportation Systems and Emerging Technologies

This section summarizes the current state of the practice for several intelligent transportation solutions as part of Grundy Moves. The project team selected the strategies and design considerations included in this memo based on having potential relevance for Grundy County. The following sections review emerging technology strategies most relevant to this study for improving traffic operations, safety, and infrastructure design.

Strategies to Improve Traffic Operations

Corridor signals can be timed to synchronize traffic across multiple intersections and create a seamless flow of traffic along major roadways. This system ensures that green lights are timed to allow continuous traffic movement at a defined speed, reducing the frequency of stopping at multiple red lights. Unique traffic characteristics can impact the timing and programming of signalized intersections in other ways, such as clearance interval requirements and corridor progression. This tool can be applied specifically for truck traffic through

freight signal coordination, which reduces truck delays at intersections by enabling dynamically adjustable traffic signal phasing and timing that assigns priority to trucks when conditions allow.

Application - High volume roadways with tightly spaced signals such as IL 47/Division Street or Ridge Road near I-80 may benefit from extended clearance intervals at intersections where a history of angle crashes or near-misses occur. Tightly spaced signals may see improved operations from a redesigned corridor progression. Freight

signal coordination could also be explored in these locations as well as more industrial oriented roadways including portions of Minooka Road, Grainger Way, McLindon Road, or IL 113.

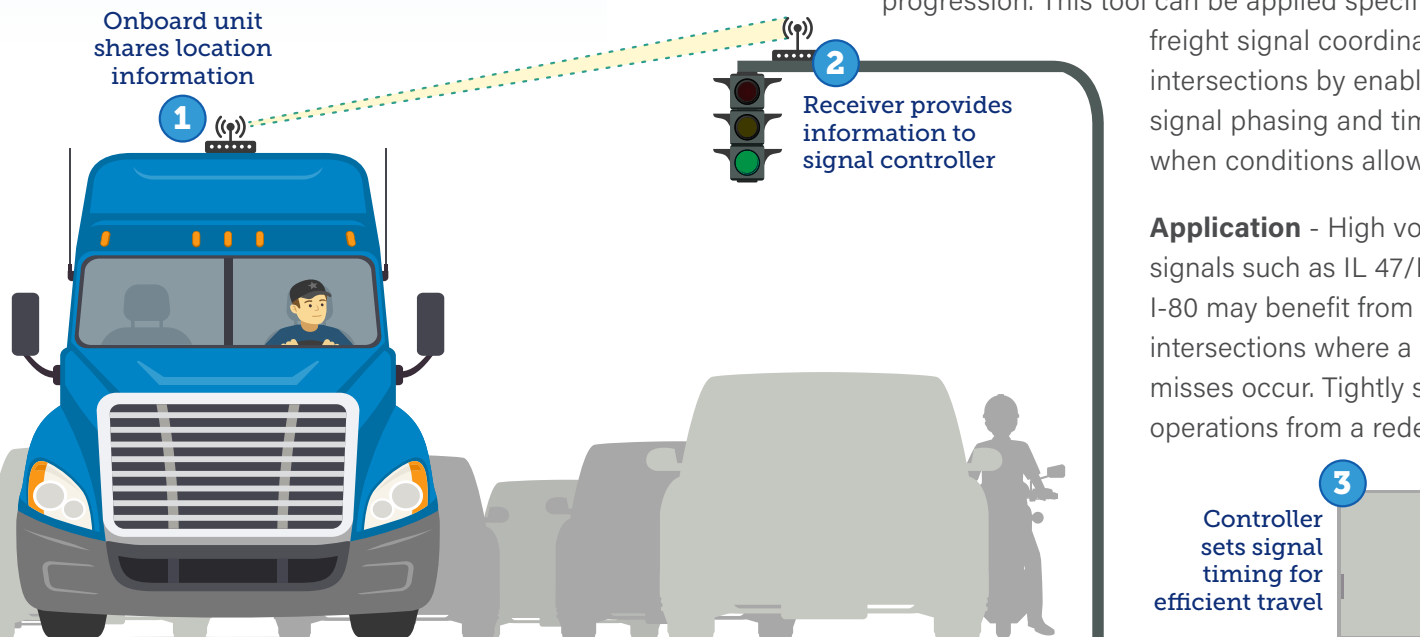


Figure 15. Communication between roadside units and on-board units for freight signal coordination

