
GIAMPO – Policy Board

Tuesday, February 23, 2021

Regular Session

Item E2

Approval of 2045 Long Range Transportation Plan

Staff Contact: Andres Gomez, MPO Program Manager

Policy Board Agenda Report
February 23rd, 2021

Agenda Item No. E2

ISSUE

VOTE: 2045 Long Range Transportation Plan

BACKGROUND

The Grand Island Area Metropolitan Planning Organization (GIAMPO) staff has prepared the 2045 Long Range Transportation Plan (LRTP) for public review and comment. GIAMPO is required to update the LRTP every five years, per Federal requirement. The 2045 LRTP lays out a 25-year roadmap for the region's future transportation system that details the condition, issues, and opportunities of the existing system, while outlining a realistic plan for future improvements based on historical and projected funding trends.

The 2045 LRTP document was developed to be in compliance with regulations contained in the FAST ACT which includes the use of a performance-based approach to decision making in support of the national goals described in 23 U.S.C. 150(b) and the general purposes described in 49 U.S.C. 5301. In addition, the 2045 LRTP integrates the goals, objectives, performance measures, and targets into the planning processes.

Multiple community engagement opportunities were held throughout the 2045 LRTP process to solicit feedback from the public regarding the 2045 LRTP's vision, goals and objectives, and the transportation priorities of the region. These opportunities included public meetings, focus groups, workshops, and online surveys where attendees were able to interact with GIAMPO staff and the LRTP project team to discuss various aspects of the existing and future transportation system while communicating their own vision for the future.

POLICY CONSIDERATIONS/DISCUSSION

GIAMPO's Public Participation Plan requires that the Draft 2045 LRTP be released for public review and comment prior to Policy Board adoption. The Draft 2045 LRTP was made available for a 30-day public comment period from December 15, 2020 to January 15, 2021. No public comments were received.

BUDGET CONSIDERATIONS

The 2045 LRTP has been developed based on federal funding provided by the Nebraska Department of Transportation.

COMMITTEE ACTION

The Technical Advisory Committee recommended to approve the Draft 2045 LRTP on December 14, 2020.

RECOMMENDATION

Approve the 2045 LRTP.

STAFF CONTACT

Andres Gomez

2045 Long Range Transportation Plan

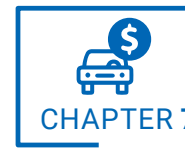


February 2021





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AADT	Average Annual Daily Traffic
ACS	American Community Survey
ADT	Average Daily Traffic
CFR	Code of Federal Regulations
E+C	Existing plus Committed
EA	Environmental Assessments
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Endangered Species Act
FAST Act	Fixing America's Surface Transportation
FEMA	Federal Emergency Management Agency
FFPP	Federal Funds Purchase Program
FHWA	Federal Highway Administration
FIS	Flood Insurance Study
FTA	Federal Transit Administration
GIAMPO	Grand Island Area Metropolitan Planning Organization
GIS	Geographic Information System
HCS	Highway Capacity Software
HSIP	Highway Safety Improvement Program
LEHD	Longitudinal Employer-Household Dynamics

L RTP	Long Range Transportation Plan
LOS	Level of Service
LOTTR	Level of Travel Time Reliability
LWCF	Land and Water Conservation Fund
MAP-21	Moving Ahead for Progress in the 21st Century Act
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MTP	Metropolitan Transportation Plan
NDOT	Nebraska Department of Transportation
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHPP	National Highway Performance Program
NHS	National Highway System
NPDRMS	National Performance Management Research Data Set
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M	Operations and Maintenance
PCI	Pavement Condition Index



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PHED	Peak Hour Excessive Delay
PM	Performance Measure
ROW	Right-of-Way
SHPO	State Historic Preservation Office
SOV	Single Occupant Vehicle
STBG	Surface Transportation Block Grant Program
STBG-TA	Surface Transportation Block Grant Program for Transportation Alternatives
TA	Transportation Alternatives
TAZ	Transportation Analysis Zone
TAC	Technical Advisory Committee
TDM	Travel Demand Model

TIP	Transportation Improvement Program
TMC	Turning Movement Count
TWSC	Two Way Stop Control
TrAMS	Transit Award Management System
TSMO	Transportation Systems Management and Operations
U.S.	United States
USDOT	United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled

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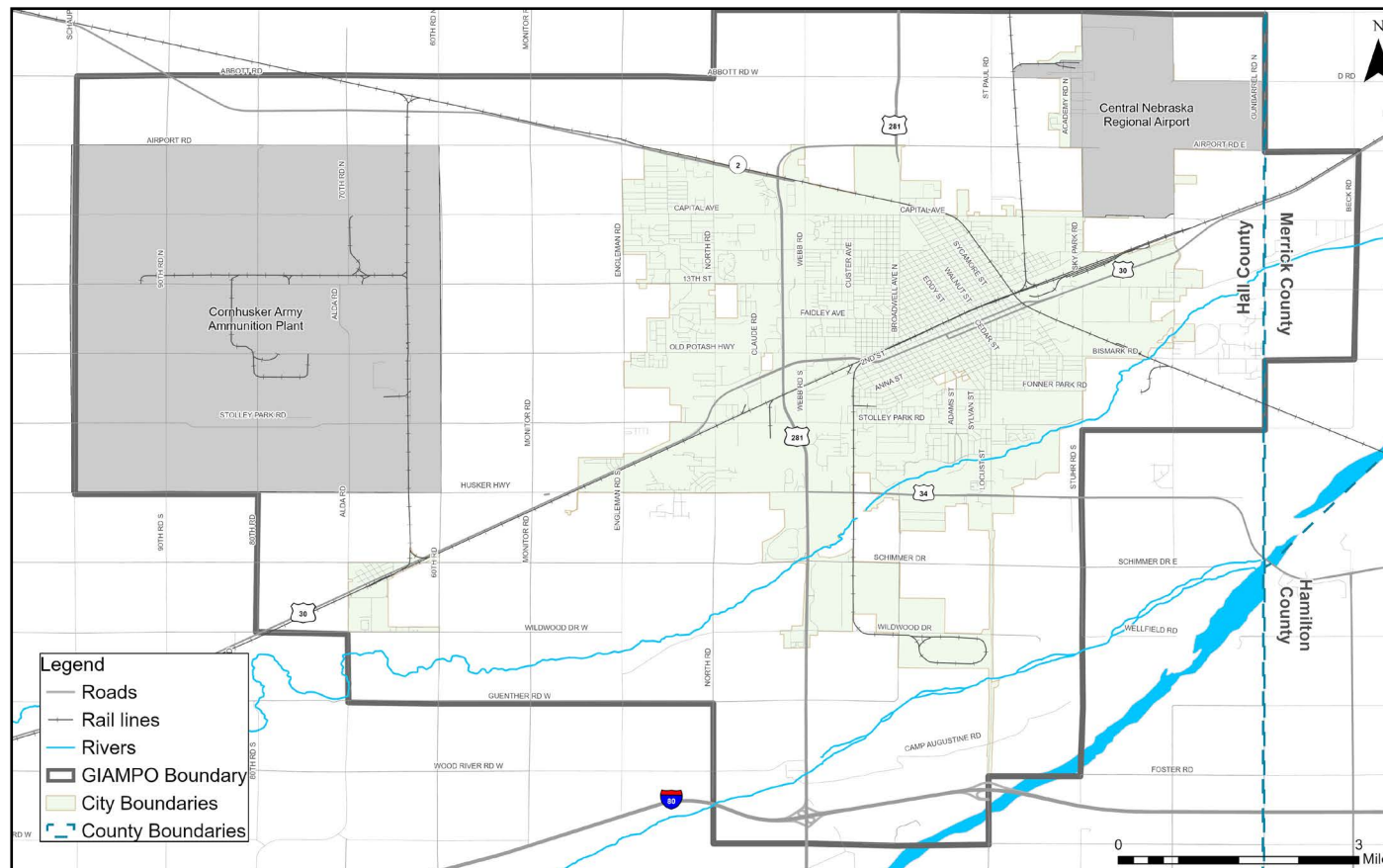


Chapter 1 Who We Are

Federal law requires any Urbanized Area population exceeding 50,000 persons to create a Metropolitan Planning Organization (MPO). The MPO is designated to carry out the multimodal transportation planning for the metropolitan area. The Grand Island Urbanized Area officially exceeded this population threshold in the 2010 Census, and in 2013 the Governor

of Nebraska designated the Grand Island Area MPO (GIAMPO) as the official MPO for the Grand Island Urbanized Area. GIAMPO serves as the formal transportation planning body for the greater Grand Island, Nebraska metropolitan area. GIAMPO includes the areas shown in **Figure 1-1**.

Figure 1-1: GIAMPO Study Area





The state and local jurisdictions that lie within the GIAMPO planning boundary are considered voting members of the MPO. GIAMPO maintains two groups whose voting members consist of local policymakers, including city council members, as well as city and county staff members. Non-voting members include other transportation professionals from Federal, state, and local agencies. The two groups are:

GIAMPO Policy Board: The Policy Board is responsible for the preparation and adoption of planning studies, review transportation projects to align with regional transportation goals, adopt a four-year Transportation Improvement Program (TIP) and review Federal and state funding available for local transportation projects, oversee updates to the Long-Range Transportation Plan (LRTP), adopt an annual Unified Planning Work Program (UPWP), and implement a Public Participation Process (PPP). The board consists of eight voting members.

GIAMPO Technical Advisory Committee (TAC): The TAC is responsible for overseeing and advising the Policy Board on the technical matters related to their duties discussed above. The TAC provides oversight in the development and review of the LRTP in addition to other work products developed by the MPO. The TAC is comprised of 11 voting members.

GIAMPO creates additional subcommittees, working groups, and roundtables to address transportation-related issues in the region. The MPO regularly seeks participation from stakeholder groups and residents to serve on these committees and groups outlined in the MPO's Public Participation Plan (PPP). The voting members of the GIAMPO include:

- City of Grand Island: TAC and Policy Board voting
- Village of Alda: TAC voting
- Hall County: TAC and Policy Board voting
- Merrick County: TAC voting
- Nebraska Department of Transportation (NDOT): TAC and Policy Board voting
- Central Nebraska Airport: TAC voting



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Long-Range Transportation Planning Process

One of the key duties of GIAMPO is to maintain an LRTP and update the plan every 5 years. The LRTP formalizes the vision for the regional transportation system for the next 25 years through establishing a series of transportation goals and objectives. A second critical aspect of the LRTP is the identification of transportation projects to be implemented over this 25-year timeframe as well as the demonstration that enough Federal, state, and local funding will be available to implement them.

The LRTP is developed through a multimodal lens and draws on public input to create goals, objectives, and strategies that provide improvements for the roadway, bicycle and pedestrian, and transit systems.

Performance-Based Planning

The LRTP uses a performance-based planning approach that applies the Federal Highway Administration's (FHWA) performance management techniques that tie together national, state, and local transportation goals. The key to performance-based planning is ongoing monitoring of the regional transportation system, which allows for GIAMPO to continually assess progress made towards the vision articulated in the plan. Performance-based planning effectively links GIAMPO's existing system performance to Federal and state transportation planning requirements.

Figure 1-2: Performance-Based Planning Approach





L RTP Elements

MPO's are required to incorporate three elements into their LRTP process. In addition to using the performance-based planning approach outlined in this section and demonstration of fiscal constraint, MPOs are required to incorporate the following in their LRTP¹:

- | | | | | | |
|---|----------|---|---|-----------|---|
|  | 1 | Include current and projected transportation demand of persons and goods in the MPO area over the 25-year planning horizon. |  | 8 | Discuss environmental mitigation activities and potential areas to carry these activities out. |
|  | 2 | Identify existing and proposed transportation facilities. |  | 9 | Include a financial plan that demonstrates how the LRTP can be implemented. |
|  | 3 | Describe performance measures and performance targets used to assess performance of the transportation system. |  | 10 | Include planning for pedestrian walkway and bicycle transportation facilities. |
|  | 4 | Include a system performance report that evaluates the condition and performance of the transportation system with regard to the current performance targets. |  | 11 | Consultation with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation. |
|  | 5 | Assess capital investments and other financial strategies that preserve the existing and projected transportation infrastructure. |  | 12 | Integrate priorities, goals, countermeasures, strategies, or projects contained in related State and local plans. |
|  | 6 | Describe transportation and transit enhancements. |  | 13 | Provide the public and Plan stakeholders with a reasonable opportunity to comment on the LRTP. |
|  | 7 | Describe all proposed transportation projects in detail so cost elements may be developed. |  | 14 | Publish the LRTP for public review in electronically-available formats. |

¹ 23 CRF § 450.324, https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=9e40e7025806cfe86f291f431b536814&mc=true&n=sp23.1.450.c&r=SUBPART&ty=HTMLs#se23.1.450_1324



Related Planning Efforts

- **Vision 2032:** Vision 2032 is Nebraska’s long-range transportation plan. This LRTP describes the existing conditions of the state’s multimodal transportation system while reporting statewide performance measures and targets. Included in the plan is a discussion of the state’s transportation needs.
- **Nebraska Strategic Highway Safety Plan (SHSP):** Published in 2017, the Nebraska SHSP discusses current safety trends on Nebraska highways and presents a series of goals and objectives for future highway safety. The SHSP concludes with a discussion of strategies the state will take to achieve these goals.
- **Nebraska Freight Plan:** The Nebraska Freight Plan outlines the existing freight infrastructure across the state while emphasizing the economic impacts related to freight in Nebraska. In addition to the description of the existing system, including routes defined as “Critical Freight Corridors,” the plan presents needs and opportunities of the system as well as financial investment strategies.
- **Grand Island Area MPO Bicycle and Pedestrian Master Plan:** The 2017 GIAMPO Bicycle and Pedestrian Master Plan assesses the condition of the existing bicycle and pedestrian network and identified opportunities for future improvements. The Plan also provided recommendations for the sequencing of future bicycle and pedestrian projects.
- **Regional Transit Needs Assessment and Feasibility Study:** GIAMPO published the Regional Transit Needs Assessment and Feasibility Study in 2017. This Study provides an overview of existing transit services in the GIAMPO region, analyzes transit demand, develops short-term public transit opportunities, and presents a 3- to 5-year budget and implementation plan for regional transit improvements.



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Chapter 2 Community Engagement

Community engagement is a central element of GIAMPO's transportation planning process. The 2045 LRTP has been developed to reflect this element, and to seek input from a broad range of residents and stakeholders. The engagement activities included two open houses, a workshop, an online workshop, as well as focus group meetings with LRTP stakeholders. All public engagement activities were in accordance with GIAMPO's PPP¹.

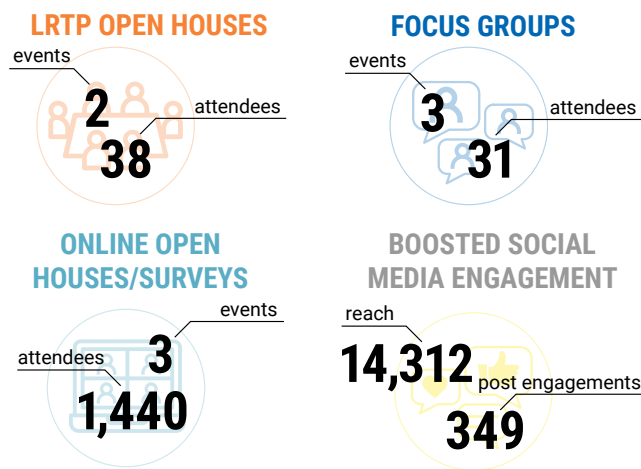
Public Engagement Events

Four public engagement events were held throughout the 2045 LRTP effort. To see meeting materials and the results of the public input received during the open house events, see **Appendix A**.

Public Visioning Open House

The Public Visioning Open House was held on February 4, 2020 at the Grand Island Public Library. The purpose of the open house was to solicit input and feedback from the public to help the project team identify LRTP goals and objectives, as well as transportation issues and potential strategies for the

Figure 2-1. Community Engagement By-The-Numbers



¹ The GIAMPO PPP is available at: www.grand-island.com/departments/public-works/metropolitan-planning-organization/public-participation-plan

team to consider in the Grand Island area. Four stations were set up: roadway, bike and pedestrian, transit, and overall transportation system priorities—and GIAMPO staff and project team members spoke with attendees about their ideas and vision for the future of the transportation system as they visited each station.

Supplementing the open house was a transportation issues survey that was available to the public on the project website. The survey was open from February 3, 2020 through February 24, 2020 and received 547 responses.

Public Prioritization Workshop

A second open house was held from June 1, 2020 through June 17, 2020 to solicit public feedback on priorities regarding potential projects for inclusion in the 2045 LRTP. Due to the COVID-19 Pandemic, the open house was held virtually. This Public Prioritization Open House was available in both English and Spanish and had 256 unique users who submitted just over 500 unique comments.



Public participants at the Public Visioning Open House



Project Prioritization Online Exercise

An additional public engagement event was held virtually from September 14 through September 28. The purpose of this exercise was to gather input on the fiscally constrained roadway, bicycle and pedestrian, and transit projects included in the LRTP. This exercise received 669 responses during the two-week period it was open.

Draft LRTP Open House

The final open house event, held on November 12, 2020 at the Grand Island City Hall, asked attendees to provide input on the draft LRTP project list. Attendees were also given a brief overview of the LRTP process, goals and objectives, and the technical analyses that were conducted during the Plan's development. For those unable to attend the open house event, there was Facebook Live broadcast and an online comment form available on the project website.

Broadwell & UPRR Grade Separation
Cost: \$25M

Type: Grade Separation

Description: This project would construct a bridge or underpass at the Union Pacific Railroad (UPRR) crossing on Broadwell Avenue, allowing for more reliable and efficient travel and emergency response as vehicles would no longer have to stop for passing trains.

View a map

Drag your top 3 projects here in order of preference

Then rank the rest of the projects by your preference

Rank all eight projects and choose your top three projects.

Project Budget: \$30M

Your Projects: \$42.0M

- 1 Stuhr Road Widening (Cost: \$12M)
- 2 Claude Road Extension (Cost: \$5M)
- 3 Broadwell & UPRR Grade Separation (Cost: \$25M)
- 4 US-281 Intersection Improvements (Cost: \$12M)
- 5 East Bypass (Cost: \$60M)
- 6 Broadwell Avenue Widening & Extension (Cost: \$5.5M)
- 7 Stuhr Road / Sky Park Road Corridor and Grade Separation (Cost: \$18M)
- 8 West US-30 Bypass (Cost: \$30M)

Submit your projects

The public was asked to prioritize proposed projects through the activity, exemplified above, with fiscal constraints in mind.



Focus Group Meetings

Focus group meetings were held for stakeholders with the intent to provide similar information and meeting materials as the February 2020 Public Visioning Workshop. These focus groups were hosted in one-hour sessions during the day to be more convenient for participants

and to facilitate deeper conversations between project team members and major employers, transportation providers, educational institutions, elected officials, bike and pedestrian users, nonprofits, and emergency responders. Below is the list of stakeholders invited to participate in the focus group meetings.

Grand Island Convention & Visitors Bureau	Grow Grand Island - Livable Community	Heartland Lutheran Schools	Grand Island Area Chamber of Commerce
Multicultural Coalition	Merrick County	Grand Island Economic Development Corporation	CNHD Walk/Bike Initiative
Hall County	Doniphan Economic Development Corporation	Grand Island Public Schools	City of Grand Island
Nebraska State Fair	Grand Island Northwest Public Schools	Village of Cairo	Hornaday Manufacturing
Doniphan-Trumbull Public Schools	City of Wood River	Grand Island Express - Trucking and Shipping	Centura Public Schools
Village of Doniphan	Sunrise Express	Wood River Public Schools	Village of Alda
Devall Trucking, Inc.	Central Community College of Nebraska	City of Grand Island - Police Department	JBS S.A.
UNL Extension	AARP (Tri-City Rural Mobility Study)	Central Nebraska Transload	Doane College
5307/5310/5311 Committee	Wood River Economic Development Corporation	Grand Island Central Catholic School	Nebraska Transit



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Community Youth Council

Two meetings were held with the Grand Island Community Youth Council (CYC). The CYC members are sophomores, juniors, and seniors from area high schools.

- The first CYC meeting was held on Monday, February 10, 2020 at the Grand Island City Hall Community Meeting Room so that perspectives from younger members of the GIAMPO community regarding the transportation system could be shared. During this meeting, a member of the 2045 LRTP planning team gave a brief presentation outlining an overview of transportation planning, the role of GIAMPO, the LRTP process, and initial technical analysis results. After the presentation, members of the CYC were invited to provide their insight into the issues and opportunities facing the GIAMPO transportation system, like the activities held during the focus group meetings.



Members of the CYC learning about the 2045 LRTP

- A second meeting with the CYC was held on Thursday, November 12, 2020 at the Grand Island City Hall Community Meeting Room. During this meeting, a member of the 2045 LRTP planning team gave a brief presentation providing an overview and update for the 2045 LRTP, described transportation issues and goals, and presented the draft plan project list.

After the presentation, the members of the CYC were invited to choose their favorite roadway, and bicycle and pedestrian, projects using a survey tool. The CYC members selected the Broadwell Avenue / UPRR grade separation project (project 7) as their top roadway project, and Capital Ave Trail to Eagle Scout Park Connection (project 3) as their top bicycle and pedestrian project.



A 2045 LRTP team member gave CYC members an overview of the 2045 LRTP



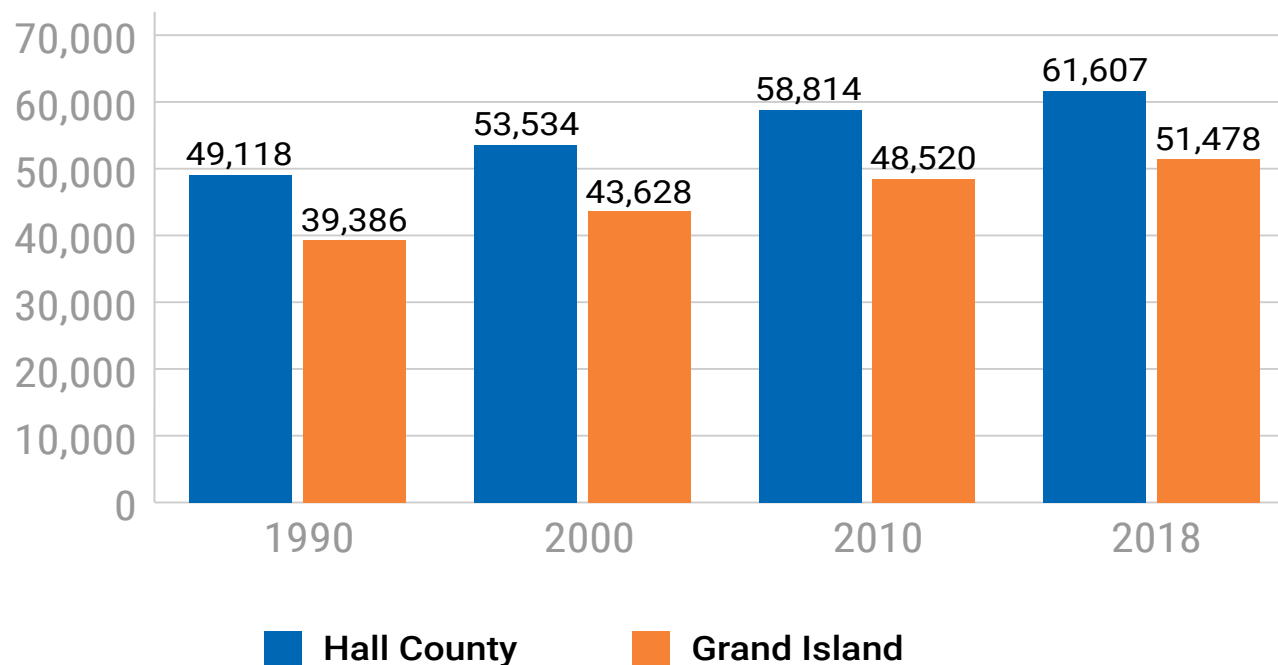
Chapter 3 Regional Profile

As part of planning for an effective transportation system, it is important to understand the current trends and makeup of the region.

Population Trends

The GIAMPO area has grown steadily over recent history, with much of that growth driven by the expansion of the city of Grand Island. As shown in **Figure 3-1**, the current Hall County population is nearly 62,000 people, with over 51,000, or nearly 85%, residing within Grand Island city limits. As shown in the figure, Hall County's population has grown 20.3% over the past 28 years, while Grand Island's population has grown 23.5% during this same period.