Strategies to Improve Safety

Intelligent Warning Signs

Advance Warning Signs that operate at specific times of the day are tailored to address peak traffic hours, high-incident locations, or changing weather conditions. These signs can be programmed to display messages about congestion, upcoming hazards, or recommended speeds based on real-time traffic and road conditions. By providing timely and relevant information, they are more likely to be observed and help reduce the likelihood of rear-end crashes and other accidents, especially in high-risk situations like sudden traffic slowdowns or in areas with frequent environmental changes.

Additionally, intelligent signs can be designed to prevent large commercial vehicles from using routes unsuitable for their size or weight using sensors and GPS data to identify trucks about to enter restricted routes and provide real-time warnings to re-route them.

Application - Changing traffic patterns in the study region create the opportunity for unexpected congestion and other conditions. Such conditions are common at US 6/Bedford Rd and IL 47/ Division St, and seasonal impacts occur near the Dresden nuclear power plant during refueling operations. In these cases, an elevated crash risk, particularly with rear-end crashes, could be mitigated by an intermittent warning system for congestion ahead that is activated by traffic backups or only during peak periods. There are also heavy vehicle restrictions on roadways that could also benefit from warning signs to prevent trucks from using them.

Truck Parking Availability

Knowledge of available parking along freight routes is vital to safe and efficient operation of commercial vehicles. Surveys performed by the US DOT indicate that drivers prioritize maximizing driving time and distance within the mandated maximum hours of service. If adequate parking is not available or easily located when they have reached the hours-of-service limit, drivers are increasingly likely to park in an unsafe manner. This is especially pertinent for trucks with electronic logging devices that automatically disable the vehicle if the allowable hours of service are exceeded. Illinois ranks in the top quartile of states in total truck parking spaces, but ranks in the lowest quartile in spaces per truck vehicle mile traveled.¹

Application - Interstates 80 and 55 cross Grundy County, with major freight destinations along each, including several large private travel centers. Rest areas also exist on Interstate 80, east of Morris. Dynamic message signs in advance of the rest area and exits could prove beneficial to the area by reducing commercial vehicles circulating to find parking.

¹ https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/jasons_law/truckparkingsurvey/index.htm

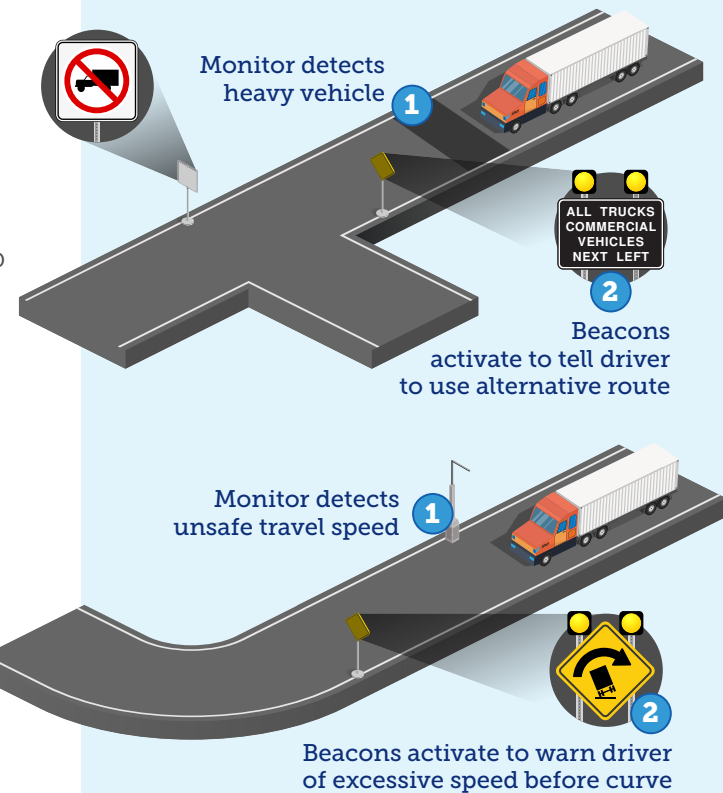


Figure 16. Intelligent Warning Sign Illustrations





Figure 17. Roundabout in Kane County, IL



Figure 18. Truck Pullouts in Kane County, IL

Design Considerations for New Facilities

In parallel with deploying ITS solutions, it is important to consider design modifications in new infrastructure projects to enhance operational efficiency and safety further. Grundy County is developing rapidly, and with that growth comes the need to invest in new infrastructure. As the roadway network is expanded, there will be opportunity to implement new systems and design standards. Integrating these structural design elements with advanced ITS solutions creates a more comprehensive approach to transportation planning, ensuring that the technological and physical aspects of Grundy County’s roadways are optimized for safety, efficiency, and future readiness.

Roundabouts

As existing facilities are widened or new facilities built in Grundy County, agencies can consider alternative roadway design options. One opportunity is the incorporation of roundabouts in strategic locations. Roundabouts facilitate smoother traffic flow, reducing the likelihood of congestion and significantly lowering the risk of high-speed collisions compared to traditional intersections. This makes them particularly effective in managing traffic in both urban and rural settings.

Truck Pullouts on Rural Roads

With the growing freight and truck traffic in Grundy County, implementing truck pullouts along key rural and arterial routes could significantly enhance road safety and operational efficiency. Truck pullouts are designated areas, typically on the shoulder of the road, where heavy vehicles and trucks can safely pull over. This feature is particularly beneficial in areas where slower-moving trucks can impede traffic flow or in zones where drivers require rest to comply with hours-of-service regulations. By providing these designated spaces, Grundy County can reduce the incidence of rear-end collisions and other traffic accidents caused by sudden stops or slow-moving heavy vehicles on the main roadway.

Other ITS Strategies

Other strategies using intelligent transportation systems explored in this study include:

- Improved Vehicle Detection Systems
- Speed Radar Signs
- Rail Crossings Blocked Warning Signs
- Traffic Management Center and Communication
- Connected and Autonomous Vehicles

Next Steps

The Grundy County Multimodal Transportation Master Plan provides a data-driven, consensus-based list of 49 capital projects. Each implementing agency is responsible to manage project development for the improvements listed in the transportation improvement program, including the required planning and engineering studies, potential right-of-way acquisition, construction activities, and future operations and maintenance. The plan supports these implementing agencies by providing key data items, completing initial public engagement, and identifying appropriate funding opportunities.

Moreover, the core stakeholder group convened as part of the *Grundy Moves* initiative can continue to play an active role in advancing the priority projects in the TIP. In addition, the regional consensus provided by *Grundy Moves* is an asset when competing for federal and state funding opportunities. Close working relationships among stakeholders facilitates coordination with the Illinois Department of Transportation and among local agencies as project development gets underway.

Future study can provide greater insight into the topics introduced in this plan. Over the course of the study, the Advisory Committee identified the need for a separate countywide bicycle and pedestrian plan. Further, a standalone intelligent transportation systems study could develop tailored recommendations for communities by developing a common data architecture and deployment plan. The development of a regional grant strategy could provide guidance and support for implementing agencies.

Given the rapid pace of change in Grundy County, the recommendations in this plan could be revisited and updated on a regular basis. Future updates would ensure that the plan evolves with the changing development patterns, emerging technologies, and new travel patterns. The *Grundy Moves* initiative, including its analytical approach, stakeholder relationships, and implementation tools, provides a strong foundation for the region to proactively shape its future.

Section 6

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