Figure 3-1: 10 Year Population Levels for Hall County and Grand Island, 1990-2018



Source: United States Census Bureau



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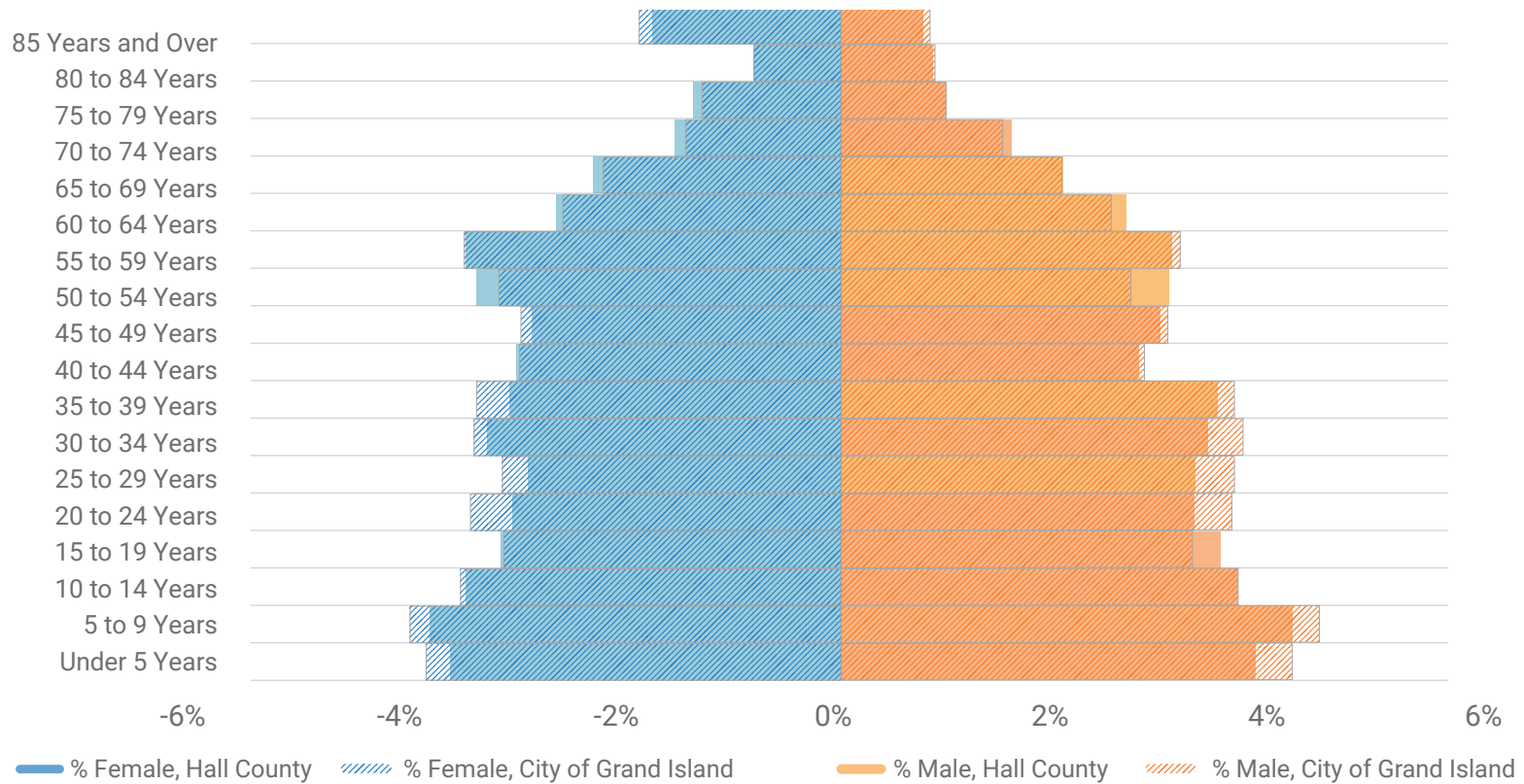


Current Demographics

Figure 3-2 displays population pyramids for the City of Grand Island and Hall County. Key findings of current area population are:

- The median age of Grand Island residents is 34.7 years, while the median age of Hall County residents is 35.8 years of age. The median age of all United States population residents is 37.8.
- The gender breakdown for Hall County residents is 50.4% male, 49.6% female; for Grand Island residents it is 50.2% male, 49.8% female.

Figure 3-2: Hall County and Grand Island Population by Age and Gender



Source: 2013-2017 ACS 5-Year Estimates



Table 3-1 presents Hall County and Grand Island's population by race and ethnicity.

Table 3-1: Race and Ethnicity of Hall County and Grand Island Residents

	HALL COUNTY	PERCENT OF POPULATION	GRAND ISLAND	PERCENT OF POPULATION
White	41,644	68.01%	32,660	63.99%
Black or African American	1,337	2.18%	1,330	2.61%
American Indian and Alaska Native	202	0.33%	183	0.36%
Asian	718	1.17%	684	1.34%
Hispanic or Latino	16,384	26.76%	15,393	30.16%
Native Hawaiian and Other Pacific Islander	146	0.24%	141	0.28%
Some other race	169	0.28%	145	0.28%
Two or more races	633	1.03%	506	0.99%
Two races including Some other race	17	0.03%	17	0.03%
Two races excluding Some other race, and three or more races	616	1.01%	489	0.96%

Source: 2013-2017 ACS 5-Year Estimates

Income and Employment

The 2017 unemployment rate in the Grand Island metropolitan statistical area (MSA) averaged 3.2%¹. In the same year, the labor force included approximately 43,400 residents². The 2017 median household income in Hall County was \$53,807 and for Grand Island households was \$51,627. Per capita incomes for Hall County and the City of Grand Island are \$26,419 and \$25,411, respectively. The percentage of Hall County residents living at or below the poverty level was 13.5%. For the City Grand Island, this number was slightly higher at 14.9%.³

Housing Characteristics

The number of occupied housing units in Hall County is 22,817, with 62% owner-occupied and the remaining 38% renter occupied. Occupied housing units in Grand Island are 58% owner-occupied and 42% renter occupied. The Hall County vacancy rate is 6.5% of units. The Grand Island vacancy rate is 6.6% of units.⁴

Commuting Characteristics

The majority of Hall County and Grand Island residents drive alone to work in a private vehicle. This trend holds true for the City of Grand Island as well, with carpooling being the next largest commute mode. Walking is the least utilized mode for work commutes in Hall County and the City of Grand Island. **Figure 3-3** summarize total modal splits for work commutes.

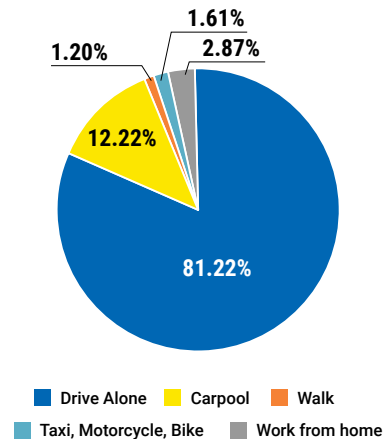
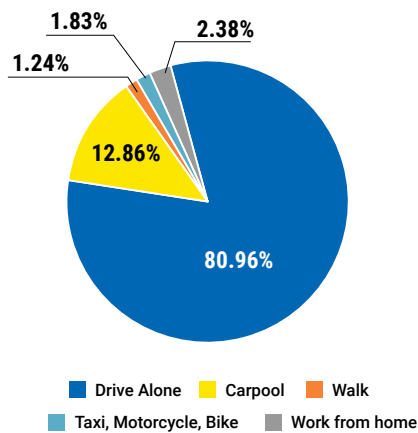
¹ U.S. Bureau of Labor Statistics, 2017

² U.S. Bureau of Labor Statistics, 2017

³ ACS 2017 5-year estimates

⁴ ACS 2017 5-year estimates



**Figure 3-3: Transportation Modes Used for Work Commutes, Hall County and Grand Island****Modal Share for Work Commutes, Hall County****Modal Share for Work Commutes, Grand Island, NE**

The majority of residents in both Hall County and the City of Grand Island recorded work commutes below the average US commute time of 26.4 minutes as indicated in **Table 3-2**.

Table 3-2: Daily Travel Times for Hall County and Grand Island Residents

TRAVEL TIME	HALL COUNTY	GRAND ISLAND
Less than 5 minutes	4.79%	4.96%
5-9 minutes	20.88%	22.83%
10-14 minutes	26.56%	28.70%
15-19 minutes	22.36%	22.48%
20-24 minutes	9.59%	6.98%
25-29 minutes	2.78%	2.02%
30-34 minutes	5.13%	4.34%
35-39 minutes	0.81%	0.76%
40-44 minutes	1.10%	1.13%
45-59 minutes	2.75%	2.67%
60-89 minutes	1.80%	1.63%
90 or more minutes	1.46%	1.52%



A commute analysis of inflow and outflow trips was conducted for Hall County. As indicated in **Table 3-3**, the Grand Island area attracts more commute trips than it produces to other markets. This means that approximately 14,000 individuals traveled from outside the Grand Island MPO area to work within it, compared to 8,600 residents who live in the MPO region commute out for their primary job. In addition to commutes into and out of the area, roughly 19,000 residents live and work within the MPO boundary.

Table 3-3: Inflow/Outflow Analysis for Hall County and Grand Island, 2017

2017		
	COUNT	SHARE
Employed in the Selection Area	32,964	100.0%
Living in the Selection Area	27,637	97.7%
Net Job Inflow (+) or Outflow (-)	5,327	+

Source: U.S. Census Bureau LEHD Program, 2017

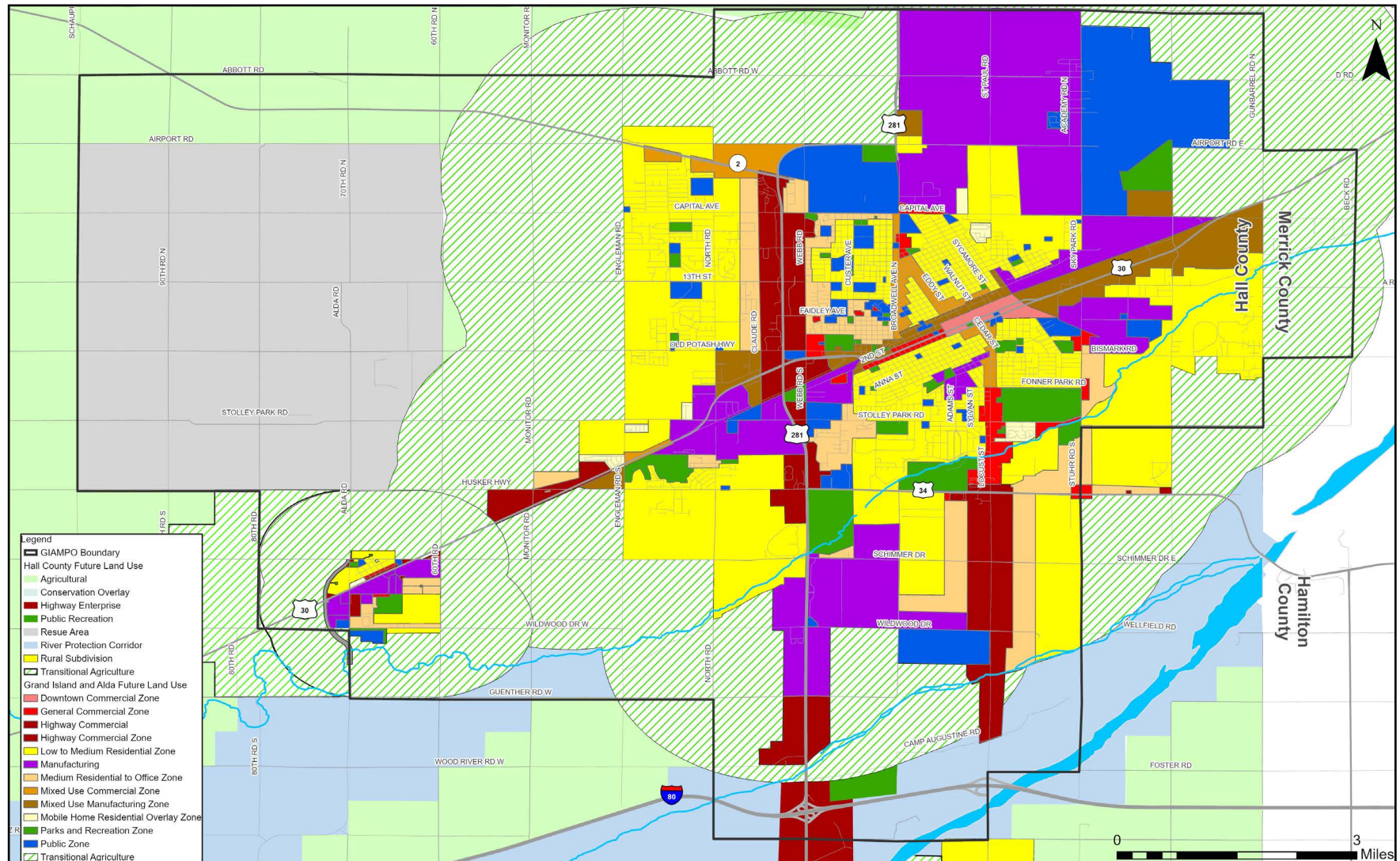
Land Use

Current and future land uses impact how residents of the MPO area travel today and in the future. **Figure 3-4** illustrates current and future land uses for the MPO area.





Figure 3-4: Existing and Future Land Use





Chapter 4 Goals, Objectives, and Performance Measures

2045 LRTP Goals and Objectives

The Grand Island area's goals and objectives provide direction for the vision of how the multimodal transportation system should operate. These goals and objectives are considered a reflection of the community's values and have framed the development of the 2045 LRTP update. The goals and objectives were developed through a combination of public and stakeholder input, national planning factors as outlined in CFR 450.306, and the Nebraska State Transportation Plan. The major goal areas and associated draft objectives identified through this process are shown in **Table 4-1**.

Table 4-1: 2045 LRTP Goals and Objectives



System Safety

- Reduce the incidence and rate of crashes
- Reduce severe injury and fatal crashes
- Reduce bicycle and pedestrian crashes



Multimodal Connectivity and Accessibility

- Provide improved connections to key destinations across the community
- Reduce regional freight impediments
- Increase the connectivity of the bicycle and pedestrian system
- Continue to provide quality public transit services



Economic Development

- Identify transportation strategies that support economic development projects
- Identify transportation strategies that provide enhanced access to jobs for low income residents
- Provide active transportation options that promote the health and well-being of residents



System Preservation

- Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition



Environment and System Resiliency

- Promotes energy conservation, especially for non-renewable energy sources
- Transportation projects should limit impacts to the natural and build environment
- Invest in alternative and renewable fuel infrastructure when practical
- Identify strategies to make transportation infrastructure more resilient to natural and manmade events



Traffic Operations and System Reliability

- Limit the emergence of recurring congestion
- Improve travel reliability on arterial roadways
- Support high levels of freight reliability on the state highway system



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Federal Planning Factors

The LRTP update process uses a performance-driven and outcome-based approach for achieving the goals and objectives presented in **Table 4-1**. Under the Fixing America's Surface Transportation (FAST) Act, the LRTP process is required to be integrated into the GIAMPO's overall continuous, cooperative, and comprehensive planning process, while addressing the following factors:¹

- 1 Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- 2 Increase the safety of the transportation system for motorized and non-motorized users.
- 3 Increase the security of the transportation system for motorized and non-motorized users.
- 4 Increase accessibility and mobility of people and freight.
- 5 Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- 6 Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
- 7 Promote efficient system management and operation.
- 8 Emphasize the preservation of the existing transportation system.
- 9 Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
- 10 Enhance travel and tourism.

To illustrate how the goals and objectives of this LRTP align with the planning factors listed above, the matrix shown in **Table 4-2** was developed.

¹ 23 CFR § 450.306 - Scope of the metropolitan transportation planning process.



Table 4-2: 2045 LRTP Goals and Objectives Support of Federal Planning Factor

Goal	Objectives	1 Economic Vitality	2 Safety	3 Security	4 Accessibility and Mobility for People and Freight	5 Environment and Energy Conservation, Quality of Life, Economic Development	6 System Integration and Connectivity for People and Freight	7 Efficient Operation and Management	8 Preserve the existing transportation system	9 System Resiliency and Reliability; reduce or mitigate stormwater impacts	10 Enhance Travel and Tourism
GOAL 1: SYSTEM SAFETY											
	Reduce the incidence and rate of crashes		✓								
	Reduce severe injury and fatal crashes		✓								
	Reduce bicycle and pedestrian crashes		✓								
	Maintain safety on transit vehicles		✓	✓							
GOAL 2: MULTIMODAL CONNECTIVITY AND ACCESSIBILITY											
	Provide improved connections to key destinations across the community	✓			✓		✓				
	Reduce regional freight impediments	✓			✓		✓	✓		✓	
	Increase the connectivity of the bicycle and pedestrian system	✓			✓	✓	✓				
	Continue to provide quality public transit services.	✓			✓	✓	✓		✓		



CHAPTER 4 GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

Table 4-2: 2045 LRTP Goals and Objectives Support of Federal Planning Factor (continued)

Goal	Objectives	1 Economic Vitality	2 Safety	3 Security	4 Accessibility and Mobility for People and Freight	5 Environment and Energy Conservation, Quality of Life, Economic Development	6 System Integration and Connectivity for People and Freight	7 Efficient Operation and Management	8 Preserve the existing transportation system	9 System Resiliency and Reliability, reduce or mitigate stormwater impacts	10 Enhance Travel and Tourism
GOAL 3: ECONOMIC VITALITY											
	Identify transportation strategies that support economic development projects	✓			✓						✓
	Identify transportation strategies that provide enhanced access to jobs for low income residents	✓			✓						
	Provide active transportation options that promote the health and well-being of residents			✓	✓						✓
	Provide access to tourist destinations	✓		✓							✓
	Identify how transportation can support affordable housing	✓			✓						
	Promote freight connectivity and access	✓		✓							
GOAL 4: SYSTEM PRESERVATION											
	Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition	✓						✓	✓		



CHAPTER 4 GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

Table 4-2: 2045 LRTP Goals and Objectives Support of Federal Planning Factor (continued)

Goal	Objectives	1 Economic Vitality	2 Safety	3 Security	4 Accessibility and Mobility for People and Freight	5 Environment and Energy Conservation, Quality of Life, Economic Development	6 System Integration and Connectivity for People and Freight	7 Efficient Operation and Management	8 Preserve the existing transportation system	9 System Resiliency and Reliability; reduce or mitigate stormwater impacts	10 Enhance Travel and Tourism
GOAL 5: ENVIRONMENT AND SYSTEM RESILIENCY											
	Promotes energy conservation, especially for non-renewable energy sources					✓					
	Transportation projects should limit impacts to the natural and build environment					✓				✓	
	Invest in alternative and renewable fuel infrastructure when practical					✓				✓	
	Identify strategies to make transportation infrastructure more resilient to natural and manmade events			✓		✓				✓	
GOAL 6: TRAFFIC OPERATIONS AND SYSTEM RESILIENCY											
	Limit the emergence of recurring congestion				✓			✓		✓	
	Improve travel reliability on arterial roadways	✓			✓			✓		✓	
	Support high levels of freight reliability on the state highway system	✓						✓		✓	
	Promote development outside of flood prone areas									✓	

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Project Prioritization and Performance Measures

Transportation objectives were developed to be specific, measurable actions whose progress could be monitored by the MPO. These objectives play a central role in the LRTP project selection process, in which potential roadway, bicycle and pedestrian, and transit projects are identified then evaluated against a series of project prioritization metrics based on the objectives. Projects with the highest scores are those that

meet the most prioritization metrics, and thus align with the highest number of Plan objectives. These project scores were a general guide to a performance-based project evaluation. However, some projects were developed to be more focused on a single element, like safety. These single-factor projects might be very important in addressing that single element but may not receive high scores across all objective categories. In these cases, more discretion is applied in the prioritization process. Table 4-3 presents the prioritization metrics by goal area.

Table 4-3: Project Prioritization Metrics by Goal Area



Goal Area	Objectives	Prioritization Measure	PROJECT SCORING METHOD			
			+2	+1	0	-2
System Safety 	<ul style="list-style-type: none"> Reduce the incidence and rate of crashes Reduce severe injury and fatal crashes 	Vehicular Safety Assessment	Has the potential to improve safety at top crash frequency or crash rate intersection	Has the potential to improve safety at any intersection	Does not impact safety at top crash frequency or crash rate intersection	Has the potential to negatively impact safety
	<ul style="list-style-type: none"> Reduce bicycle and pedestrian crashes 	Non-motorized Safety Assessment	Has the potential to improve non-motorized safety at top crash frequency or crash rate intersection	Has the potential to improve non-motorized safety at any intersection	Does not impact non-motorized safety at top crash frequency or crash rate intersection	Has the potential to negatively impact non-motorized safety
	<ul style="list-style-type: none"> Maintain safety on transit vehicles 	Policy Objective – Identify Strategies to Improve Transit Safety through Public Transportation Agency Safety Plans				
Multimodal Connectivity and Accessibility 	<ul style="list-style-type: none"> Provide improved connections to key destinations across the community 	Connection to Dense Development Nodes	Creates new, multimodal connection between highest density tier of land uses and mixed uses	Creates new, multimodal connection between 2nd highest density tier land uses and mixed uses	Does not create new, multimodal connection to dense / diverse land uses and mixed uses	Removes multimodal connection to dense / diverse land uses and mixed uses
	<ul style="list-style-type: none"> Increase the connectivity of the bicycle and pedestrian system 	Multimodal Connectivity	Enhances connection between two or more modes or connects two existing facilities	Enhances connection for non-motorized or transit modes	No impact on multimodal connectivity for non-motorized or transit modes	Non-motorized or transit connection is removed, or barrier to non-motorized or transit modes is created
	<ul style="list-style-type: none"> Continue to provide quality public transit services 	Transit Operations and State of Good Repair	Supports existing transit services and operations or helps preserve transit capital; or provides enhanced transit services.		No impact transit services and operations or helps preserve transit capital.	Negatively impacts existing transit services and operations or helps preserve transit capital.



Table 4-3: Project Prioritization Metrics by Goal Area (continued)





Goal Area	Objectives	Prioritization Measure	PROJECT SCORING METHOD			
			+2	+1	0	-2
Economic Vitality 	<ul style="list-style-type: none"> Identify transportation strategies that support economic development projects 	Economic Development Priorities	Project supports access to regional economic development priority site		No impact on access to economic development priority sites	Project negatively impacts access to regional economic development priority site
	<ul style="list-style-type: none"> Identify transportation strategies that provide enhanced 8for low income residents 	Equity Access to Jobs	Directly supports enhanced multimodal access to lower-income jobs or EJ residential areas		No impact on access to lower-income jobs or EJ residential areas	Negatively impacts access to lower-income jobs or EJ residential areas
	<ul style="list-style-type: none"> Provide active transportation options that promote the health and well-being of residents 	Active Transportation Elements	Project would encourage walking or biking		Project would have no significant impact on walking or biking	
	<ul style="list-style-type: none"> Provide access to tourist destinations 	Enhanced Tourism Access	Enhances multimodal access to identified tourist destinations		No access impact to identified tourist destinations	Negatively impacts multimodal access to identified tourist destinations
	<ul style="list-style-type: none"> Identify how transportation can support affordable housing 	Access to Affordable Housing	Provides enhanced transit, bicycle, or pedestrian access to identified affordable housing area		No impact to access to identified affordable housing area	Removes transit, bicycle, or pedestrian access to identified affordable housing area
	<ul style="list-style-type: none"> Promote freight connectivity and access 	Access to Freight Generators	Has potential to improve freight access to highest density tier of industrial employment		No expected impact on freight access	Has potential to degrade freight access to highest density tier of industrial employment
System Preservation 	<ul style="list-style-type: none"> Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition 	Project Enhances Pavement or Bridge Condition	Enhances pavement or bridge condition of asset in poor conditions	Enhances pavement or bridge condition of asset that will require reconstruction by 2045	No impact to pavement or bridge condition	



Table 4-3: Project Prioritization Metrics by Goal Area (continued)

Goal Area	Objectives	Prioritization Measure	PROJECT SCORING METHOD			
			+2	+1	0	-2
Environment and System Resiliency 	<ul style="list-style-type: none"> Promotes energy conservation, especially for non-renewable energy sources 	Vehicular Travel Reduction	Anticipated to have a measurable reduction in vehicle-miles traveled and vehicle-hours traveled	Anticipated to have a measurable reduction in vehicle-miles traveled or vehicle-hours traveled	Anticipated to have limited impact to vehicle-miles traveled and vehicle-hours traveled	Anticipated to have a measurable reduction in vehicle-miles traveled and vehicle-hours traveled
	<ul style="list-style-type: none"> Transportation projects should limit impacts to the natural and built environment 	Project Impact Screening	Anticipated project or strategy would reduce existing natural and built environment impacts		Anticipated project alignment would have no impact to environmental resources of right-of-way	Anticipated project alignment would impact environmental resources, or would require significant right-of-way acquisition
	<ul style="list-style-type: none"> Invest in alternative and renewable fuel infrastructure when practical 	Policy Objective – LRTP may identify strategies to improve renewable energy infrastructure				
	<ul style="list-style-type: none"> Identify strategies to make transportation infrastructure more resilient to natural and manmade events 	Infrastructure Resiliency	Improves resiliency to natural events or improves security against manmade events.		No impact to resiliency or security.	Reduces resiliency to natural events or reduces security against manmade events.
Traffic Operations and System Reliability 	<ul style="list-style-type: none"> Limit the emergence of recurring congestion 	Corridor Level of Service	Improves traffic operations for a location operating at LOS D or worse in 2045	Improves traffic operations	No impact on traffic operations	Degrades traffic operations
	<ul style="list-style-type: none"> Improve travel reliability on arterial roadways 	Corridor Reliability LOTTR	Improves reliability on a corridor identified as having reliability issues	Improves reliability on an NHS or Interstate route	No impact on reliability	Negatively impacts reliability on a corridor identified as having reliability issues
	<ul style="list-style-type: none"> Support high levels of freight reliability on the state highway system 	Freight Reliability TTTR	Improves freight reliability on state highway or Interstate Corridor		No impact on freight reliability	Negatively impacts freight reliability on a state highway or Interstate Corridor
	<ul style="list-style-type: none"> Promote development outside of flood prone areas 	Policy Objective – LRTP may identify strategies to promote development outside of flood prone areas				



Chapter 5 Existing System Performance

This chapter describes the performance of the existing transportation system. Performance refers to roadway and nonmotorized safety, traffic operations, and infrastructure (bridge and pavement) conditions. Also described are the existing freight, bicycle and pedestrian, transit systems as well as other surface transportation modes operating in the GIAMPO region. Some of the performance measures reflected in this chapter are Federally reported. Summary tables for each of those Federal performance measures are provided at the end of this chapter. A complete summary of existing conditions analysis is included in **Appendix B**.

System Safety

System safety is evaluated based on observed regional crash patterns and trends. Crash data provided by Nebraska DOT for the years 2014-2018 were reviewed and analyzed to support system safety analysis. The data reported in this section are for the GIAMPO planning area, which included 7,650 reported crashes over that five-year period.

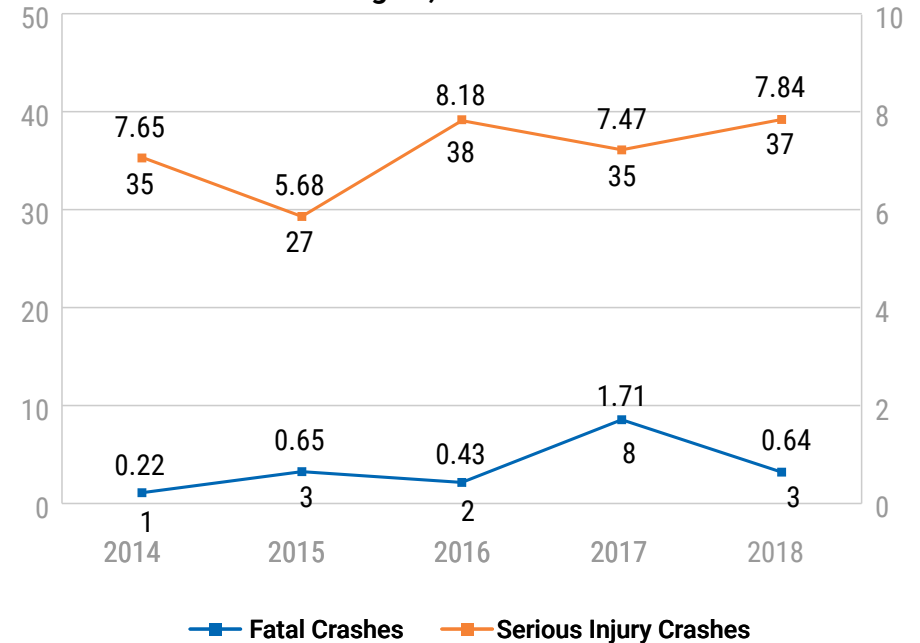
Fatal and Serious Injury Crash Frequency and Rates

Safety performance is measured in terms of both the number of crashes (frequency) and in terms of crash rates (number per 100 million vehicle miles traveled - VMT).

- **Crash Frequency:** There were 189 fatal or serious injuries as a result of vehicular crashes between 2014 and 2018. During the same time, there were 17 fatalities resulting from vehicular crashes.
- **Crash Rates:** The five-year average for fatal crashes was 0.73 fatal crashes per 100 million VMT. The five-year serious crash rate was 7.40 per 100 million VMT during this period.

Figure 5-1 shows the annual totals and trends for fatal and serious injury crashes and crash rates in the GIAMPO region between 2014 and 2018.

Figure 5-1: Fatal and Serious Crashes and Crash Rates for the GIAMPO Region, 2014-2018

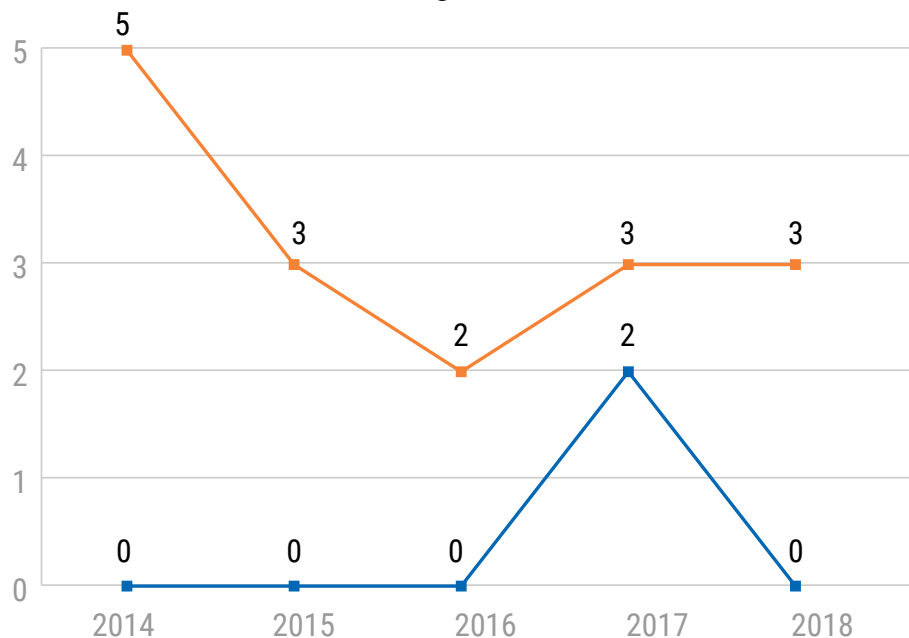




Nonmotorized Crashes

Safety performance is also measured in terms of number of fatal and serious injury nonmotorized crashes. There were 18 total fatal and serious injury nonmotorized crashes that occurred in the GIAMPO region between 2014 and 2018 totaled 18. Of those 18, 2 were fatal and 16 resulted in serious injuries. **Figure 5-2** shows the annual totals and trends for fatal and serious injury nonmotorized crashes in the GIAMPO region between 2014 and 2018.

Figure 5-2: Nonmotorized Fatal and Serious Injury Crashes in the GIAMPO Region, 2014-2018



Traffic Operations

Traffic flows on the existing roadway system were evaluated to identify issues related to regional traffic operations in the GIAMPO region. Traffic operations were reviewed from two different perspectives:

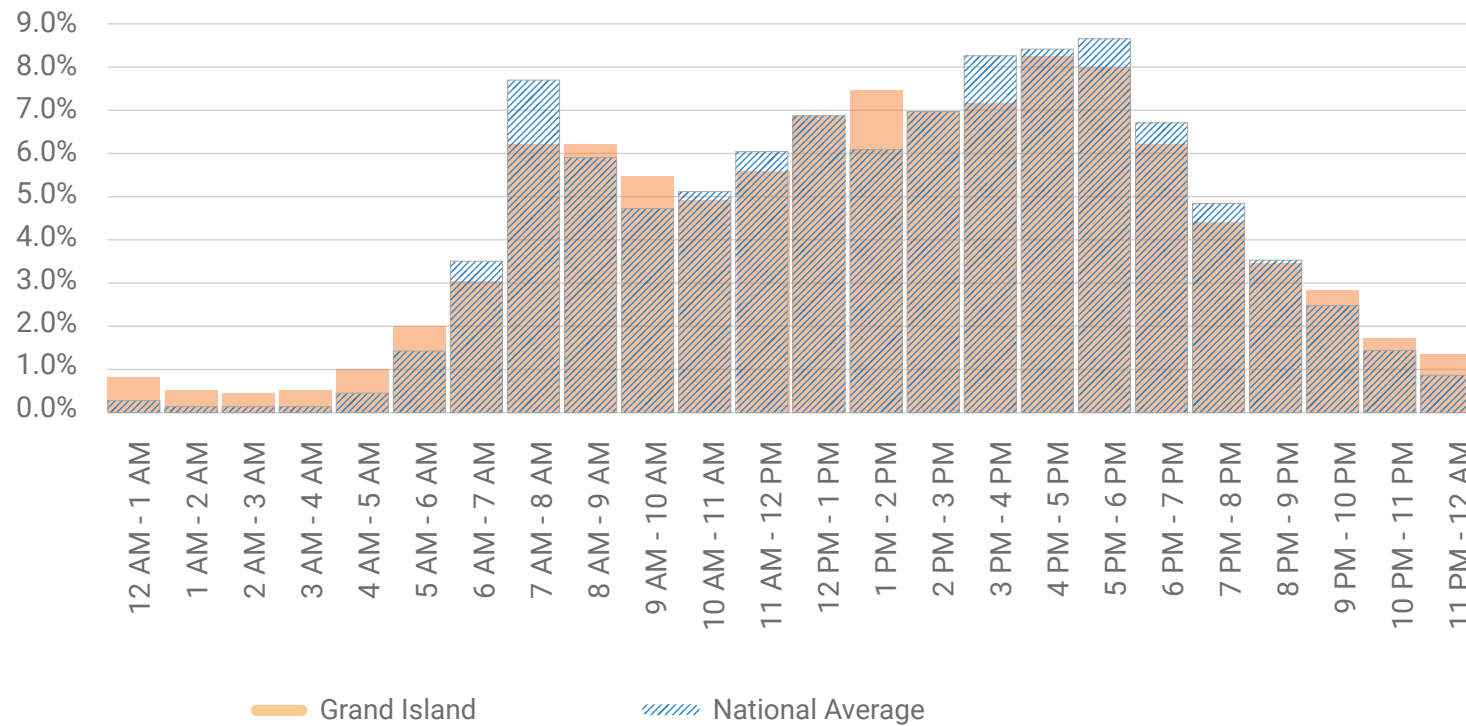
- Peak period travel conditions
- Passenger and freight travel reliability

Peak Period Travel Conditions

The traffic operations analysis focused on evaluating congestion levels during typical peak period ("rush hour") conditions. For the GIAMPO area, the peak period of travel is weekdays between 4 and 6 PM, when the highest percent of daily traffic for any given time is on the road. This is shown in **Figure 5-3**, which compares the hourly percentage of daily traffic in the Grand Island area over the course of a typical weekday to the national average.



Figure 5-3: Comparison of the Hourly Percentage of Daily Traffic in the Grand Island Area and the National Average



Gradations of traffic congestion are communicated in terms of level of service (LOS), which is presented using letter grades ranging from A through F. **Figure 5-4** provides a graphical description of the LOS grading system. The traffic operations analysis indicates limited peak period

congestion in Grand Island. Most of the roads in within the GIAMPO area experience LOS A or B conditions, with a few corridors experiencing LOS C or D.



Figure 5-4: Level of Service Descriptions

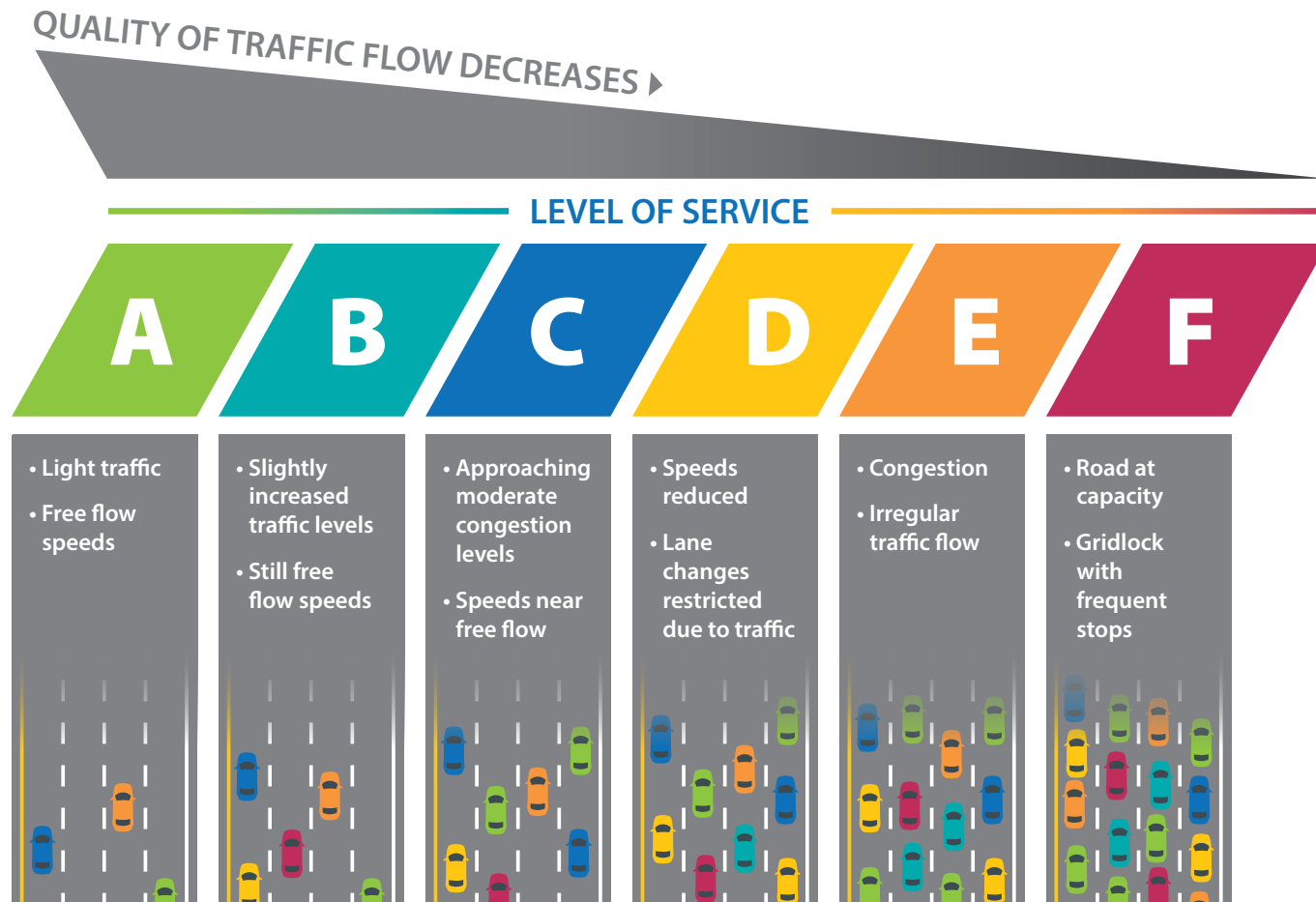
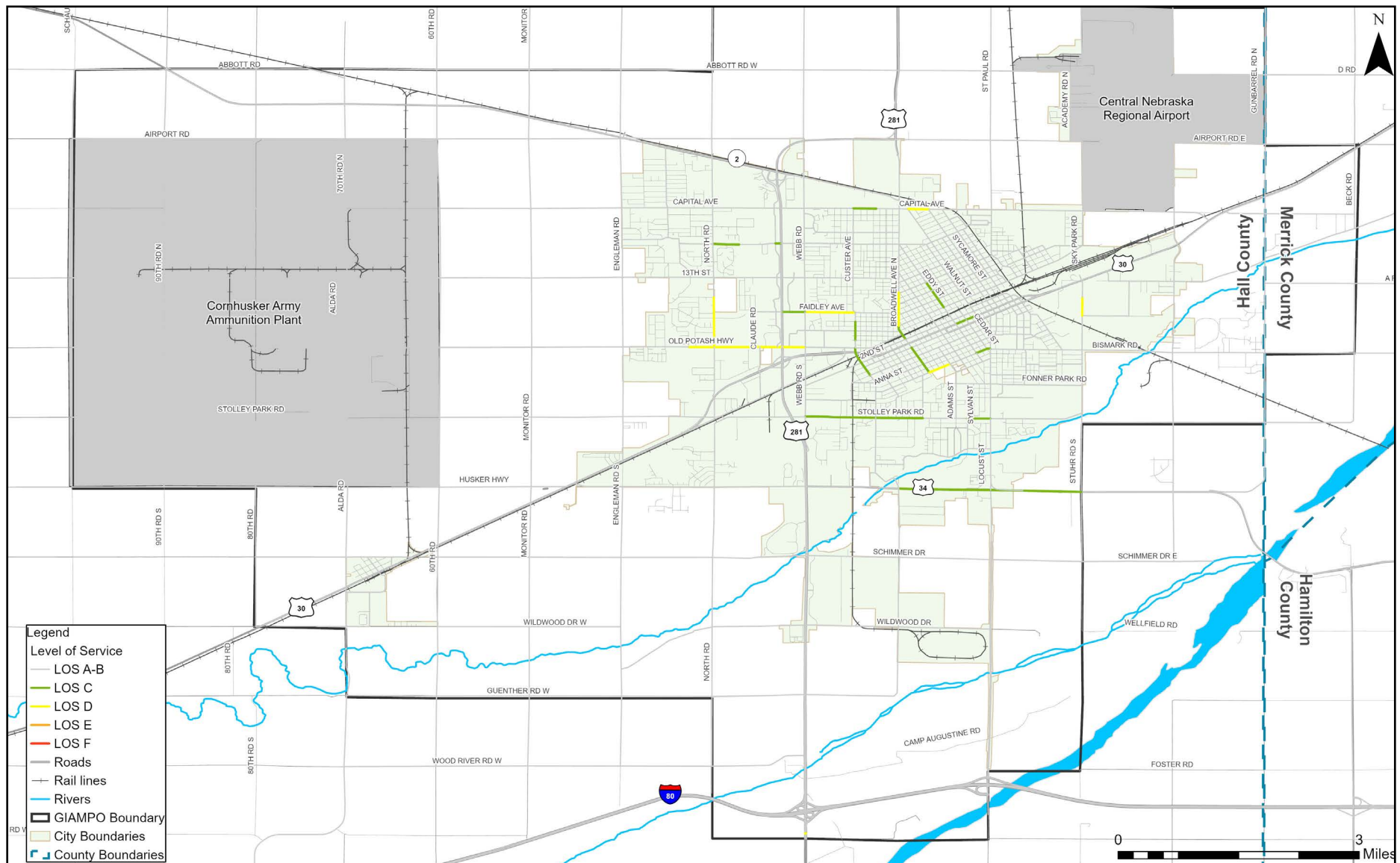


Figure 5-5 illustrates the results of the current peak period traffic conditions analysis, which looks at the ratio of daily traffic volumes

to the designed capacity of each functionally classified roadway. This approach is termed “Volume over Capacity” (V/C).



Figure 5-5: Estimated Peak Period Traffic Operations





Travel Reliability

Passenger Travel Reliability

Travel reliability is another method for evaluating traffic operations. Travel reliability evaluates how predictable travel times along corridors are for both passenger and freight traffic.

Passenger vehicle travel reliability is assessed using the Level of Travel Time Reliability (LOTTR) metric. This metric uses a standardized approach to compare a corridor's travel time on a higher delay day (80th percentile travel time) to the same corridor's travel time on an average day. The LOTTR reflects how predictable daily travel is along that corridor and is only applied to the Interstate and non-Interstate NHS corridors.

Within GIAMPO, the LOTTR along the interstate is considered reliable. The only corridors experiencing reliability issues are at small segments of:

- US Highway 281 and US Highway 34.
- US Highway 34 and Locust Street.

Figure 5-6 illustrates the LOTTR for the reliability results for the worst period (AM or PM) for each segment in 2018.

Freight Reliability

Truck travel reliability is assessed using the Truck Travel Time Reliability (TTTR) metric. This metric also uses standard approach to compare truck travel times in a corridor on a higher delay day (95th percentile travel time) to the corridor's truck travel time on an average day. Like the LOTTR, the TTTR reflects how predictable truck travel is along a corridor. One difference between these two metrics is that TTTR is only applied to the Interstate system whereas LOTTR is applied to both Interstate and non-Interstate NHS routes.

The TTTR analysis for the Interstate system in the Grand Island Area MPO shows that much of Interstate 80 (I-80) was classified as "unreliable" for freight traffic during the reporting period. **Figure 5-7** illustrates reported TTTR. It should be noted that during this reporting period, there was construction on I-80 for several months which likely made these segments less reliable for freight travel than during typical conditions. These segments should be monitored in future years for TTTR performance.



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Figure 5-6: Level of Travel Time Reliability (LOTTR) for the Grand Island Area MPO, 2018

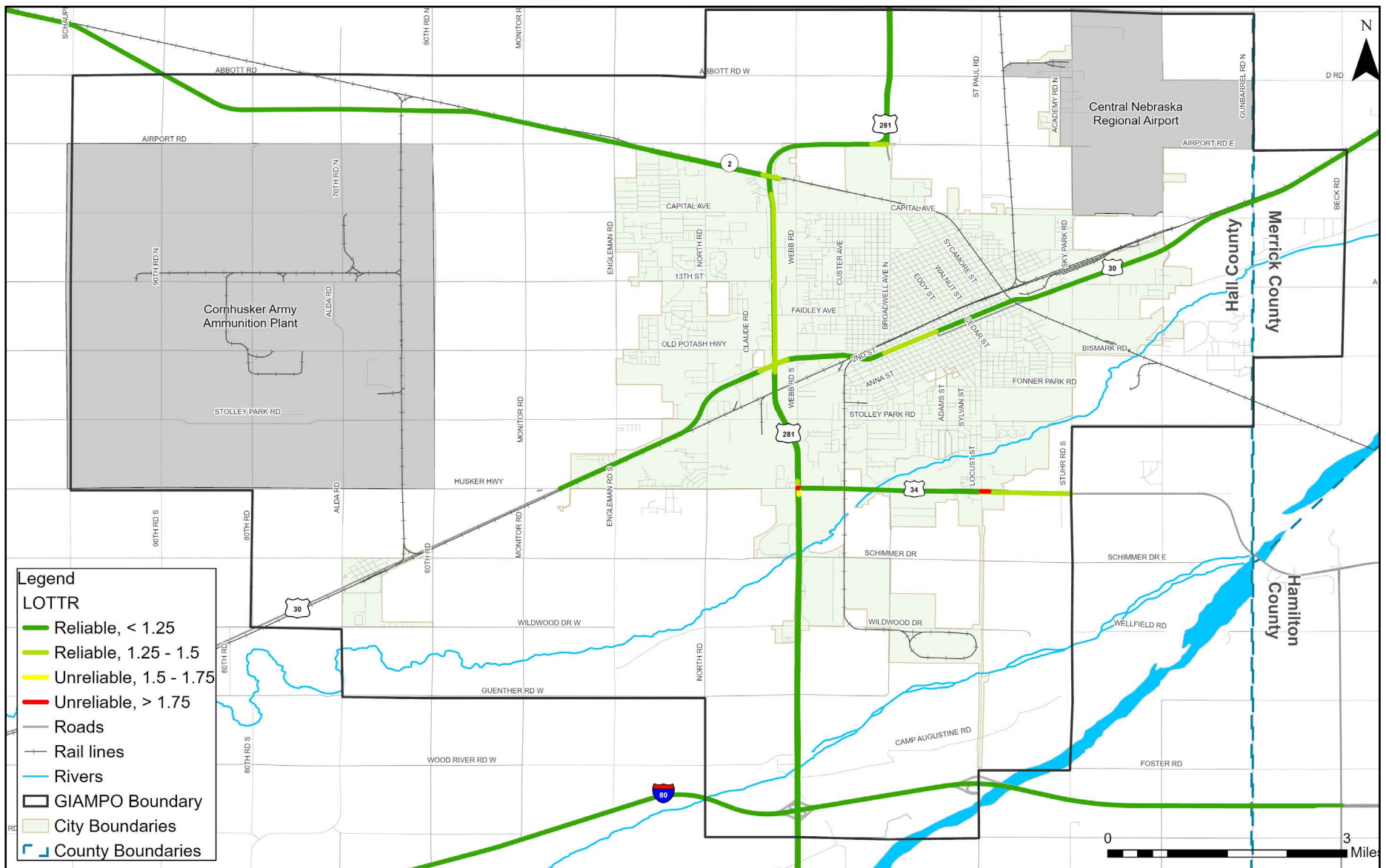
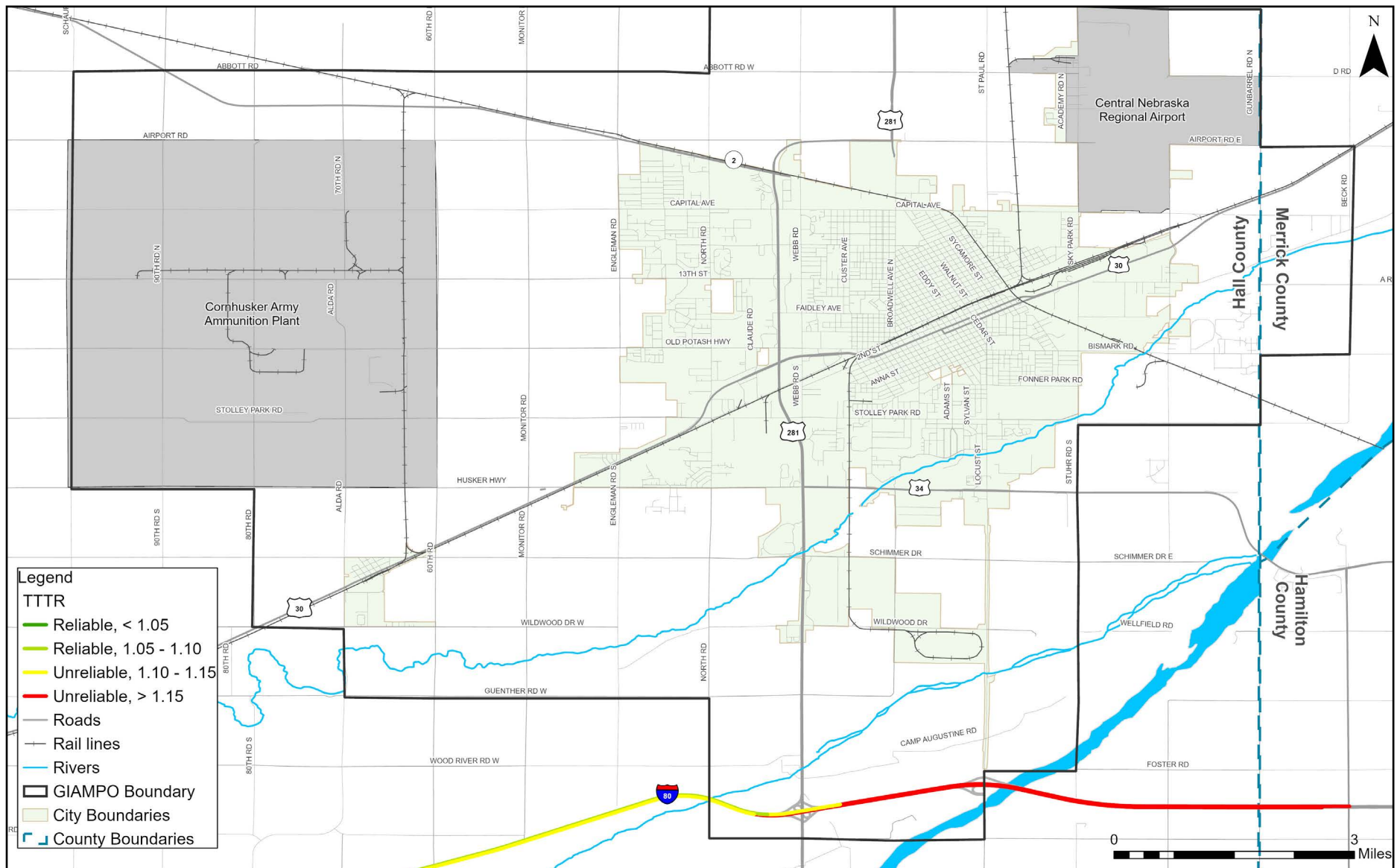




Figure 5-7: Truck Travel Time Reliability (TTTR) for the Interstate System within the Grand Island Area MPO Boundary





Bridge Conditions

Grand Island Area Bridges

There are 99 bridges within the Grand Island MPO area, and 35 of these structures are located on the NHS. The conditions of these bridges, as well as all 99 bridges within the MPO boundary, are presented in **Table 5-1**.

Table 5-1: NBI Ratings of Bridges within the Grand Island MPO Boundary

BRIDGE RATINGS	NHS BRIDGES	ALL BRIDGES (NHS AND NON-NHS)
Good	16	58
Fair	19	41
Poor	0	0

Source: National Bridge Inventory

As shown in **Table 5-1** there are:

- 16 NHS bridges in good condition.
- 19 NHS bridges in fair condition.
- No NHS bridges in poor condition.

The NHS bridges were further analyzed to calculate the bridge condition by deck area. **Table 5-2** presents the total deck area of NHS bridges by condition rating.

Table 5-2: Ratings of Grand Island NHS Bridges by Deck Area

BRIDGE RATING	NHS BRIDGE DECK AREA*	% OF TOTAL DECK AREA*
Good	14,692	36%
Fair	25,993	64%
Poor	-	0%
Total	40,685	100%
Poor	0	0

*Deck area is reported in square meters

For Grand Island area bridges on the NHS, 36% of the total deck area is rated in Good condition while the remaining 64% is rated in Fair condition. **Figure 5-8** shows the condition of all bridges in the MPO study area.

Bridge Performance Measures

Nebraska DOT has requested that MPOs support these two state targets:

- Keep at least 95% State-Owned Bridges in Good or Fair Condition.
- Keep less than 10% state system of total deck area on NHS classified as Structurally Deficient.

As noted, no bridges on the NHS are in poor condition in the GIAMPO area and are thus supporting the State performance measure targets.



Pavement Conditions

Pavement conditions for the NHS were analyzed based on 2019 data obtained from the NDOT. Pavement ratings were determined based on a series of indicators such as pavement rutting, faulting, and cracking and then organized into the following categories:

- **Good:** Pavement exhibiting minimal rutting, faulting, and/or cracking.
- **Fair:** Pavement has some rutting, faulting, and/or cracking.
- **Poor:** Pavement has significant rutting, faulting, and/or cracking.

Of the 101 miles analyzed, over 75% is rated in Good condition. The next largest proportion of NHS pavement is rated as being in Fair condition while less than 1% is considered in Poor condition.

Table 5-3 summarizes the ratings for all 101 miles.

Table 5-3: Summary of Pavement Ratings for NHS Roads

PAVEMENT CONDITION	LENGTH (MILES)	SYSTEM MILES PERCENTAGE
Good	78.5	77.4%
Fair	22.5	22.2%
Poor	0.5	0.4%
Total	101.5	100%

Source: Nebraska Department of Transportation

The condition of pavement in the MPO study is shown **Figure 5-9**.



Figure 5-8: Bridge Conditions within the Grand Island Area MPO Boundary

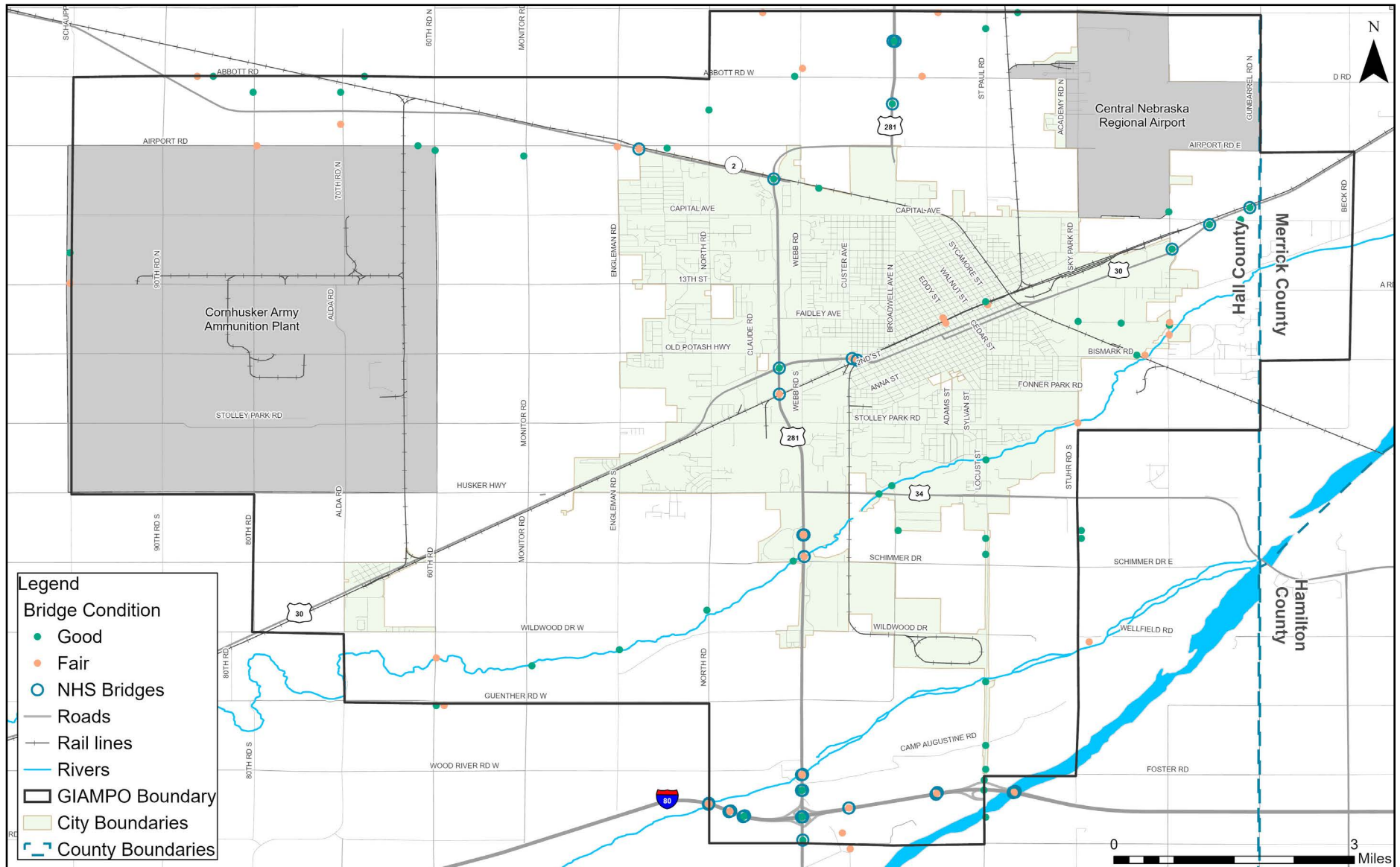
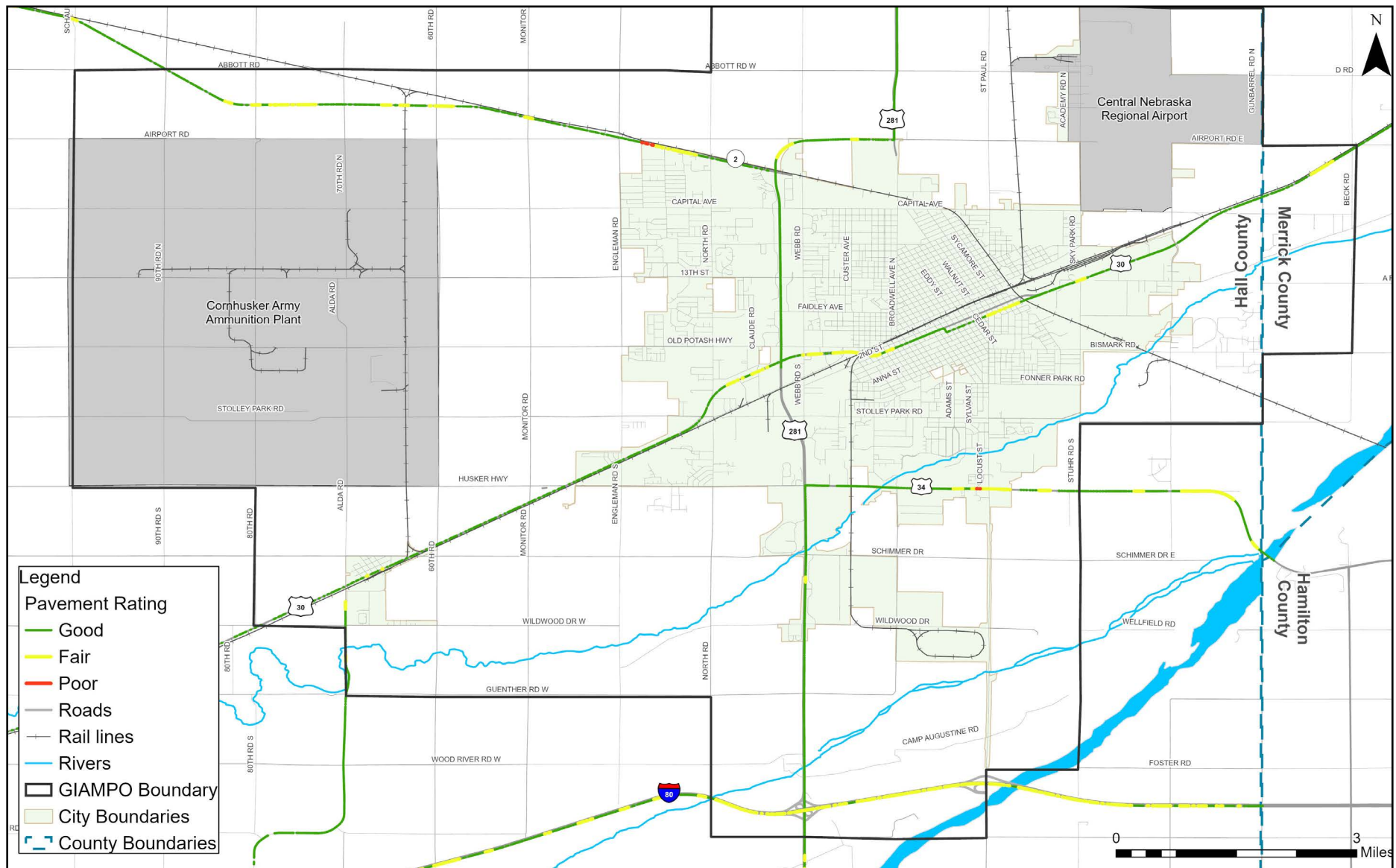




Figure 5-9: Pavement Conditions within the Grand Island Area MPO Boundary





Freight System

Trade has historically been, and will continue to be, an integral part of the Nebraska and Grand Island area economy. As the original transcontinental railroad developed westward in the mid-1860's, Grand Island developed as a change point for Union Pacific Railroad engines and crews. During the late nineteenth century, the city emerged as a hub for rail traffic and connected to rail lines throughout the American west, cementing Grand Island as a center for regional rail freight activity.

Today, the GIAMPO area continues its role as a major multimodal freight center served by highway, rail, air, and pipeline freight carriers. Notable modal freight facilities include:

- **Federal and state highway system facilities:** Interstate 80, US Highways 30, 34, and 281, and Nebraska Highway 2.
- **Air freight services:** Central Nebraska Regional Airport.
- **Rail freight services:** Union Pacific (UP) and Burlington Northern-Santa Fe (BNSF).
- **Natural gas pipeline:** Tallgrass Interstate Gas Transmission.

A more complete summary of freight is included in **Appendix C**.

Highway Freight

Regional Freight Movements

Highway freight facilities within the GIAMPO area include Interstate 80, U.S. Highway 30, U.S. Highway 34, U.S. Highway 281, and Nebraska Highway 2. Additionally, several non-Highway roads in the City of Grand Island are utilized by trucks, including Locust Street, 1st Street, 2nd Street, Eddy Street, and Broadwell Avenue. **Figure 5-10** illustrates the current highway freight network in the GIAMPO region.

Grand Island Area Freight Movements

A corridor-level analysis was also conducted for the major NHS freight routes contained within the boundary of the GIAMPO planning area.

Table 5-4 presents the resulting projections for growth in daily truck traffic (referred to as Average Annual Daily Truck Traffic or AADTT) for these corridors through the plan horizon.

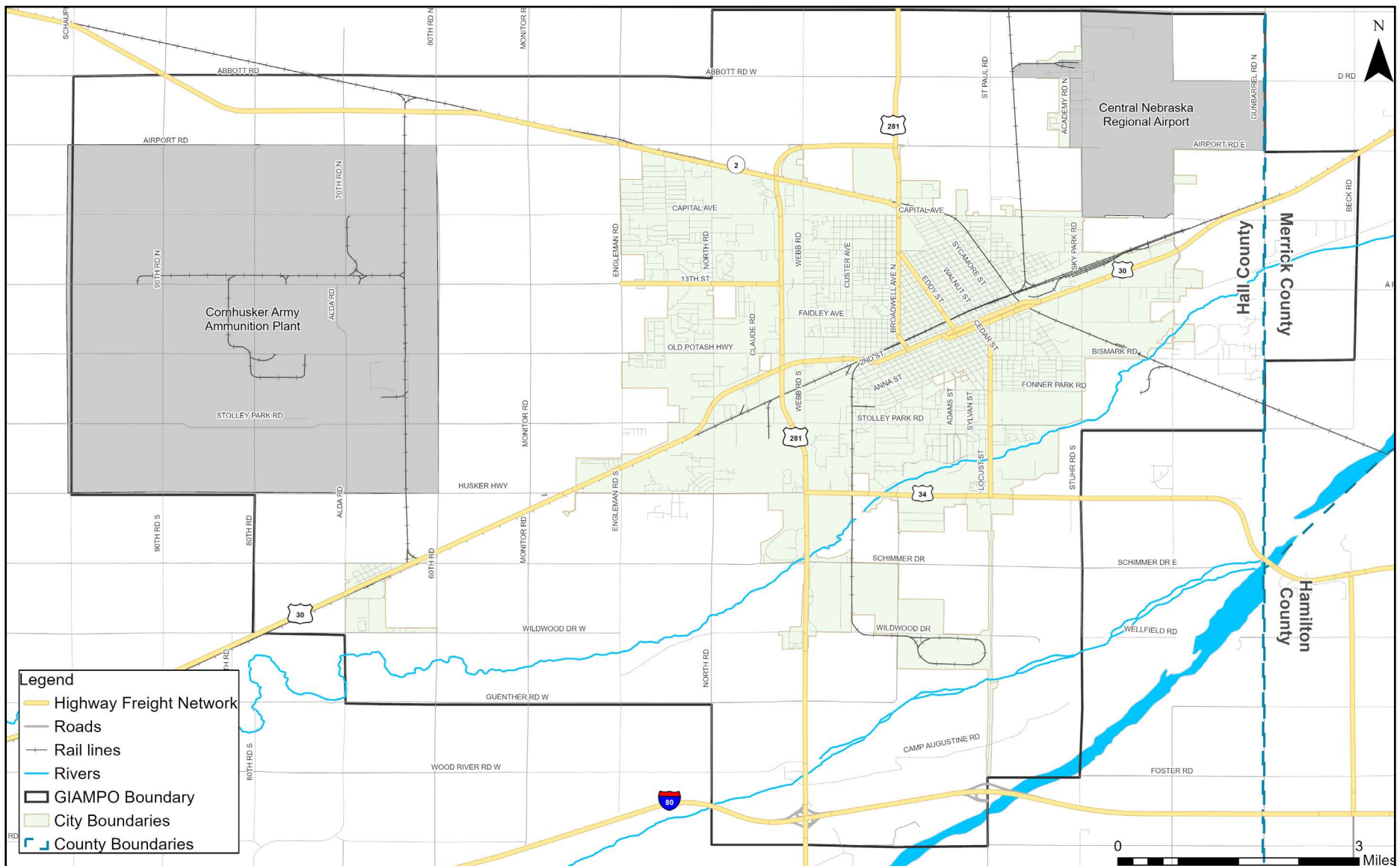
Table 5-4: Projected Growth in Daily Truck Traffic on Interstate and NHS Routes

HIGHWAY FACILITY	2012 AADTT	2045 AADTT	% CHANGE
Interstate 80	7,775	26,200	236%
US Highway 281/34	1,750	3,952	122%
US Highway 30	994	1,731	74%
Nebraska Highway 2	315	835	161%

Source: Federal Highway Administration, Freight Analysis Framework



Figure 5-10: Highway Freight Network within the GIAMPO Region





These large future increases in truck volumes can lead to the potential for significant impacts on GIAMPO highway facilities. The needs for public expenditures on roadway maintenance and the potential for highway capital improvements could increase, while the operations and reliability of the highway system for both trucks and passenger vehicles could decrease due to these trends.

The City of Grand Island has demonstrated desire to further improve freight operations in the region through the expansion of the existing intermodal freight facility, Central Nebraska Transload (CNT). CNT provides truck-to-rail and rail-to-truck transloading services, which bolster regional supply chains through increased efficiency owing to freight consolidation. A second benefit of freight consolidation facilitated by CNT is the reduction of long-haul trips taken by freight trucks, resulting in less wear on highway pavement, lower freight truck emissions, and improved safety on the region's roadways. GIAMPO's commitment to enhancing freight access and mobility in the region supports the expansion of CNT and similar intermodal facilities throughout the area.

Air Freight

The Central Nebraska Regional Airport (KGRI) is the major aviation facility in the GIAMPO area. This facility is owned by the Hall County Airport Authority and maintains four runways that service an average of 69 aircraft per day. In terms of operations, the Central Nebraska Regional Airport has 35 aircraft based at the field. At the airport, 41% of operations are associated with transient general aviation, 26% are local general aviation, 26% are commercial aviation, and the remaining 7% are for military aviation purposes.¹ A discussion of commercial air service at the Central Nebraska Regional Airport is provided later in this document.

While the Central Nebraska Regional Airport mainly serves non-freight needs, a 2016 study conducted by the University of Nebraska estimated that this facility receives approximately 1,144 tons in total annual operations each year, making it number two behind Omaha's Eppley Airfield in terms of air cargo operations in the State.²

¹ Central Nebraska Regional Airport FAA Information, <https://www.airnav.com/airport/KGRI>.

² Nebraska State Freight Plan, 2017. <https://dot.nebraska.gov/media/10761/nebraska-freight-plan.pdf>.

Rail Freight

Rail freight plays a significant role in the local economy of the GIAMPO region as evidenced by the 140 trains that pass through every day.³ There are three railroads operating in the region:

- **Union Pacific** has a main line route traveling through Grand Island.
- **Burlington Northern Santa Fe** has a main line route traveling through Grand Island.
- **Nebraska Central Railroad Company**, owned by Rio Grande Pacific Railroad, also operates a rail line that connects with UP in the northern part of the City of Grand Island.

In addition to the rail lines found within the GIAMPO boundary, there are a number of rail facilities and crossings throughout the GIAMPO area, including "The Diamond", where Burlington Northern-Santa Fe track passes over a Union Pacific main line and serves as a notable tourist attraction for railroad enthusiasts.⁴ The Federal Railroad Administration's Highway-Rail Crossing Inventory indicates that there are 87 rail crossings within the GIAMPO boundary, and 65 of these crossings are at-grade and public.

Pipelines

Freight movements via pipeline accounted for 11% of total freight movement by weight in Nebraska during the year 2015. This important freight mode is utilized mainly for the transmission of energy products, such as petroleum, natural gas, crude oil, and hydrocarbon gas liquids. Within the GIAMPO planning area, a natural gas pipeline operated by Tallgrass Interstate Gas Transmission is the only pipeline currently in operation.

³ Grand Island, Railroad Hot Spot. <https://visitgrandisland.com/visitors/>

⁴ Grand Island Tourism, <https://visitgrandisland.com/visitors/attractions/railroad.html#targetText=Grand%20Island's%20hotspot%20is%20known,along%20the%20original%20transcontinental%20mainline>.





Existing Bicycle and Pedestrian System

Walking and Biking in Grand Island

Walking and biking are a relatively small portion of commute trips, with 1.2% of Grand Island workers walking to work and 0.7% of Grand Island workers using a bicycle for work trips.⁵ The walk share is lower than the state of Nebraska as a whole, as 2.7% of commuters statewide walk. However, Grand Island's share of bicycle commuters is higher than Nebraska as a whole, as only 0.4% of statewide commuters bike. **Table 5-5** presents a comparison of non-private vehicle commuting habits for the City of Grand Island, Hall County, the state of Nebraska, and the United States.

Table 5-5: Non-Private Vehicle Means to Work

MEANS TO WORK	CITY OF GRAND ISLAND	HALL COUNTY, NE	STATE OF NEBRASKA	UNITED STATES
Bicycle	0.7%	0.6%	0.4%	0.6%
Walk	1.2%	1.2%	2.7%	2.7%
Public transit	0.7%	0.9%	0.7%	5.1%
Taxi, motorcycle, or other means	1.1%	1.0%	0.9%	1.2%

Source: American Community Survey, 2017 5-Year Estimates

5 American Community Survey (ACS) 2017 5 Year Estimates

Figure 5-11 shows the locations of the on-street and off-street bicycle and pedestrian facilities within the GIAMPO boundary.

Transit System

Public transit for the City of Grand Island and Hall County is provided by the Central Ride Agency of Nebraska (CRANE), which operates a demand-response service open to the public. In addition to serving the City of Grand Island and Hall County, CRANE provides service to residents of Alda, Wood River, Cairo, and Doniphan.⁶

CRANE operates Monday through Friday from 6:00 AM to 5:00 PM, and charges \$2.00 per boarding. Since CRANE is a demand-response service, users must schedule their rides a minimum of 24 hours in advance.

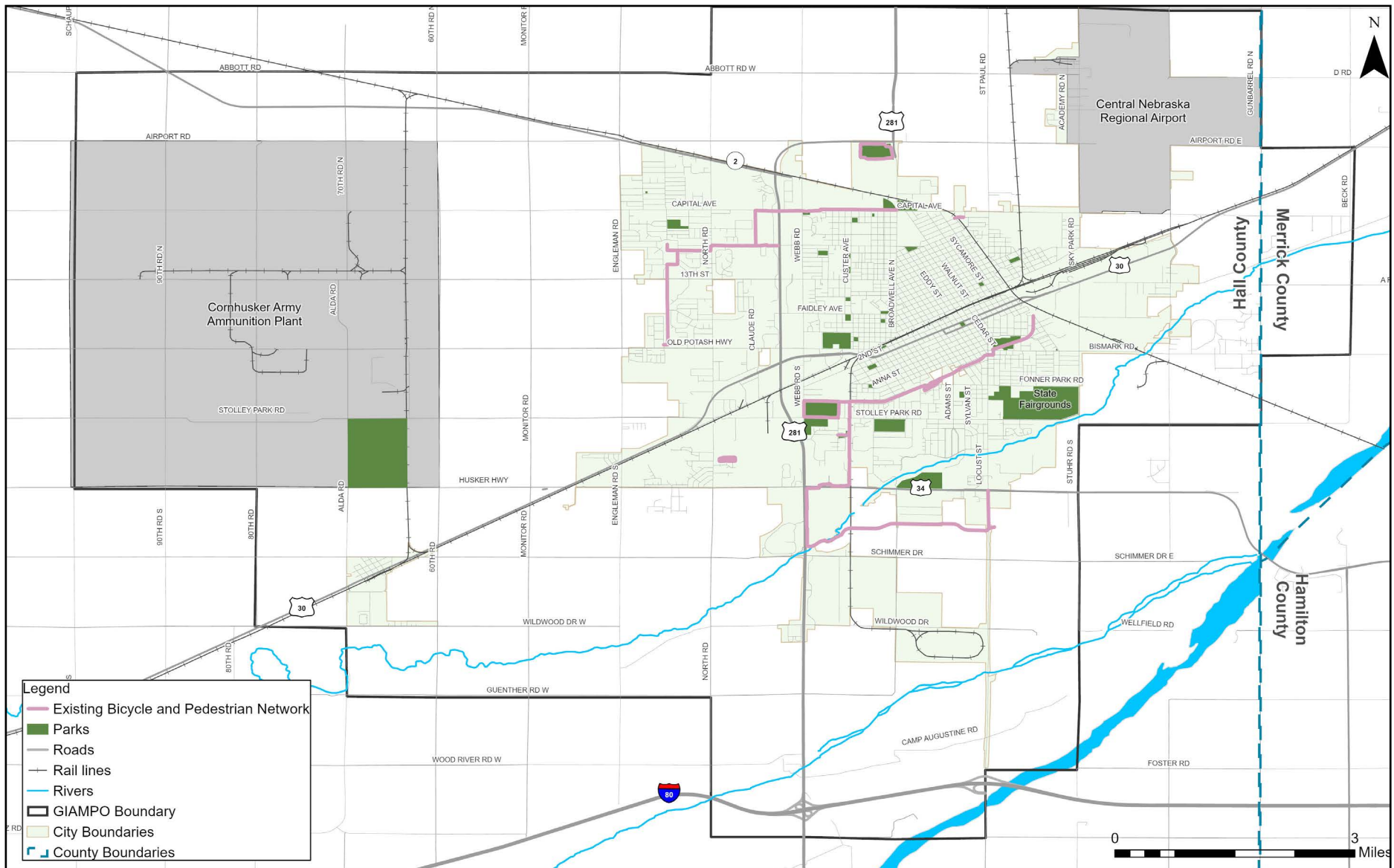
According to the National Transit Database (NTD) agency profile for CRANE, the total area served by this organization is 546 square miles. The number of vehicles operated at maximum service is 11, and the average age of the fleet vehicles is 5.2 years.

In addition to CRANE, public transit service within the portion of the GIAMPO region that falls within Merrick County is served by Central City Mini Bus out of Central City, NE. Central City Mini Bus is similar to CRANE in that it is a demand response service available to the public with a 24-hour advance reservation. Central City Mini Bus charges a flat, round-trip rate of \$10 for service to the City of Grand Island. For rides to destinations within Central City, the cost of a one-way trip is \$0.50.

6 City of Grand Island Public Works, Transit. <https://www.grand-island.com/departments/public-works/transit>



Figure 5-11: GIAMPO Bicycle and Pedestrian Facilities





Other Regional Connections

The availability of other transportation modes allows for individuals to travel without relying on a private automobile, and the efficiency of these alternate modes is contingent upon their ability to effectively connect to regional destinations. For the GIAMPO area, the existing regional connections include commercial air services, intercity bus service, and passenger rail service.

Commercial Air Service

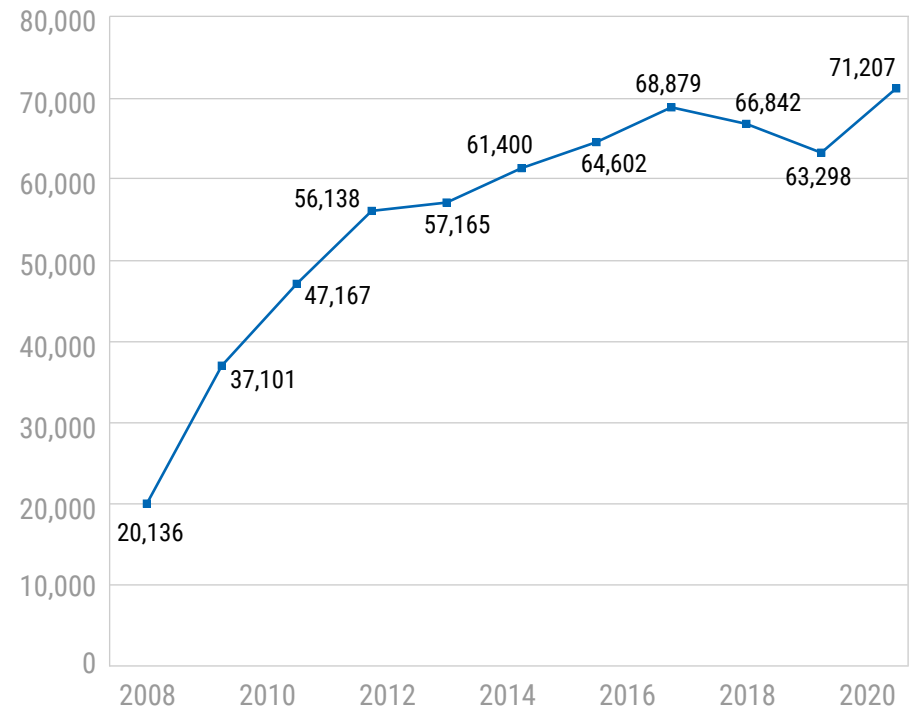
The Central Nebraska Regional Airport offers commercial air service within the GIAMPO area. Two airlines currently operate commercial service at the Central Nebraska Regional Airport:

- **Allegiant Air:** currently offers non-stop flights to the Phoenix-Mesa Gateway Airport and the McCarran International Airport in Las Vegas.
- **American Eagle:** offers non-stop service to the Dallas-Fort Worth Airport.

In addition to Allegiant Air and American Eagle, flights to Wendover, Utah and Laughlin, Nevada can be chartered throughout the year.

Since the year 2009, the number of annual enplanements has increased from 20,136 to 63,298 in 2018. During this ten-year period, annual enplanements peaked at 68,879 in 2016 then saw slight declines in both 2017 and 2018. **Figure 5-12** presents the annual enplanement figures from the Federal Aviation Administration for the ten-year period of 2009-2018.

Figure 5-12: Annual Enplanements for the Central Nebraska Regional Airport, 2009-2019



Source: Federal Aviation Administration, Air Carrier Activity Information System⁷

⁷ 2019 Enplanement data was sourced from the Grand Island Independent, Jan. 7, 2020 https://www.theindependent.com/news/local/central-nebraska-regional-airport-sets-passenger-record-in/article_2eb58eaa-319d-11ea-980c-5717d3da75d9.html.



Intercity Bus Service

Several intercity bus service options exist in the GIAMPO region.

- **Greyhound Bus:** offers intercity bus services to a variety of locations across the U.S. Travelers are picked up and dropped off at the Greyhound Bus Depot located just south of downtown Grand Island, near the junction of NE Highway 2 and U.S Highway 34.
- **Arrow Stage Lines:** offers charter bus rental services and has a facility in northern Grand Island, near the Central Nebraska Regional Airport.
- **The Navigator Airport Express:** offers 6 airport shuttle trips per week and serves the Nebraska communities of Kearney, Grand Island, Hastings, York, Lincoln, and Omaha.

Passenger Rail Service

Passenger rail service is currently not offered in the GIAMPO area. The nearest passenger rail facility is the Amtrak station located 25 miles south of the City of Grand Island, in the City of Hastings.

Additional Mobility Providers

Alternate mobility options for travelers in the GIAMPO region includes the ridehailing services Uber and Lyft, which have been operating in Grand Island since 2016. There are also several traditional taxi services operating throughout the region, serving the GIAMPO area along with the communities of Hastings, York, and Kearney. Ridesharing and carsharing services, such as Zipcar and Getaround, that allow members to use a personal automobile through a membership and hourly fee structure, are not currently available in the GIAMPO region. For individuals who wish to rent a personal vehicle, there are traditional car rental agencies.

System Performance and Progress Towards Targets

As part of the MAP-21 federal legislation, all State transportation agencies and MPO's were required to adopt transportation system performance and report annual progress made towards them. MPO's have the option to adopt statewide targets or adopt their own.

GIAMPO has chosen to support Nebraska DOT's adopted targets, which are concerned with safety, infrastructure condition, system operations performance, and transit asset management. Below is a summary of the statewide performance targets the MPO aims to meet, the baseline target calculated the year prior to the establishment of the statewide performance target, and the actual performance outcome for each measure. Note that performance results shown for the GIAMPO region are for illustrative purposes.

Safety

The safety performance measures adopted by the Nebraska DOT and supported by GIAMPO relate to the number and rate of fatal and serious injury crashes as well as the frequency of non-motorized crashes. **Table 5-6** shows the 2021 safety targets and GIAMPO's performance, in terms of 5-year averages, based on the 2014-2018 crash data.

**Table 5-6: Statewide Safety Performance Targets and GIAMPO Progress**

PERFORMANCE MEASURE	STATEWIDE TARGET (2016-2021)	STATEWIDE BASELINE (2014-2019)	STATEWIDE PERFORMANCE (2017-2021)*	GIAMPO PERFORMANCE
Number of Fatalities	241	234.0	243.3	3.4
Rate of Fatalities per 100 million VMT	1.13	1.126	1.138	0.73
Number of Serious Injuries	1,408	1,476	1,408.1	34.4
Rate of Serious Injuries per 100 million VMT	6.507	7.102	6.502	7.4
Number of Non-motorized Fatalities and Serious Injuries	126.6	134.2	126.6	3.6

*Statewide performance is recorded as a 5-year rolling average

Source: Nebraska DOT, Hall County, Merrick County

Infrastructure Condition

Infrastructure condition is concerned with existing pavement and bridge

conditions in the GIAMPO area. **Table 5-7** contains the 2020 statewide targets and GIAMPO performance.

Table 5-7: Statewide Infrastructure Performance Targets and GIAMPO Progress

PERFORMANCE MEASURE	STATEWIDE TARGET (2016-2021)	STATEWIDE BASELINE (2014-2019)	STATEWIDE PERFORMANCE (2017-2021)	GIAMPO PERFORMANCE
% of Interstate pavements in Good condition	50%	N/A	80.0%	10.60%
% of Interstate pavements in Poor condition	5%	N/A	0.1%	0%
% of non-Interstate NHS pavements in Good condition	40%	63.4%	63.0%	82.40%
% of non-Interstate NHS pavements in Poor condition	10%	11.5%	12.2%	0.50%
% of NHS bridges by deck area classified as in Good condition	55%	61.0%	56.5%	34%
% of NHS bridges by deck area classified as in Poor condition	10%	1.9%	1.9%	0%

Source: Nebraska DOT, National Bridge Inventory





System Operations Performance

Travel reliability is used as the main performance measure for assessing system operations performance. **Table 5-8** presents the 2021 targets adopted by the Nebraska DOT and supported by GIAMPO, as well as the passenger and freight reliability based on 2019 data.

Table 5-8: Statewide System Operations Performance Targets and GIAMPO Progress

PERFORMANCE MEASURE	STATEWIDE TARGET (2016-2021)	STATEWIDE BASELINE (2014-2019)	STATEWIDE PERFORMANCE (2017-2021)	GIAMPO PERFORMANCE
% of Person-Miles Traveled on the Interstate that are Reliable	94.0%	98.9%	97.5%	100%
% of Person-Miles Traveled on the non-Interstate NHS that are Reliable	88.0%	N/A	91.3%	99.7
Freight Reliability	1.25	1.10	1.15	1.21

Source: Nebraska DOT, National Performance Management Research Dataset

Transit Asset Management

Transit asset management (TAM) seeks to ensure that public capital assets are maintained in good condition and proactive steps are taken in managing them. Hall County Public Transit along with the City of Grand Island have elected to participate in group TAM planning in which performance targets are developed based on the transit equipment's Useful Life Benchmark (ULB). **Table 5-9** below shows the group TAM performance targets that were adopted in 2018.

Table 5-9: Transit Asset Management Performance Targets

CATEGORY	CLASS	DEFAULT ULB	PERFORMANCE TARGET
Rolling Stock	Cutaway Bus	10 years	50% of fleet exceeds default ULB
	Minivan	8 years	50% of fleet exceeds default ULB
	Van	8 years	50% of fleet exceeds default ULB
Equipment	Automobile	8 years	75% of fleet exceeds default ULB
Facilities	Admin/Storage	40 years	70% of facilities rated under 3.0 on TERM scale

Source: Nebraska DOT





Transit Safety

Under the Federal Public Transportation Agency Safety Plan (PTASP) rule, public transit agencies receiving Federal funding under the FTA's Urbanized Area Formula Grants are required to publish safety plans that

include processes and procedures to implement Safety Management Systems. As part of these PTASP plans, public transit agencies must publish safety performance targets for their operations. The PTASP safety targets for CRANE are shown in **Table 5-10**.

Table 5-10: Public Transportation Agency Safety Plan Performance Targets for CRANE Public Transit

CATEGORY	PERFORMANCE TARGET	2021 BASELINE	TARGET
Fatalities	Total	0	0
	Rate per 100,000 VRM*	0	0
Injuries (Major/Minor)	Total	TBD**	Reduction from 2024 Baseline
	Rate per 100,000 VRM	TBD	Reduction from 2024 Baseline
Safety Events (Minor/Major)	Total	TBD	Reduction from 2024 Baseline
	Rate per 100,00 VRM	TBD	Reduction from 2024 Baseline
System Reliability (Minor/Major)	VRM Between Failures	TBD	Reduction from 2024 Baseline

Source: CRANE Public Transportation Agency Safety Plan, 2020

*VRM is Vehicle Revenue Mile

**TBD-To be determined in 2024 as GIAMPO will not publish a 2021 baseline for these measures



Chapter 6 Future System Performance

Regional Growth Overview

Several sources of data were evaluated for identifying growth trends and reasonable forecasts of future population, household, and employment levels. Data from the Center for Public Affairs Research (CPAR) at University of Nebraska Omaha, Woods and Poole economics¹, and historical population data from the US Census Bureau were all reviewed. The study team considered the planning impacts of each dataset and decided that for planning purposes, a combination of US Census historical trends and Woods and Poole Economics was the preferred source of projection data.

- **Population Projections:** Historical trend analysis for US Census data for Grand Island indicated very steady population growth between the years 1980 to 2017. This trend was combined with estimates of MPO areas not in Grand Island MPO areas to develop an overall MPO area population growth projection of 24% growth between 2017 and 2045.
- **Employment Projections:** Woods and Poole data for Hall County were used as the basis for the employment projections, with adjustments made to the MPO-level employment projections for population growth, and accounting for MPO areas not in Hall County. Based on this methodology, job growth by sector was projected through 2045 for the following sectors: Service, Government, Basic sector, and Retail.
- **Household Projections:** Woods and Poole data also include projections of age cohorts, birth rates, and household formation. The data for Woods and Poole for Hall County indicated that the average household size (persons per household) would increase by 1.4% through 2045.

The resulting population, household, and employment projections are shown in **Table 6-1**.

Table 6-1: GIAMPO Population, Household, and Employment Projections through 2045

	2017	2045	CHANGE
Population	58,756	72,772	+24%
Households	21,769	26,588	+22%
Employment Totals	32,590	41,715	+28%
Retail Sector Jobs	4,801	4,829	+1%
Service Sector Jobs	14,752	21,562	+46%
Basic Sector Jobs	12,011	14,050	+17%
Government Sector Jobs	1,026	1,274	+24%
Average Household Size	2.70	2.74	
Population-Jobs Ratio	1.80	1.74	

Sources: Grand Island MPO, US Census Bureau, Woods and Poole Economics

¹ Woods and Poole is an economics firm specializing in national and regional models for long-term county economic and demographic data projections. These data provide insights into employment trends within industry sectors.





Allocation of Growth

The purpose of development allocation was to identify the location of the new jobs and housing associated with the future development anticipated in **Table 6 -1**. For the purposes of use in the GIAMPO Travel Demand Model (TDM), this growth needed to be allocated to the transportation analysis zone (TAZ) structure of the model for the 2045 planning horizon. The allocation was developed on input from local planning and engineering staffs, and rooted in their understanding of current development densities (jobs per acre, housing units per acre), local planning and development expertise related to the market, and an understanding of which areas have or are anticipated for urban services (water, sewer, etc.).

The resulting growth by TAZ is shown in **Figure 6-1** and **Figure 6-2**. Each figure displays the net growth in number of households and net growth in number of jobs for each respective TAZ.

GIAMPO Travel Demand Model

As a part of the LRTP update, the TDM was updated to reflect conditions representative of a base year 2017. The TDM is a computer simulation that evaluates the interaction of land development and the transportation system that allows for testing of various projects and growth scenarios. It is the primary tool for forecasting future traffic conditions in the GIAMPO area. It does not currently have the capability to model transit, walking, or biking trips. More information on the TDM is provided in the GIAMPO 2045 Travel Demand Model Validation Report, included as **Appendix D**.

Figure 6-1: 2018-2045 Household Growth by TAZ

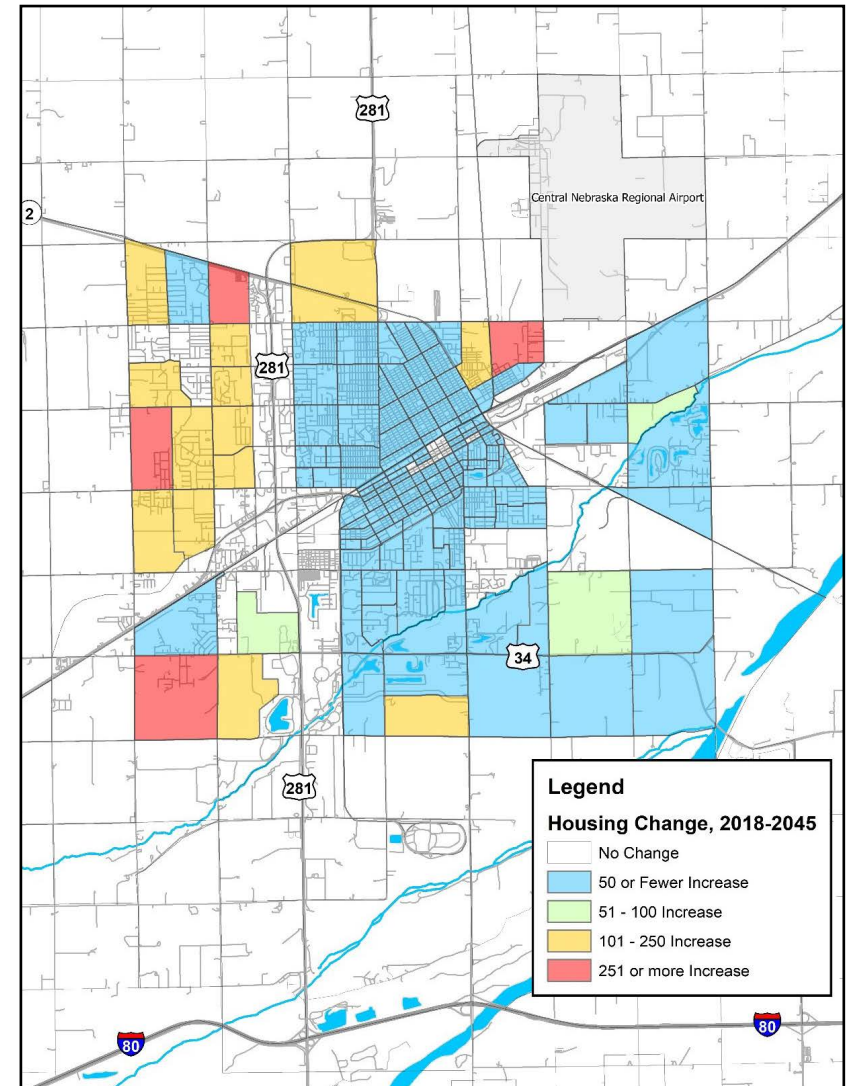
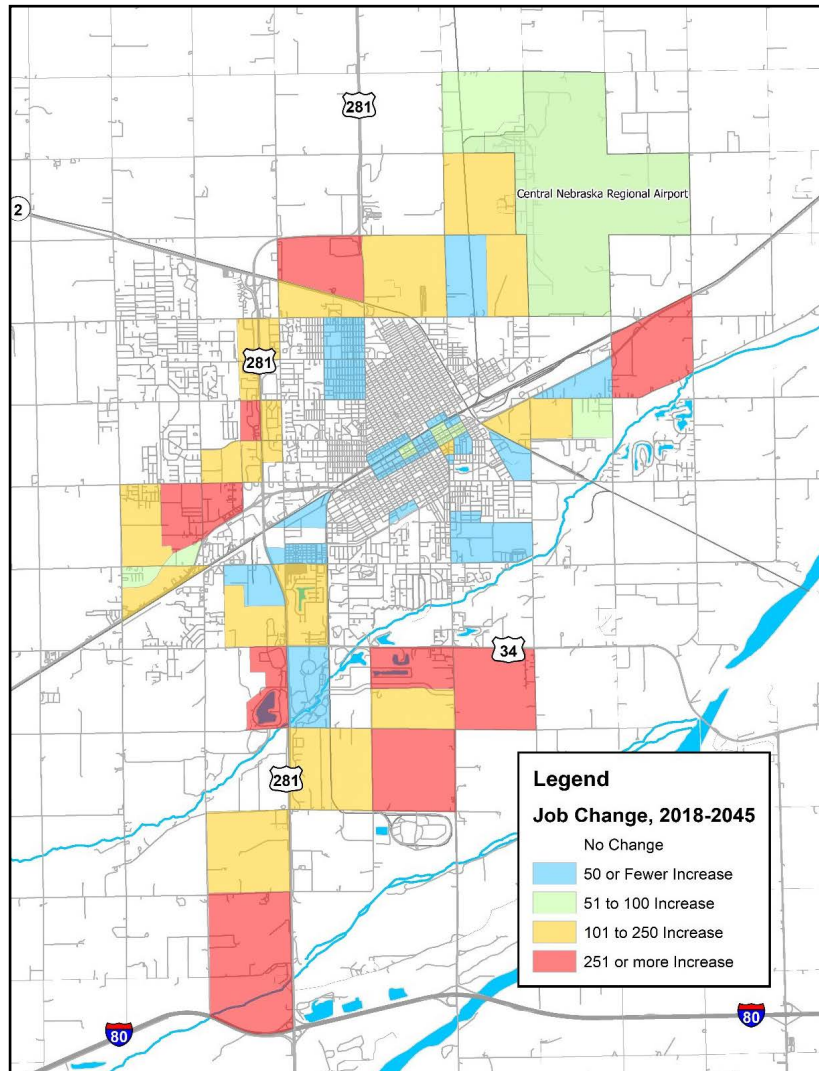




Figure 6-2: 2018-2045 Employment Growth by TAZ



2045 Existing Plus Committed Future Baseline

The baseline future year TDM scenario used as a starting point for the 2045 L RTP is the “existing-plus-committed” (E+C) roadway network scenario. The 2045 E+C scenario represents no improvements to the current roadway network beyond those projects currently under construction, included in GIAMPO’s Transportation Improvement Program (TIP), or in a member jurisdiction’s Capital Improvement Program (CIP). These projects are considered “committed” as project funding is anticipated to be available for implementation over the next four years. The projects that are considered “committed” and included in the E+C scenario are:

- Old Potash Highway reconstruction and widening between North Road and Old Fair Road.
- North Road reconstruction to 3-lanes between Highway 30 and Highway 2.
- Claude Road construction between Old Potash Highway and Faidley Avenue.
- Reconstruction of Broadwell Avenue-State Street-Eddy Street intersection as a roundabout.
- Highway 30 realignment and reconstruction from west of Monitor Road to Claude Road.
- Capital Avenue widening to 3-lanes from Morrows Creek to North Road.

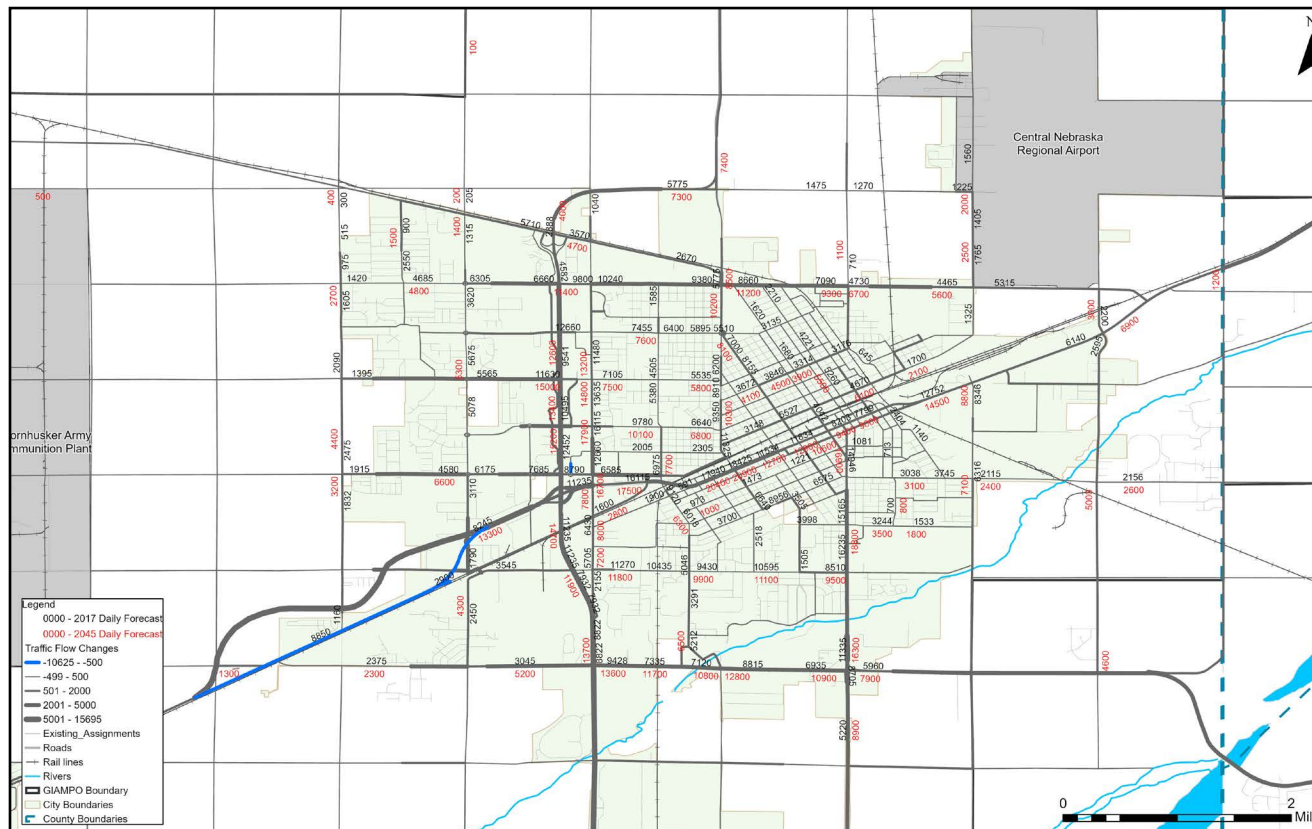
There are other roadway projects included in current TIP and CIPs that are not included on this list, since those other projects are maintenance projects, such as a road resurfacing, that do not impact roadway capacity and would have no impact on model forecasts. The current GIAMPO TIP is shown in **Appendix F**.

Using the housing and employment data reflected in **Figure 6-1** and **Figure 6-2**, traffic volume forecasts were developed by comparing output from the 2015 base travel model and 2045 E+C network scenario travel model. The resulting traffic forecast operations for peak conditions in 2045 is shown in **Figure 6-3**.

Future traffic operational issues were assessed using a Level of Service approach like the existing conditions traffic operations analysis.



Figure 6-3: 2045 E+C Scenario Traffic Forecasts



The resulting analysis indicates a limited set of future corridors with anticipated peak period congestion in Grand Island. This analysis found that after the committed projects have been implemented, there are some future areas of congestion expected to emerge:

- US 281 between US 34 and Faidley (LOS D/E).
- Capital Ave between Broadwell and St Paul Rd (LOS D/E).

- Broadwell Ave between Faidley and 3rd (LOS D).
- Anna St between Broadwell and Adams (LOS D).

Figure 6-4 shows the level of service results for the 2045 E+C scenario.



Figure 6-4: 2045 E+C Scenario Peak Period Traffic Operations



Future System Performance

In addition to identifying corridor-level traffic operations, the TDM can be used to evaluate overall system performance and regional travel characteristics between today and 2045. **Table 6-2** shows a summary of the growth. The highlights of this regional travel changes include:

- **Total System Trips:** Daily trips represent the number of vehicle trips estimated by the TDM. Trips are a function of households and employment and were estimated to increase by 21% during the 28-year forecast period.

- **Vehicle Miles Traveled (VMT) Growth:** VMT represents the total distance people drive in the Grand Island Area. VMT is a calculation of the number of study area trips multiplied by each trip's length in miles. VMT is forecasted to grow by 25%, more than trip growth. This means in the future the average trip will be longer distance than it is today.
- Average trip lengths, which are estimated by comparing VMT to total trips for 2018 and 2045, are forecasted to increase by 3%.



- **Vehicle Hours Traveled (VHT) Growth:** VHT represents the total time spent driving in vehicles across the Grand Island Area. VHT is a calculation of the number of study area trips multiplied by each trip's time duration. VHT is forecasted to grow by 25%, more than trip growth. This means in the future the average trip will take more time than it does today.
- Average travel speeds, which are estimated by comparing VMT to VHT for 2017 and 2045, are forecasted to decrease slightly by less than 1%.

Table 6-2: Grand Island Area System Performance Statistics

	2017	2045 E+C	GROWTH
Households	21,769	26,588	22%
Employment	31,009	40,134	29%
Balanced Trips	309,974	375,619	21%
Daily VMT (Miles)*	1,283,168	1,603,418	25%
Daily VHT (Hours)*	28,419	35,566	25%
Average Trip Length (Miles)	4.14	4.27	3%
Average Travel Speed (MPH)	45.15	45.08	<-1%

*Centroid Connectors not included

Multimodal System Opportunities

The future growth estimated for the GIAMPO planning area has several implications for the multimodal system. As population and employment levels in the region grow, investment in the bicycle and pedestrian and transit systems can improve regional multimodal opportunities and connectivity while helping the MPO make further progress towards the LRTP goals. The multimodal system opportunities within the GIAMPO region are discussed below.

Bicycle and Pedestrian System Opportunities

The 2018 Bicycle and Pedestrian Master Plan provided detailed strategies for improving the regional bicycle and pedestrian system. Building off these strategies, the analysis completed, and input received during the 2045 LRTP, the major bicycle and pedestrian system strategies being considered are:

- **Off-Street Facilities:** Pursue further development of the regional trail system and create connections to existing and future trails. This includes incorporating trail accommodations into future roadway improvement projects and identifying key corridors not adjacent to streets that will improve overall regional trail system connections.
- **On-Street Facilities:** Identify potential on-street corridors where bicycle and pedestrian facilities could be sited on low-volume and low-speed streets. Specific on-street treatments might include bicycle boulevards, separated bicycle lanes, or similar facilities.



CHAPTER 1



CHAPTER 2



CHAPTER 3



CHAPTER 4



CHAPTER 5



CHAPTER 6



CHAPTER 7



CHAPTER 8



CHAPTER 9



CHAPTER 10



CHAPTER 11



Transit System Opportunities

The major public transit opportunity presented by future development and regional growth is to identify future development areas whose design and density could support expanded transit service. Some of the major residential and employment growth areas include:

- Northwest and southwest Grand Island are anticipated to see the highest residential growth
- Southern Grand Island, along the U.S. 281 and U.S. 34 corridors, as well as northern Grand Island around Highway 2 and N Webb Road are anticipated to see the highest employment growth.

Areas with dense, walkable development patterns and a diversity of land use types are often the most conducive to supporting effective transit service. As development occurs over the planning horizon, development patterns that emerge will be the key to whether transit services can effectively serve those areas.



Crane Bus



CHAPTER 1



CHAPTER 2



CHAPTER 3



CHAPTER 4



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CHAPTER 8



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CHAPTER 11



Chapter 7 Future Transportation Revenues

MPO Funding

An important aspect of LRTPs is the identification of potential transportation projects and their associated funding mechanisms. The LRTP must be fiscally constrained and demonstrate the MPO and local jurisdictions' capability to implement planned projects using committed or reasonably assumed future revenue sources while ensuring the Federal-aid transportation system is still in adequate operation and is well-maintained.¹ This section of the report will summarize:

- Current and potential Federal, State, and local revenue sources for the GIAMPO
- Historical funding trends
- Projected future revenues

Federal Revenue Sources

Overview of Federal Funding Programs

Multiple Federal programs have been used to fund past transportation projects in the GIAMPO region. These Federal funding programs include:

- **Surface Transportation Block Grant Program (STBG):** The STBG program allocates funds to States and Localities for projects that improve the performance and/or condition of the Federal-aid highway system, bridges, tunnels, pedestrian, bicycle, and transit capital projects. GIAMPO does not receive any STBG funding directly.
- **Surface Transportation Block Grant Program funding for Transportation Alternatives (STBG-TA):** The STBG-TA program provides funding for a range of smaller-scale projects such as pedestrian and bicycle facilities, recreational trails, safe routes

to school, historic preservation, vegetation management, and environmental mitigation. A portion of STBG-TA funds are awarded by NDOT to local jurisdictions for eligible projects on a competitive basis.

- **National Highway Performance Program (NHPP):** The NHPP provides funds for projects that support the condition and performance of the National Highway System, such as new NHS facilities, that support progress towards performance measure targets. All NHPP funding in the GIAMPO area is directed by NDOT.
- **Highway Safety Improvement Program (HSIP):** The HSIP provides funds for highway safety projects that achieve significant reductions in traffic fatalities and serious injuries. Non-State-owned roads and tribal roads are eligible for HSIP funds. A portion of HSIP projects are awarded by the state on a competitive basis.
- **National Highway Freight Program (NHFP):** The NHFP provides funds for projects that improve the efficient movement of freight on the National Highway Freight Network (NHFN). State DOT's receive apportionments of Federal NHFP funds then distribute the funds for state and local projects. The only GIAMPO corridor that is part of the NHFN is Interstate 80.
- **FTA Section 5307 Urbanized Area Formula Program:** Section 5307 funds are available to urbanized areas to support transit capital investments and operating assistance.
- **FTA Section 5339 Bus and Bus Related Facilities:** Section 5339 funds are available to States and direct recipients to replace, rehabilitate, and purchase transit buses, and equipment as well as to construct bus facilities that incorporate innovative technologies.
- **FTA Section 5311 Formula Grant for Rural Areas:** Section 5311 is a formula-based funding program designed to support the mobility needs of rural communities through funding for capital, planning, and operating assistance for public transit agencies in rural areas with populations below 50,000.

¹ Federal Highway Administration, Financial Planning & Fiscal Constraint. <https://www.transit.dot.gov/regulations-and-guidance/transportation-planning/financial-planning-fiscal-constraint>.





Historic Federal Funding Levels

Historic Federal funding levels for the Grand Island Area MPO were identified through the review of past years Transportation Improvement Programs (TIPs) and interviews with MPO and Nebraska DOT staff. In addition to presenting historic funding levels by year, average yearly funding values are given in:

- **Year of Expenditure (YOE):** Value in the given year's dollars.²
- **2020 Dollars:** Value in 2020 dollars.³

NHPP Funding

Historical NHPP funding levels are presented in **Table 7-1**. Current funding for the STBG and STBG-TA programs is discussed below.

Table 7-1: Historical Funding Levels for NHPP Projects

YEAR	NHPP
2016	\$998,000
2017	\$11,396,000
2018	\$14,684,000
2019	\$0
2020	\$0
Average (YOE \$)	\$5,415,600
Average (2020 \$)	\$5,830,850

Source: Grand Island Area MPO, Transportation Improvement Program

² Year of Expenditure assumptions are: 3% budget growth, 4% project cost growth

³ Based on assumed 3% budget growth, directed by NDOT staff.

It should be noted that NHPP funds are directed by Nebraska DOT for projects as needed on the NHS state routes. No NHPP funding levels beyond currently programmed projects will be shown in the fiscally constrained portions of the LRTP.

STBG Funding

Jurisdictions in the GIAMPO area have opted to forgo STBG funding in favor of receiving Federal Fund Purchase Program (FFPP) buyout funds. For areas of Nebraska outside of Lincoln and Omaha that receive FFPP funding, the STBG dollars are used by Nebraska DOT for state highway projects.⁴ District Engineers coordinate with Local Public Agency (LPA) officials to identify state highway projects within their jurisdictions and allocate STBG funds for them. More discussion of FFPP funding is provided later in this chapter.

STBG-TA Competitive Funding

LPAs within the State of Nebraska compete annually for the STBG-TA funds allocated to the Nebraska DOT from the Federal government. These funds are eligible for the same small-scale transportation projects that are eligible under the Federal STBG-TA program. Establishing anticipated future funding streams based on the historical funding levels was difficult, since the MPO has only existed since 2013 and funding for the STBG-TA program during that short period has been temporarily interrupted. The LRTP team discussed this with NDOT staff, and it was suggested that this short, choppy funding history was not an ideal way to project future revenues forward. It was decided the best approach was to look at the proportion of the state within the Grand Island area to estimate the long-term share of funding the region might attain. It was thought that over time, the proportion of funding secured within the MPO area might be approximately equivalent to its proportion of state representation via population. While not a guarantee of future funding,

⁴ For STBG-eligible project categories described in this document.



this method provided a reasonable funding projection. Documentation of NDOT's support for this methodology is included in **Appendix A**.

Estimates of current funding levels are that approximately \$3.4 million in STBG-TA dollars are distributed each year; approximately \$500,000 annually is allocated to first class cities and the remaining \$2.9 million is allocated statewide. While no allocations of this funding are guaranteed, based on population it is estimated that in a typical year the Grand Island area could reasonably secure 4.2% of this statewide share, or \$143,000 annually in 2020 dollars.⁵ **Table 7-2** shows the projected STBG-TA funding levels by future year time band, in year of expenditure dollars. The time bands for the plan include 20-years beyond the current GIAMPO 2021-2025 TIP:

- **Short Term:** 2026-2030
- **Mid-Term:** 2031-2037
- **Long Term:** 2038-2045

Highway Safety Improvement Program

Similar to STBG-TA funds, local jurisdictions are eligible to compete for HSIP funding for safety projects. Estimates of current funding levels are that approximately \$16 million in HSIP dollars are distributed each year; approximately \$5 million annually is allocated to state projects and the remaining \$11 million is allocated to jurisdictions statewide. While no allocations of this funding source are guaranteed, based on population it is estimated that in a typical year the Grand Island area could reasonably secure 3.1% of the statewide jurisdiction portion, or \$340,000 annually in 2020 dollars. **Table 7-2** shows the projected HSIP funding levels by future year time band, in year of expenditure dollars.

⁵ Estimate based on GIAMPO study area having 10.9% of first class cities population and 3.1% of statewide population. This is not a guaranteed level of funding. GIAMPO will not receive funds every year.

Table 7-2: Projected Grand Island Area STBG-TA and HSIP Budget (YOE \$)

TIME BAND	YEARS	HSIP FUNDS	STBG-TA FUNDS
Short Term	2026-2030	\$2,154,900	\$906,700
Mid-Term	2031-2037	\$2,497,800	\$1,516,900
Long Term	2038-2045	\$6,253,400	\$2,164,900
Total		\$10,906,100	\$4,588,500

Source: NDOT Supported Methodology, Grand Island Area MPO

Federal Transit Funding

Review of past years TIP documents identified the historical funding levels for the regional transit system, which are shown in **Table 7-3**.

Table 7-3: Historical Funding Levels for FTA Programs

YEAR	SECTION 5307	SECTION 5311	SECTION 5339
2016	\$183,000	\$18,000	\$-
2017	\$414,920	\$-	\$104,000
2018	\$459,000	\$19,000	\$104,000
2019	\$408,000	\$18,000	\$-
2020	\$498,000	\$21,000	\$-
Average (YOE \$)	\$392,580	\$15,200	\$41,600
Average (2020 \$)	\$412,910	\$15,990	\$44,800

Source: Grand Island Area MPO, Transportation Improvement Program





State Revenue Sources

Overview of State Funding Programs

The Nebraska DOT allocates additional transportation funds to localities across a series of different programs. These State programs include:

- **State Highway Trust Fund:** The main transportation funding program for the State of Nebraska. This funding source draws from several local and Federal sources that are then allocated to Nebraska counties and municipalities.
- **Build Nebraska Act:** Enacted by the State Legislature in 2011, the Build Nebraska Act is a 20-year funding program that captures one-quarter (1/4th) of one cent of the existing state sales tax to fund improvements to state and local highways, roads, and streets. 85% of the receipts are designated to the NDOT for expansion and construction of the State expressway and High Priority Corridors. The remaining 15% is allocated to counties and municipalities on a formula basis. The portion of the Build Nebraska Act dedicated to specific highway projects includes these two projects in:
 - Construction of the *US 30 / US 281 realignment* and 4-lane widening just west of Grand Island in the GIAMPO area (anticipated for construction between fiscal years 2020 - 2023).
 - Design of the *Grand Island East Bypass* (anticipated for planning and design between fiscal years 2024 – 2033). This does not include construction of the bypass.
- **Motor Vehicle Fees:** Motor vehicle fees collected by each of Nebraska's counties are distributed as 50% to the county treasurer of each county as a proportion of the most recent amount paid by that county into the Highway Allocation fund, and 50% to the treasurer of each municipality as a proportion of the most recent amount paid by that municipality into the Highway Allocation Fund.
- **Federal Funds Purchase Program (FFPP):** NDOT began the FFPP in 2013 as means of providing localities with more flexible funds to meet their transportation needs. Counties and municipalities can trade their

STBG and Highway Bridge Program funds to NDOT in exchange for state funding for highway and bridge projects.

Past Funding Levels

State Highway Trust Fund, Nebraska Build Act, and Motor Vehicle Fees

Each year, Nebraska DOT publishes a Highway User Revenue Distribution Report that discloses the amount of State Highway Trust Fund, Nebraska Build Act, and Motor Vehicle Fee monies that are disbursed to the counties and municipalities of the Nebraska. The amount of funds distributed to Hall and Merrick Counties, and the Cities of Grand Island and Alda since 2016 were reviewed and presented in **Table 7-4**.

Table 7-4: State Highway Trust Fund, Nebraska BUILD Act, and Motor Vehicle Fee Amounts Allocated to GIAMPO Member Jurisdictions, 2016-2019

YEAR	MUNICIPAL HIGHWAY ALLOCATION*	NEBRASKA BUILD ACT	MOTOR VEHICLE FEE
2016	\$8,380,080	\$346,690	\$702,900
2017	\$8,844,630	\$349,450	\$720,590
2018	\$9,235,140	\$365,550	\$741,820
2019	\$9,849,230	\$373,060	\$758,160
Average (YOY \$)	\$9,077,270	\$358,690	\$730,870
Average (2020 \$)	\$9,759,720	\$386,030	\$786,610

Source: Nebraska Department of Transportation

*Municipal Highway Allocation includes Nebraska Build Act funds allocated in that year.



Federal Funds Purchase Program

State legislation passed in 2011 authorized the Nebraska DOT to enter annual purchase agreements for federal aid transportation funds from LPA's at discount rates. The purpose of the FFPP is to grant LPA's more flexibility in disbursing their monies to projects that better suit their immediate needs and remove some of the rigidity associated with federal aid funds. While the FFPP requires state funds be used for roadway and/or bridge projects, many of the federal requirements and much of the federal oversight is removed and LPA's can pursue a broader range of transportation projects.

The specific federal funds and agencies that qualify under the FFPP are:

- **STBG:** All Nebraska Counties, Cities, and First Class outside of the Omaha and Lincoln Metropolitan Areas.
- **Highway Bridge Program (HBP):** Counties and Cities of the First Class with deficient bridges.

The eligible activities under the FFPP are:

- **Road Projects:** Construction, reconstruction, maintenance, or repair of public highways, streets, roads, bridges, facilities, appurtenances, and roadway structures.
- **Bridges:** construction, reconstruction, improvements, repair, or maintenance of LPA public road bridges.
- **Other eligible activities:** erosion protection, sidewalks, ADA ramps, curb and gutter repair, and storm sewer repair.

Past and Projected FFPP Amounts for Jurisdictions in the GIAMPO Area

The City of Grand Island, with a population of more than 5,000 and less than 100,000, is defined as a First Class City which makes it eligible for the FFPP. The city has been eligible since 2015 while Hall and Merrick Counties have been eligible for the program since it began in FY 2013. All three LPA's have been eligible for the HBP FFFP program since FY 2013.

Table 7-5 presents the previous seven years of FFPP program funds allocated to the City of Grand Island, Hall County and Merrick County. **Table 7-6** presents the same data for the HBP program buy outs.

Table 7-5: Historical and Projected Funding Levels of the Federal Funds Purchasing Program

	FISCAL YEAR (FY)	CITY OF GRAND ISLAND*	HALL COUNTY	MERRICK COUNTY
Past Funding	2013	\$0	\$110,950	\$96,280
	2014	\$0	\$109,950	\$95,490
	2015	\$866,750	\$121,630	\$106,170
	2016	\$904,530	\$127,190	\$110,930
	2017	\$918,400	\$129,320	\$113,070
	2018	\$946,600	\$143,950	\$115,900
	2019	\$970,020	\$137,370	\$121,200

*City of Grand Island was eligible for FFFP beginning FY2015

Source: Nebraska Department of Transportation

**Table 7-6: Historical and Projected Funding Levels of the HBP Federal Fund Purchasing Program**

	FISCAL YEAR (FY)	CITY OF GRAND ISLAND	HALL COUNTY	MERRICK COUNTY ⁶
Past Funding	2013	\$14,340	\$39,460	\$72,280
	2014	\$21,560	\$49,270	\$94,260
	2015	\$24,770	\$43,690	\$102,820
	2016	\$19,420	\$66,640	\$109,050
	2017	\$19,440	\$63,970	\$100,000
	2018	\$20,130	\$66,250	\$103,570
	2019	\$21,410	\$50,190	\$106,060

Source: Nebraska Department of Transportation

Local Revenue Sources

Overview of Local Funding Programs

While the Grand Island Area MPO receives Federal monies to fund local transportation projects, Federal funds normally do not cover the entire cost of a project. Localities are typically required to match a portion of total costs with their own monies; for most Federal programs, the match is 80% of total project cost sourced from the Federal program and the remaining 20% from local funds.

GIAMPO relies on several local funding sources to provide revenues for various transportation projects, including public transit. Per the City of

⁶ The majority of Merrick County is outside of the MPO area, thus most of this funding will be spent outside of the MPO area.

Grand Island's Budget Book, the Capital Improvements fund draws from the City's General fund, Cemetery fund, State Gas Tax fund, Keno fund, and Special Assessment fund.⁷ These funding sources are grouped into the category "City funds". Hall and Merrick Counties also provide annual funding for projects in the GIAMPO area and are categorized as "County funds". **Table 7-7** displays the historical funding levels from City and County sources for non-transit transportation projects, while **Table 7-8** contains local funding levels for transit projects. As shown in **Table 7-7**, there has been significant "banking" of funds over several years to complete several projects in 2019. The City of Grand Island estimates that after paying for maintenance activities, that the future city transportation funding levels will be approximately \$2.5M per year.

Table 7-7: Historical City Funding Levels for Non-Transit Transportation Projects

YEAR	CITY FUNDS
2016	\$125,000
2017	\$-
2018	\$168,000
2019	\$26,686,000
2020	\$2,372,000
Average (YOE \$)	\$5,870,200
Average (2020 \$)	\$6,035,500

Source: Grand Island Area MPO, Transportation Improvement Program

⁷ City of Grand Island, 2019 Budget Book. <https://www.grand-island.com/home/showdocument?id=23101>.



Table 7-8: Historical City and County Funding Levels for Transit Projects

YEAR	CITY FUNDS	COUNTY FUNDS
2016	\$60,000	\$6,000
2017	\$-	\$-
2018	\$343,000	\$6,000
2019	\$286,000	\$7,000
2020	\$360,000	\$9,000
Average (YOE \$)	\$209,800	\$5,600
Average (2020 \$)	\$217,200	\$5,870

Source: Grand Island Area MPO, Transportation Improvement Program

Local Operations and Maintenance

The City of Grand Island maintains most of the local street system. Part of demonstrating fiscal constraint within the LRTP is providing an understanding of operations and maintenance (O&M) requirements for the GIAMPO study area. Based on a review of the most recent City of Grand Island budgets, there is \$6,438,000 spent on O&M for streets. Based on current budgeted O&M costs, **Table 7-9** provides projections on the future O&M levels.

Table 7-9: Projected Grand Island O&M Budget

TIME BAND	YEARS	O&M SPENDING
Short Term	2026-2030	\$40,810,000
Mid-Term	2031-2037	\$68,290,000
Long Term	2038-2045	\$97,460,000
Total		\$206,560,000

Source: City of Grand Island 2020 Adopted Budget

Transit Operations and Maintenance

The transit system allocates sufficient funds to operated and maintain bus service. CRANE budgets in three categories for the Transit Award Management System (TrAMS) system. These three categories are:

- Operations
- Other Capital Items such as preventative maintenance and City administration costs
- Equipment for bus support and facilities

O&M costs are included in the “Operating” category, and partially in the “Other Capital Items” category. **Table 7-10** illustrates the funding levels allocated to each of these three categories for the current TIP period.



Table 7-10. Projected CRANE O&M and Capital Budget

YEAR	FUNDING SOURCE	OPERATING	OTHER CAPITAL ITEMS	BUS SUPPORT EQUIPMENT / FACILITIES	TOTAL BUDGET
2021	FTA 5307	\$304,000	\$157,000	\$36,000	\$497,000
	Grand Island	\$304,000	\$61,000	\$9,000	\$374,000
2022	FTA 5307	\$313,000	\$249,000	\$37,000	\$599,000
	Grand Island	\$313,000	\$62,000	\$9,000	\$385,000
2023	FTA 5307	\$323,000	\$177,000	\$38,000	\$538,000
	Grand Island	\$323,000	\$44,000	\$10,000	\$376,000
2024	FTA 5307	\$348,000	\$167,000	\$39,000	\$554,000
	Grand Island	\$336,000	\$42,000	\$10,000	\$388,000

Source: Grand Island Area MPO, Transportation Improvement Program

Future Transportation Funding Levels

Future anticipated funding levels were developed for the LRTP, based on the financial analysis completed in this chapter, and budget assumptions provided by Nebraska DOT program management staff. The key assumption was a 3% annual budget growth, and 4% annual cost growth (discussed in more detail in **Chapter 9**).

Future Federal Program Funding Levels

Future funding levels for Federal programs are shown in **Table 7-11**.



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Table 7-11: Projected Federal Program Revenues for GIAMPO, Year of Expenditure

TIME BAND	YEARS	STBG-TA	HSIP	FTA 5307	FTA 5311
Annual Level	2020	\$151,000	\$340,000	\$497,000	\$20,000
Short Term	2026-2030	\$957,700	\$2,154,900	\$3,312,000	\$131,000
Mid-Term	2031-2037	\$1,603,000	\$3,605,000	\$5,865,000	\$233,000
Long Term	2038-2045	\$2,289,000	\$5,146,200	\$8,996,000	\$358,000
2026-2045 Total		\$4,849,700	\$10,906,100	\$18,173,000	\$722,000

There are potential NHPP and Congestion Mitigation and Air Quality (CMAQ) funding that might become available for future use within the GIAMPO area, but the use of these funds are state-directed and no revenue estimates were developed for these programs could reasonably be developed for the LRTP.

Additional Transit Fund

CRANE received an award of \$2.2 million in additional funds through the Coronavirus Aid, Relief, and Economic Security (CARES) Act in March 2020. CRANE is planning to use the money for service expansion and to address facility needs.

Future Local Program Funding Levels

Future funding levels for locally directed programs are shown in **Table 7-12**. Note that this analysis focuses on funding for Grand Island, as all of the city is within the GIAMPO area, and the majority of the other two large jurisdictions (Hall County and Merrick County) lie outside of the GIAMPO study area. The table also shows anticipated outlays for operations and maintenance budgets for each time band.



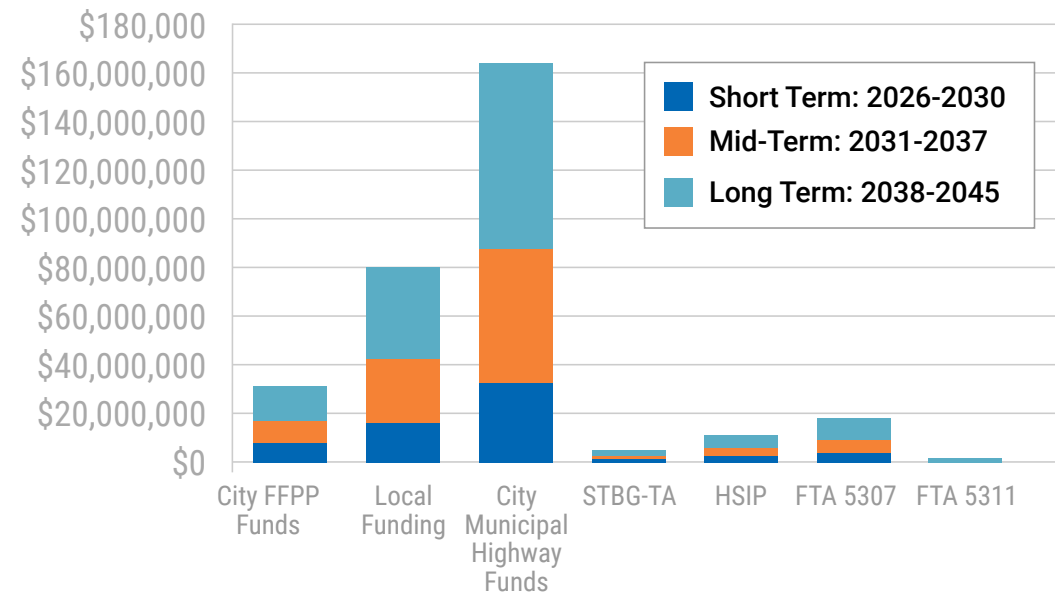


Table 7-12: Projected Grand Island Transportation Revenues, Year of Expenditure

TIME BAND	YEARS	GRAND ISLAND FFPP FUNDS	GRAND ISLAND LOCAL FUNDING	GRAND ISLAND MUNICIPAL HIGHWAY FUNDS	TOTAL CITY FUNDS FOR TRANSPORTATION	O&M BUDGET	REMAINING LOCAL FUNDS FOR PROJECTS
Annual Level	2020	\$999,125	\$2,500,000	\$5,124,050	\$8,623,175		
Short Term	2026-2030	\$6,333,841	\$15,848,465	\$32,483,330	\$54,665,636	\$40,810,000	\$13,855,636
Mid-Term	2031-2037	\$10,597,363	\$26,516,599	\$54,348,952	\$91,462,914	\$68,290,000	\$23,172,914
Long Term	2038-2045	\$15,125,367	\$37,846,517	\$77,570,979	\$130,542,862	\$97,460,000	\$33,082,862
2026-2045 Total		\$32,056,571	\$80,211,581	\$164,403,260	\$276,671,413	\$206,560,000	\$70,111,413

Figure 7-1 illustrates the funding projections by source that are anticipated in this plan. As shown, the majority of funding for the transportation system in the GIAMPO region is locally-sourced.

Figure 7-1. Funding Projections by Funding Source and Time Band





Chapter 8 Project Alternatives and Strategies Development

Project and policy alternatives that were considered during development of the 2045 LRTP came through a range of avenues. This includes input received during the Plan's public engagement activities, alternatives developed through the technical analysis process, and from previous plans and studies in the area. These plans and studies include:

- *Journey 2040* Long-Range Transportation Plan
- 2018 Bicycle and Pedestrian Master Plan
- 2017 Grand Island Transit Needs Assessment and Feasibility Study

The projects that were screened were categorized by mode, then evaluated based on how well they aligned with the goals and objectives of the 2045 LRTP. The roadway and bicycle and pedestrian projects were then assessed based on how well they fit into the project scoring metrics shown in **Chapter 4**.

The process includes both quantitative and qualitative elements when identifying which projects should be implementation priorities. The project metrics provide a quantitative-based approach to assessing project alternatives and how well they fit with the multiple project goals. Qualitative elements include considering project context, or how well a project fits into the surrounding environment. Furthermore, some projects address a critical need in one goal area (like safety) and might not receive as many project scoring points since that project is singularly focused and would potentially meet a smaller number of project metrics.

Alternative Strategies

For each of the transportation modes assessed in the alternatives development process, a range of different project types were considered.

Roadway Strategies

Different roadway project types include:

- **New Corridor:** A new roadway.
- **Bypass:** A high-speed regional route with limited access.
- **Roadway Widening:** Adding new travel lanes to an existing roadway. For instance, an existing two-lane road is widened to a three-lane road (center turn lane is added).
- **Access Management:** Construction of medians and other geometric changes to restrict critical vehicular movements to manage roadway access and improve safety.
- **Intersection Control:** Changes to how an intersection is operating, such as improved signal technologies or new designs such as roundabouts.



Road Construction at Faidley Ave and Claude Road, 2020



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Transit Strategies

- **Transit Operations:** These strategies would continue investing in operations and maintenance of the current bus fleet and continue vehicle replacements as older vehicles reach the end of their serviceable life.
- **Transit Development Plan:** Complete a study that looks ahead and identifies services the agency can provide based on funding and the needs of Grand Island area users.
- **Transit Facility Improvements:** Build a transit operations facility for CRANE, the Grand Island area transit service provider. The building will allow for improved transit operations, preventative maintenance, system communications, and route planning for the system.
- **Transit Service Expansion:** Expand the services offered by CRANE to include options such as limited fixed route or flexible fixed route services. Other service expansions might include longer hours of operation. Any future strategies that expand service to include permanent transit stations should consider how access to stations can be enhanced through the bicycle and pedestrian strategies outlined in this document. CRANE has researched needs related to these potential future stations and is prepared to pursue FTA section 5339 funding to connect trails to these potential future stops if established.



Crane Bus



Bicycle and Pedestrian Strategies

On-Street Facilities

- **Shared Lanes:** Use markings on street pavement that indicate a shared lane environment for road users. Commonly referred to as “sharrows” that offer proper positioning and directional guidance for cyclists.
- **Bicycle Boulevards:** Improvements that prioritize bicycle usage on roads that have low motorized vehicle traffic and low speeds. Vehicle volumes and speeds are managed through signage, pavement markings, sometimes vehicular access control improvements, and speed and volume management designs.
- **Multi-Use Shoulders:** Roadway shoulder designed to serve bicycle traffic and parking. The roadway shoulder should be sufficiently wide and surface condition good enough to support bicycles.
- **Advisory Bike Lanes:** Marked bicycle lanes within vehicular travel lanes with low vehicular traffic. Includes advisory signage of cycling activity.
- **Protected Bike Lanes:** Bicycle lane separated from vehicular traffic by a physical barrier, i.e. a raised curb, vehicle parking, concrete barrier, etc.

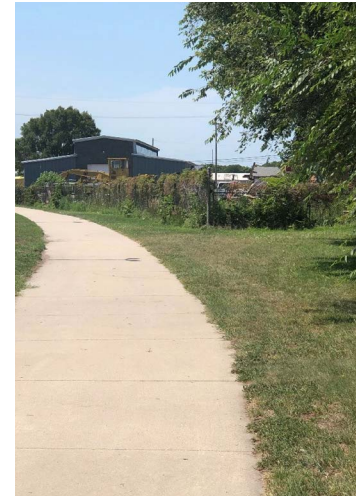


Curb Extensions, 3rd and Wheeler. Source: Google StreetView

- **Pedestrian Crossing Improvements:** Improved intersection crossing infrastructure for pedestrians, including curb extensions and enhanced median crossings.

Off-Street Facilities

- **Multi-Use Trail:** Bicycle and pedestrian trail separated from vehicle traffic. These facilities are commonly used for recreational purposes but can provide some transportation connections.
- **Sidepaths:** A bicycle and pedestrian path separated from vehicular traffic. These facilities are typically located parallel to a street and function similarly to a sidewalk, but typically wider.



Beltline Trail, Grand Island

Alternative Strategy Scoring Results

The resulting scores for the roadway and bicycle and pedestrian projects screened in the alternatives development were categorized into the tiers “High, Medium, and Low” based on their resulting scores, with roughly 1/3rd of projects falling into each of the tiers. These tiers guided the development of the Fiscally Constrained Plan of the LRTP, as projects receiving “High” and “Medium” scores were considered as top candidates for the Fiscally Constrained Plan. For more information on the scoring methodology and to see a complete list of the scoring results, see **Appendix E**.

Figure 8-1 shows the roadway projects by scoring tier while **Figure 8-2** shows the bicycle and pedestrian projects by scoring tier.



Figure 8-1: Alternate Roadway Projects Scoring Results

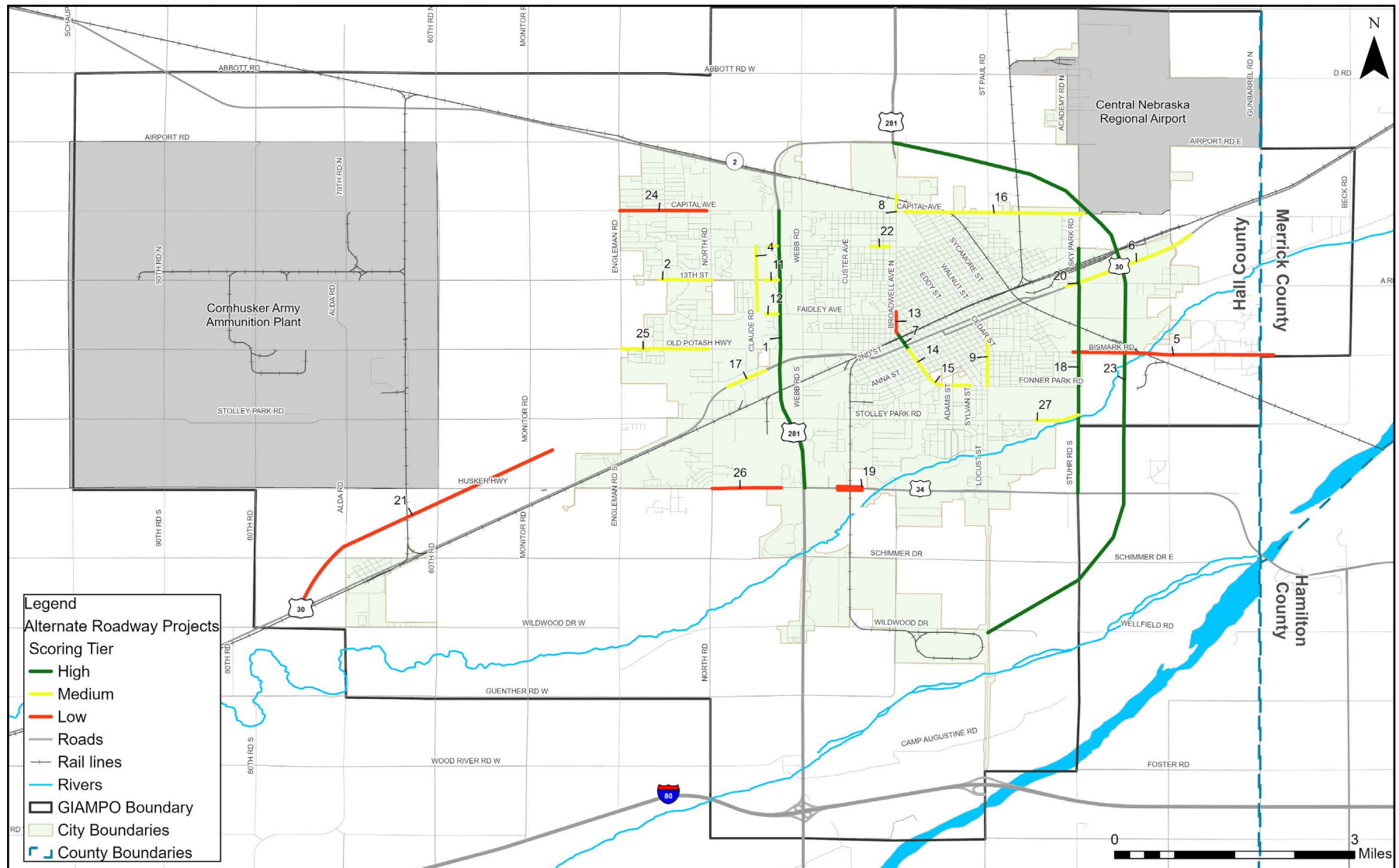
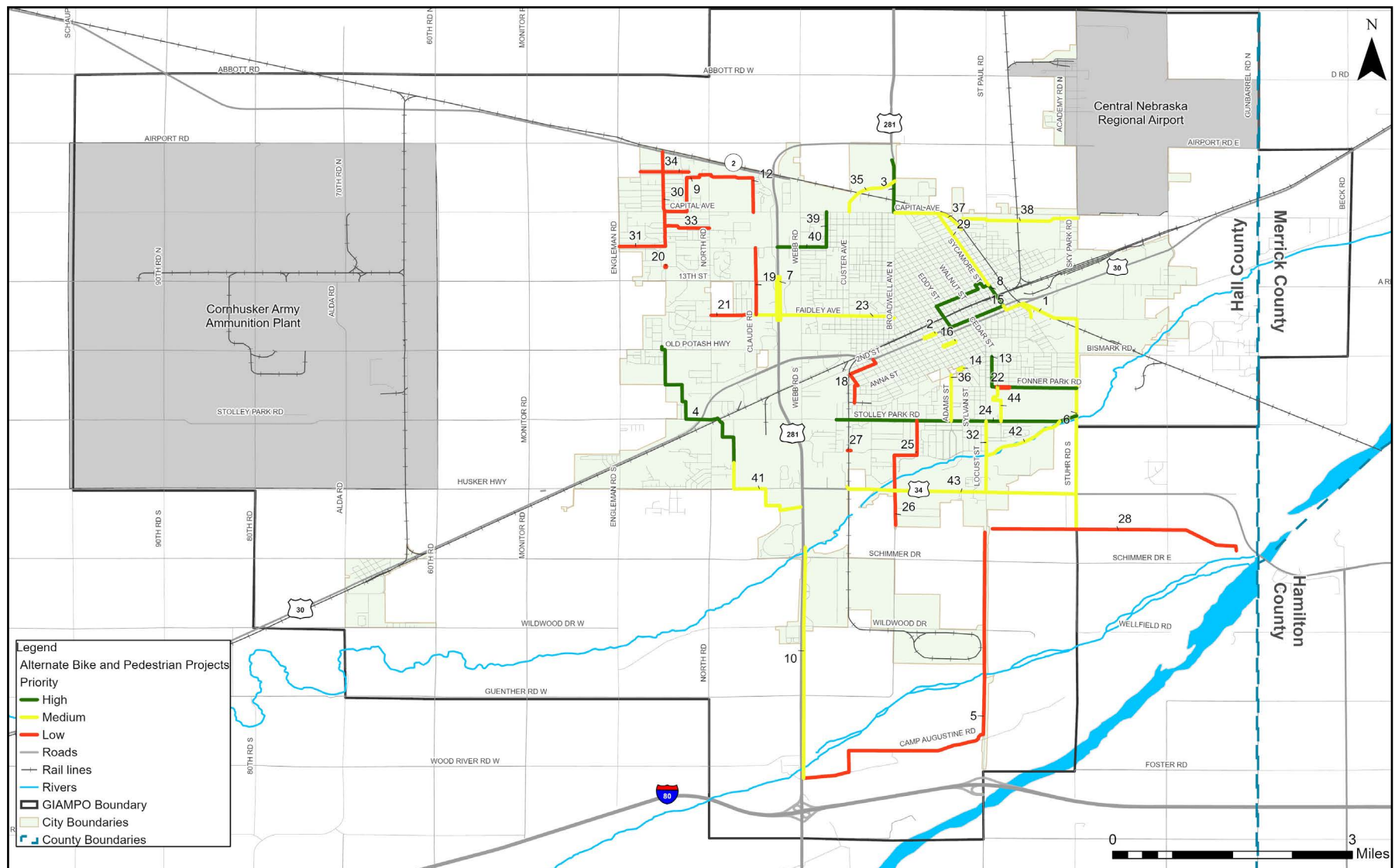


Figure 8-2: Alternate Bicycle and Pedestrian Projects Scoring Results





Chapter 9 Fiscally Constrained Plan

LRTPs are required to be fiscally constrained, meaning the MPO should demonstrate that the plan’s project costs can be reasonably funded by future transportation revenues. For the GIAMPO 2045 LRTP, this was accomplished by developing future budgets based on the funding analysis documented in **Chapter 7**.

2021-2045 Fiscally Constrained Plan

The projects selected for the Fiscally Constrained Plan were chosen based on their scoring results from the alternatives development process described in **Chapter 8** as well as how their costs fit with anticipated future transportation revenue levels. Some of the high scoring projects that could not fit within the funding projections of the Fiscally Constrained Plan have been identified as High Priority Vision Projects. These projects are considered as regional priorities that will be the first projects implemented should the required funding levels become available in the future.

Fiscally Constrained projects are grouped by time band and include two costs—2020 dollars and Year-of-Expenditure (YOE) dollars. The YOE costs were projected using the mid-point year of each time band and applying a 4% annual cost inflation factor to the 2020 project cost. Additional project information shown in the table is potential funding source and potential project sponsor.

Committed Projects

GIAMPO’s current TIP spans the years 2021-2025. All transportation projects programmed in this document are considered committed for the purposes of fiscal constraint. All projects in the fiscally constrained plan are considered candidates for implementation beyond the current TIP period, beginning in 2026. **Table 9-1** shows the projects included in GIAMPO’s 2021-2025 TIP.



Table 9-1: Committed Roadway Projects

PROJECT NUMBER	PROJECT DESCRIPTION	COST (YOE \$)
S-30-4(1046)	US-30 West, 4-lane divided roadway on new alignment	\$31,966,000
NH-30-4(162)	Bridge rehabilitation on 3 bridges on US-30 in Grand Island	\$5,490,000
NH-2-4(112)	Highway 2 resurfacing from Cairo to US-281 in Grand Island	\$15,668,000
NH-34-4(134)	US-34 resurfacing from 2.2 miles south of Grand Island to US-281	\$5,506,000
MISC-40(65)	District 4 Wetland Bank survey, design, and construction	\$1,128,000
ELEC-80-6(1047)	West Grand Island Interchange build new lighting towers, install cable and control boxes	\$1,045,000
HSIP-80-7(170)	Grand Island Area Bridges add High Friction Surface Treatment to bridges and horizontal curves on I-80	\$1,770,000
HSIP-5409(3)	5-Points Intersection Improvements-roundabout	\$3,420,000
	Capital Avenue from North Road to Moore's Creek	\$2,375,000
	North Road from Old Potash Highway to US-30	\$2,821,000
	Old Potash Highway Improvements, widen and extend Claude Road	\$17,930,000
	Broadwell and UPPR Planning & Environmental Linkage Study	\$412,000
	North Road Improvements from Highway 2 to Capital Avenue	\$4,188,000
	North Road Improvements from Capital Avenue to 13th Street	\$6,724,000
	North Road Improvements from 13th Street to Old Potash Highway	\$6,158,000

Source: GIAMPO Transportation Improvement Program, 2021-2025



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Table 9-2: Committed Transit Projects

PROJECT DESCRIPTION	COST (YOE \$)
Urban Transit Operations	\$3,711,000
Rural Transit Operations	\$164,000
Transit Planning	\$100,000
Transit Capital Acquisition	\$1,608,000
Transit Development Plan	\$150,000

Source: GIAMPO Transportation Improvement Program, 2021-2025

Fiscally Constrained Projects

The fiscally constrained roadway projects for 2026 through 2045 are presented in **Table 9-3**. The location and implementation time band for each fiscally constrained roadway project is shown in **Figure 9-1**. High Priority Vision roadway projects are included in this figure while **Table 9-5** summarizes them.

The fiscally constrained bicycle and pedestrian projects are presented in **Table 9-4**. The location and implementation time band for each fiscally constrained bicycle and pedestrian project is shown in **Figure 9-2**. High Priority Vision bicycle and pedestrian projects are included in this figure while **Table 9-5** summarizes them.

The next three sub-sections address the LRTP's fiscal constraint by describing the anticipated budget, projects costs, and budget balance by major funding category: HSIP, STBG-TA, and local funding.

High Priority Vision projects are transportation investments that do not fit within the current fiscally constrained budget but would be the first projects that GIAMPO and member jurisdictions would promote into the Transportation Improvement Program should additional future funding become available.

HSIP Fiscal Constraint

As outlined in **Chapter 7**, HSIP funds are not directly allocated to GIAMPO on an annual basis but are reasonably expected to be awarded in proportion to regional needs for eligible projects. Based on the project funding assumptions in **Table 9-3**, the following summarizes HSIP budgets, project costs, and balances:

- **HSIP Budget:** \$10,573,000 in year-of-expenditure HSIP funds are projected for the GIAMPO area for the years 2026-2045.
- **HSIP Project Costs:** \$3,488,000 in year-of-expenditure HSIP project costs for the 2026-2045 period. This specifically includes:
 - \$2,488,000 in Short-term (2026-2030) HSIP project funding
 - \$960,000 in Mid-term (2031-2037) HSIP project funding
- **Remaining HSIP Budget Balance:** \$7,125,000 balance in HSIP funds between 2026-2045.¹

STBG-TA Fiscal Constraint

As with HSIP funds, STBG-TA funds are not directly allocated to GIAMPO annually. The reasonably-expected funding levels were evaluated against eligible project costs. Based on the project funding assumptions in **Table 9-4**, the following summarizes STBG-TA budgets, project costs, and balances:

¹ Note these are not actual remaining funds but illustrate that assumed HSIP funding contributions are below the anticipated regional HSIP funding budget.



- **STBG-TA Budget:** \$4,849,700 in year-of-expenditure STBG-TA funds are projected for the GIAMPO area for the years 2026-2045.
- **STBG-TA Project Costs:** \$4,837,500 in year-of-expenditure STBG-TA project funding for the 2026-2045 period. This specifically includes:
 - \$952,000 in Short-term (2026-2030) STBG-TA project funding
 - \$1,605,500 in Mid-term (2031-2037) STBG-TA project funding
 - \$2,280,000 in Long-term (2038-2045) STBG-TA project funding
- **Remaining STBG-TA Budget Balance:** \$12,200 balance in STBG-TA funds between 2026-2045.²

Local Fiscal Constraint

As outlined in **Chapter 7**, there are several local transportation funding sources used by the City of Grand Island. The reasonably expected local transportation funding levels were evaluated against eligible project costs. Based on the project funding assumptions in **Table 9-3** and **Table 9-4**, the following summarizes local transportation funding budgets, project costs, and balances:

- **Local Transportation Budget:** \$70,111,400 in year-of-expenditure local funds are projected for the GIAMPO area, after anticipated required operations and maintenance investments, for the years 2026-2045.
- **Local Transportation Project Costs:** \$60,388,500 in year-of-expenditure local transportation project costs for the 2026-2045 period. This specifically includes:
 - \$21,243,000 in short term (2026-2030) local roadway project funding and \$448,000 in STBG-TA local funds matching.
 - \$9,880,000 in mid term (2031-2037) local roadway project funding and \$742,000 in STBG-TA local funds matching.
 - \$27,540,000 in long term (2038-2045) local roadway project funding and \$527,500 in STBG-TA local funds matching.
- **Remaining Local Transportation Budget Balance:** \$9,731,500 balance in local transportation funds between 2026-2045.

² Note these are not actual remaining funds but illustrate that assumed STBG-TA funding contributions are below the anticipated regional STBG-TA funding budget.



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Table 9--3: Fiscally Constrained Roadway Projects

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	IMPROVEMENT TYPE	COST (2020 \$)	COST (YOE \$)	POTENTIAL LOCAL SHARE	POTENTIAL FUNDING SOURCES	POTENTIAL SPONSOR(S)
Short-Term (2026-2030)	4	Claude Rd, Faidley to State	New Corridor	\$5,950,000	\$8,140,000	\$8,140,000	Developer / Local	City of Grand Island
	7	Broadwell Ave at UP railroad	Grade Separation	\$25,000,000	\$34,210,000	\$3,421,000	Local / State	City of Grand Island
	9	Locust St, Walnut to Fonner Park	Reconstruction and Intersection Improvement	\$6,620,000	\$9,060,000	\$9,060,000	City	City of Grand Island
	10	State St west of US 281	Access Management	\$750,000	\$1,030,000	\$206,000	HSIP / City	City of Grand Island
	11	13th St west of US 281	Access Management	\$760,000	\$1,040,000	\$208,000	HSIP / City	City of Grand Island
	12	Faidley Ave west of US 281	Access Management	\$760,000	\$1,040,000	\$208,000	HSIP / City	City of Grand Island
Mid-Term (2031-2037)	16a	Capital Ave, Broadwell to St Paul	Widen	\$5,150,000	\$8,920,000	\$8,920,000	City	City of Grand Island
	22	State St, Lafayette to Broadwell	Widen	\$1,400,000	\$1,920,000	\$960,000	HSIP / City	City of Grand Island
Long-Term (2038-2045)	2	13th St, North Ave to Independence Ave	Widen	\$3,850,000	\$8,950,000	\$8,950,000	City	City of Grand Island
	25	Old Potash, Engelman to North	Widen	\$5,000,000	\$11,620,000	\$11,620,000	City	City of Grand Island
	27	Stolley Park Road widening to 3 lanes between Kingswood Dr and Stuhr Rd	Widen	\$3,000,000	\$6,970,000	\$6,970,000	City	City of Grand Island



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Figure 9-1: Fiscally Constrained and High Priority Vision Roadway Projects

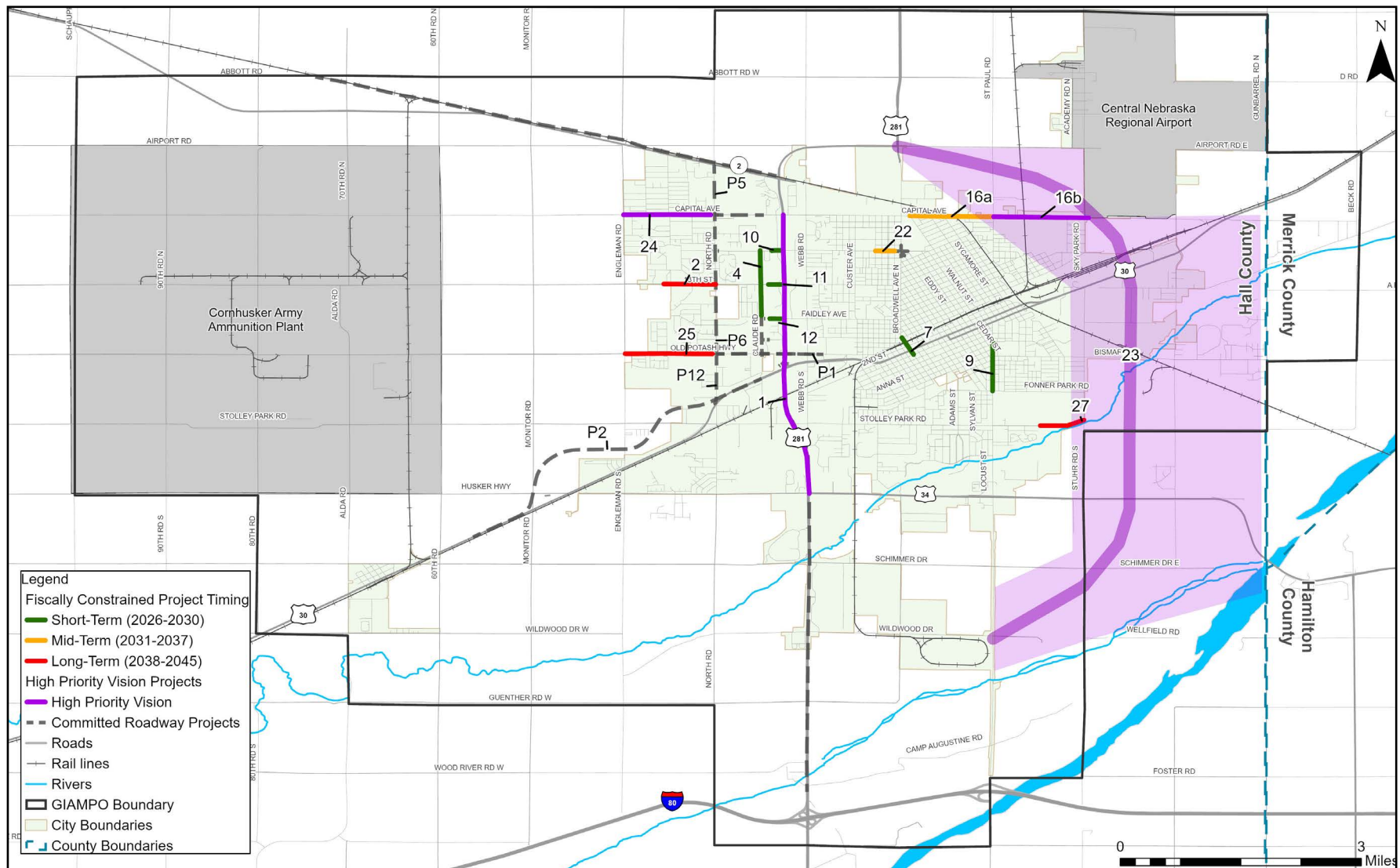




Table 9-4: Fiscally Constrained Bicycle and Pedestrian Projects

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	COST (2020 \$)	COST (YOE \$)	POTENTIAL FEDERAL SHARE	POTENTIAL LOCAL SHARE	POTENTIAL FUNDING SOURCES	POTENTIAL SPONSOR(S)
Short-Term (2026-2030)	3	Capital Ave Trail to Eagle Scout Park Connection	\$300,000	\$410,000	\$278,800	\$131,200	STBG-TA	City of Grand Island
	41	Trail between Cedar Hills Park and the new medical center, Stuhr Trail and Riverway Trail.	\$720,000	\$990,000	\$673,200	\$316,800	STBG-TA	City of Grand Island
Mid-Term (2031-2037)	4	Connection between Shoemaker Trail and Cedar Hills Park.	\$980,000	\$1,700,000	\$1,105,000	\$595,000	STBG-TA	City of Grand Island
	44	State Fair Boulevard / Bellwood Drive Trails	\$240,000	\$420,000	\$273,000	\$147,000	STBG-TA	City of Grand Island
	29	Oak Street Bike Boulevard	\$200,000	\$350,000	\$227,500	\$122,500	STBG-TA	City of Grand Island
Long-Term (2038-2045)	12	NW High School to State Street Trail Connection	\$400,000	\$930,000	\$697,500	\$232,500	STBG-TA	City of Grand Island
	25	Stolley Park to LE Ray Park Trail	\$500,000	\$1,160,000	\$870,000	\$290,000	STBG-TA	City of Grand Island
	32	South Locust Street Trails	\$410,000	\$950,000	\$712,500	\$237,500	STBG-TA	City of Grand Island
Trail Funded by Roadway Projects	19	Claude Avenue Trail from Faidley Ave to Capital Street						





Figure 9-2: Fiscally Constrained Bike and Ped Projects

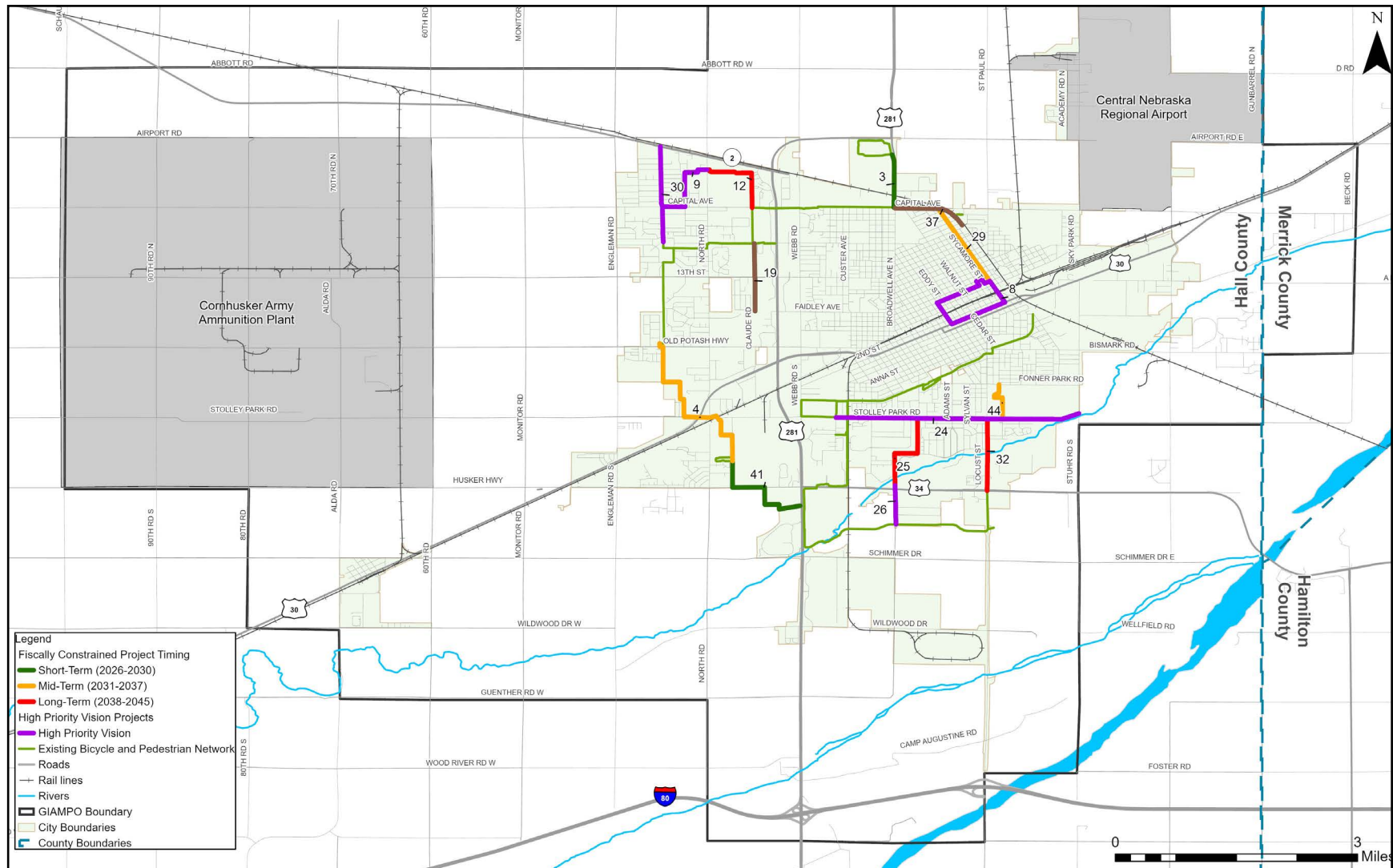




Table 9-5: High Priority Vision Projects

PROJECT ID	PROJECT DESCRIPTION	IMPROVEMENT TYPE	COST (2020 \$)
Roadway			
1	US 281, US 34 to Capital Ave	Intersection Improvements	\$11,800,000
16b	Capital Ave, St Paul to Sky Park	Reconstruct and Widen	\$5,150,000
23	East Bypass	New Expressway	\$60,000,000
24	Capital Ave, Engelman to North	Widen	\$5,000,000
Bike and Pedestrian			
8	Downtown curb extensions with major redevelopment projects	Pedestrian Crossings	\$750,000
9	Independence to Northwest High Trail	Trail	\$400,000
24	Stolley Park Trail	Trail	\$1,100,000
26	LE Ray to Riverway Trail Connection via Blaine Ave	Trail	\$200,000
30	Independence Avenue Trails	Trail	\$550,000

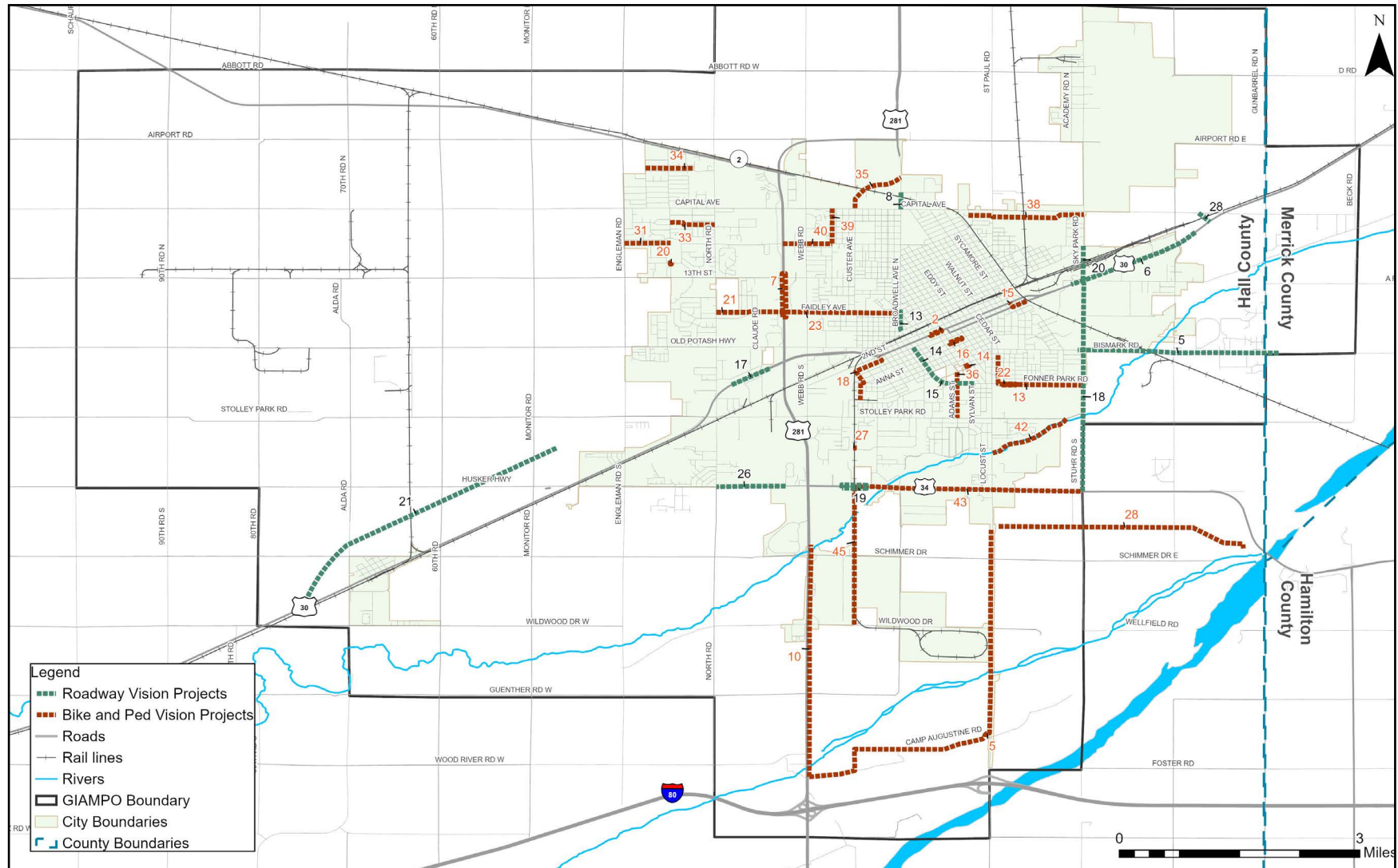
Roadway and Bicycle / Pedestrian Vision Plan

The Vision Plan are the remaining projects that recorded Medium and Low priority scores during the alternatives screening process and were not included in the Fiscally Constrained or High Priority Vision Plans. If sufficient future funding becomes available, these projects could be implemented; however, this would require an amendment to the LRTP.

Figure 9-3 shows the roadway and bicycle and pedestrian Vision Plan projects.



Figure 9-3: Roadway and Bicycle and Pedestrian Vision Plan





Fiscally Constrained Transit Plan

As noted in **Chapter 7** and **Table 9-2**, the CARES Act funding will allow CRANE to complete some service expansion and addressing facility needs by 2025. Future service changes are accounted for by the funding analysis included in the LRTP, but the exact nature of the future service is not yet determined. The “Transit Planning” and “Transit Development

Plan” costs shown in **Table 9-2**, are anticipated to be completed by 2022 that will identify the preferred concept for future transit service and facility needs in the Grand Island area.

Future fiscally constrained transit program funding levels by time band are shown in **Table 9-6**.

Table 9-6: Fiscally Constrained Transit Projects

TIME FRAME	PROJECT DESCRIPTION	COST (2020 \$)	COST (YOE \$)	POTENTIAL FEDERAL SHARE	POTENTIAL LOCAL SHARE	POTENTIAL STATE SHARE	POTENTIAL FUNDING SOURCES
Short-Term (2026-2030)	Transit Operations	\$4,245,000	\$5,810,000	\$3,312,000	\$2,498,000		FTA 5307 / City of Grand Island
	Rural Transit Operations	\$185,000	\$253,000	\$131,000	\$61,000	\$61,000	FTA 5311 / Hall County / NDOT
Mid-Term (2031-2037)	Transit Operations	\$5,942,000	\$10,290,000	\$5,865,000	\$4,425,000		FTA 5307 / City of Grand Island
	Rural Transit Operations	\$259,000	\$449,000	\$233,000	\$108,000	\$108,000	FTA 5311 / Hall County / NDOT
Long-Term (2038-2045)	Transit Operations	\$6,791,000	\$15,782,000	\$8,996,000	\$6,786,000		FTA 5307 / City of Grand Island
	Rural Transit Operations	\$296,000	\$688,000	\$358,000	\$165,000	\$165,000	FTA 5311 / Hall County / NDOT

Future Planned System Performance

The fiscally constrained projects discussed in this chapter were analyzed in the TDM along with the E+C scenario described in **Chapter 6**. The plan

network scenario, also called the “existing plus committed plus planned” (E+C+P), yielded the systemwide statistics shown in **Table 9-7**. The table also contains the results of the E+C scenario for comparison.





Table 9-7: Comparison of Grand Island Area Existing and Future System Performance Statistics

	2017	2045 E+C	2045 Planned Network	2017-2045 E+C Change	2017-2045 E+C+P Change
Households	21,769	26,588	26,588	22%	22%
Employment	31,009	40,134	40,134	29%	29%
Balanced Trips	309,974	375,619	375,619	21%	21%
Daily VMT (Miles)*	1,283,168	1,603,418	1,602,947	25%	25%
Daily VHT (Hours)*	28,419	35,566	35,462	25%	25%
Average Trip Length (Miles)	4.14	4.27	4.27	3%	3%
Average Travel Speed (MPH)	45.15	45.08	45.20	<-1%	<1%

*Centroid Connectors not included

As shown in **Table 9-7**:

- **Daily VMT** for the 2045 planned network scenario is anticipated to increase by 25% over the 2017 baseline scenario.
 - Compared to the E+C scenario, the planned network scenario reduces daily VMT by 500 miles.
- **Daily VHT** for the 2045 planned network scenario is anticipated to increase by 25% over the 2017 baseline scenario.
 - Compared to the E+C scenario, the planned network scenario reduces daily VHT by 100 hours.
- **Average Trip Length** for the 2045 planned network scenario is anticipated to increase by 3% over the 2017 baseline scenario.
 - Average Trip Length for both the 2045 E+C and 2045 planned network scenarios is 4.27 miles.
- **Average Travel Speed** for the 2045 planned network scenario is anticipated to increase by less than 1% over the 2017 baseline scenario.
 - Compared to the E+C scenario, the planned network scenario has average travel speeds that are slightly higher than the 2045 E+C scenario.



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Chapter 10 Environmental Review and Mitigation

Environmental Analysis

The transportation alternatives, particularly the candidate roadway projects, in the 2045 LRTP were evaluated as a part of the alternatives assessment process to gauge how well they fit within the natural and built environment. State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation were consulted via letter during the alternatives assessment and draft plan phases of the LRTP. The letter and response received are included in **Appendix A**.

LRTP is a regional-scale assessment, and projects included in the LRTP would require additional project development prior to implementation. As those project details are developed, more detailed environmental review would be conducted in the future phases of study.

Figure 10-1 and **Figure 10-2** show some of the environmentally sensitive natural and human-built areas in the study area. Discussion regarding the resources shown in the figures, such as historic resources and waters of the United States, are detailed below.

Environmental Screening / Considerations

Environmental resources that could potentially be affected by transportation projects identified in the 2045 Long Range Transportation Plan are discussed in this section. The LRTP process included the screening of environmental characteristics for each alternative. The 2045





Figure 10-1: Physical Environmental Constraints

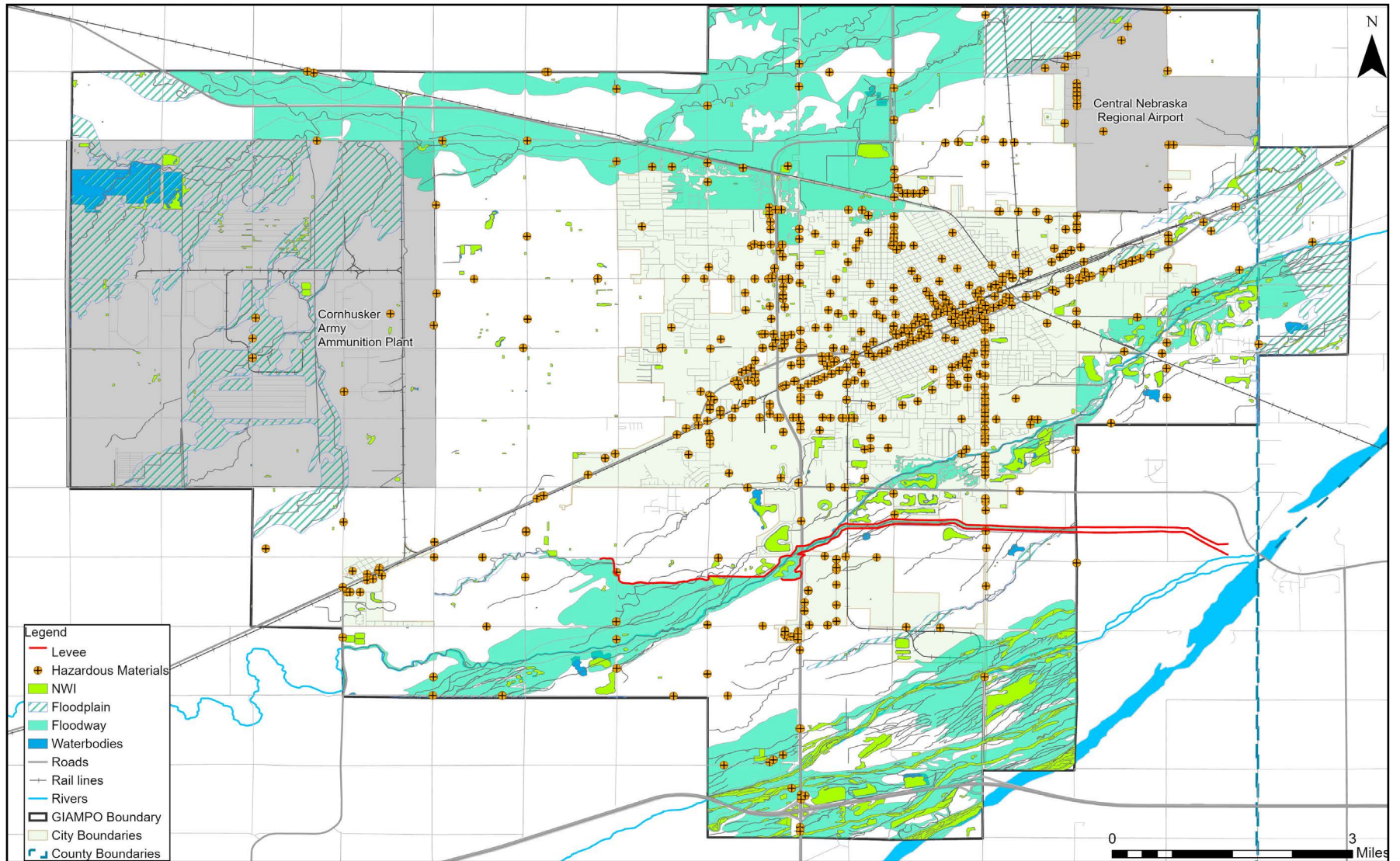
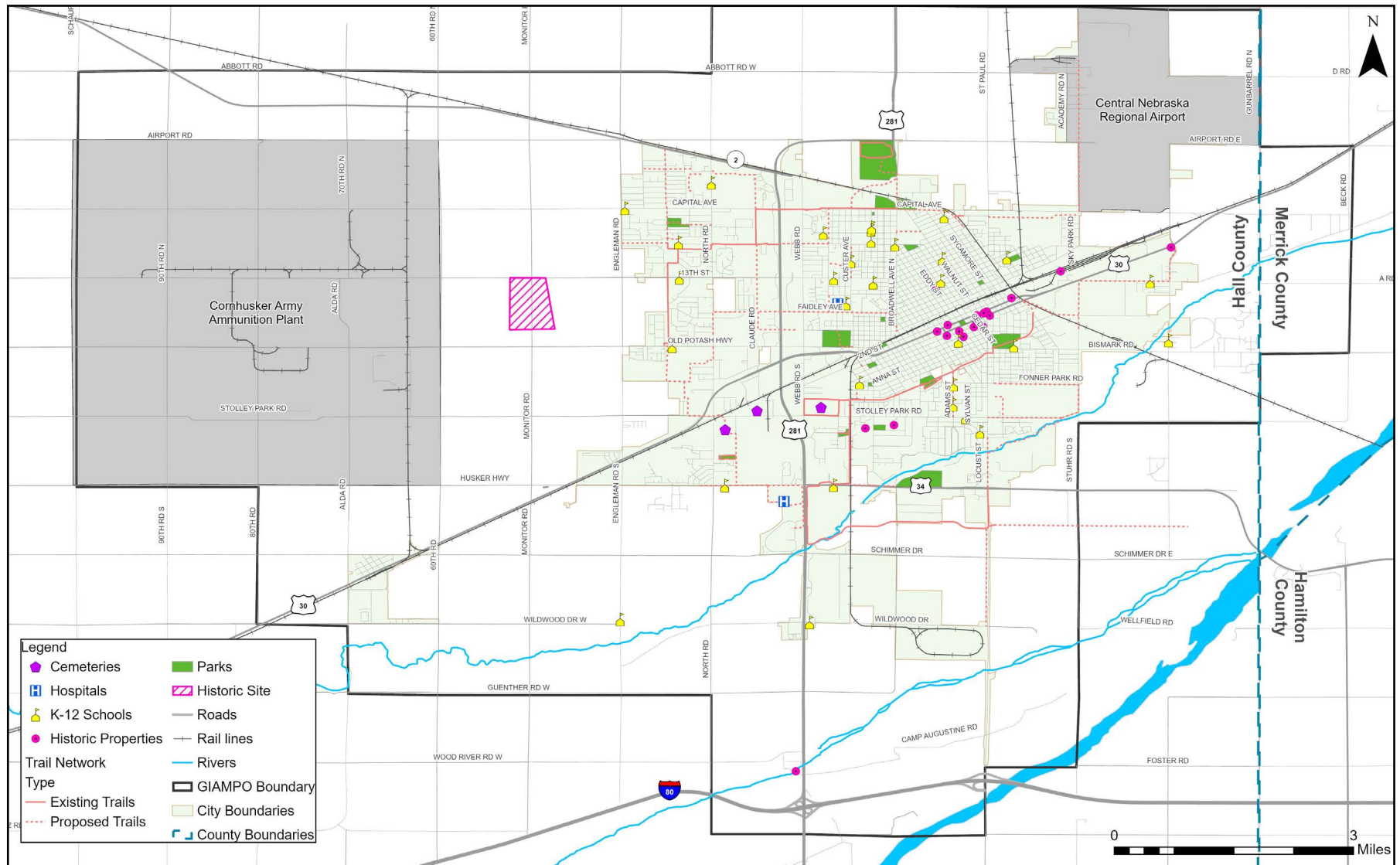




Figure 10-2: Human Environmental Constraints





Archaeological and Historical Resources

The consideration of impacts on cultural resources is subject to several federal laws, regulations and guidelines. Principal among these are the National Environmental Protection Act (NEPA) and Section 106 of the National Historic Preservation Act. Section 106 requires federal agencies (and agencies receiving federal assistance for projects) to take into account the effects of their undertakings on historic properties (any prehistoric or historic district, site, building, structure, or object listed on or eligible for listing on the National Register of Historic Places). Through the consultation process among agency officials and other parties, the effects of the undertaking on historic properties are considered, beginning with the earliest stages of project planning. The goal is to identify historic properties within the area of potential effect (APE) as early as possible in project development, evaluate the historic significance of the properties, assess the expected project impacts, and seek ways to avoid, minimize, or mitigate any adverse effects.

The National Register of Historic Places was used to identify listed historic properties within the Grand Island area. As roadway alternatives continue to evolve throughout the project development process, an APE for the project would be proposed by sponsoring agencies (NDOT and local governments). Coordination with the Nebraska State Historic Preservation Office (SHPO) would confirm the APE. Records of known historic sites would be searched to determine the presence of historic resources within the APE. The potential for unknown archaeological sites would be determined through site specific cultural resource surveys. Through consultation with Nebraska SHPO, the potential for projects to affect historic resources would be determined – No Historic Properties Affected, No Adverse Effect on Historic Properties, or an Adverse Effect on Historic Properties (when a historic resource cannot be avoided). In the event of an adverse effect on historic properties, FHWA must contact the Advisory Council to advise it of the situation, and offer an opportunity for participation in the consultation with SHPO and others

to plan measures to minimize harm and, ultimately, to mitigate the adverse effects. The agency sponsoring the project would consult with SHPO and other interested parties to formulate a mitigation plan which would become the basis for a Memorandum of Agreement (MOA) drawn up and executed between FHWA, SHPO, and the DOT or local agency. Execution of the MOA completes consultation under Section 106 unless there are changes or additions to the project.

Section 4(f) and Section 6(f) Resources

The Department of Transportation Act (DOT Act) of 1966 included a provision – Section 4(f) – which is intended to protect any publicly-owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance or any land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site). U.S. Department of Transportation (USDOT) agencies, including FHWA, cannot approve any program or project which requires the use these lands unless:

- There is no feasible and prudent alternative to the use of such land, and the program or project includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use; or
- FHWA determines that the use of the property, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures), would have a de minimis impact (a determination that the project would not adversely affect the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f) or a Section 106 finding of no adverse effect or no historic properties affected on a historic property).

There are three types of Section 4(f) impacts: direct use, temporary occupancy, and constructive use. A direct use would be the conversion





of public park land into a transportation use and may include de minimis impacts. Temporary occupancy is the temporary use of Section 4(f) land for construction operations. Constructive use is proximity impacts, such as noise, of a proposed project that is adjacent, or nearby, to a Section 4(f) property resulting in a substantial impairment to the property's activities, features, or attributes that qualify the property for protection under Section 4(f). Several roadway alternatives are located near parks and other Section 4(f)-protected properties. These alternatives would be further evaluated in the project planning phase.

Section 6(f), which was created as a part of the Land and Water Conservation Act, protects state and locally sponsored projects that were funded as part of the Land and Water Conservation Fund (LWCF). These lands cannot be converted to non-park/recreation use without the approval of the National Park Service. Conversion of these lands is allowed if it is determined that there are no practicable alternatives to the conversion and that there would be provision of replacement property. Mitigation for Section 6(f) lands impacted by a project must include replacement with land of at least the same fair market value, and reasonably equivalent usefulness and location relative to the impacted land. The potential for roadway alternatives to impact Section 6(f) lands was evaluated by determining the proximity of alternatives to public parks, recreation areas, and refuges using GIS data from the City of Grand Island and Nebraska DNR. A few alternatives may be located near Section 6(f)-protected lands; further evaluation would be needed in the project planning phase.



Veterans Memorial Park

Regulated Material Sites

Regulated materials are hazardous substances that are regulated by federal, state, or local entities based on their potential to result in environmental contamination and potentially affect public health. The purpose of an initial regulated materials review is to identify properties that are, or may be, contaminated with regulated materials along the alternatives within the corridor study area so that the presence of these properties may be factored into subsequent alternative selection and design considerations. It is preferable to avoid highly contaminated sites in order to minimize potential additional costs, liability, or schedule delays due to site remediation.

Roadway alternatives were evaluated using GIS data from the U.S. Environmental Protection Agency (EPA) to determine the proximity of any contaminated sites as defined by U.S. EPA. Several roadway alternatives are located near regulated material sites. More detailed assessments of projects moving forward in the planning process would be needed in future environmental reviews.

Wetlands and Waters of the United States

For purposes of the Clean Water Act (CWA) and its implementing regulations, the term "waters of the United States" means: all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters, including interstate wetlands; the territorial seas; all impoundments of waters otherwise identified as waters of the United States (U.S.) in the CWA; and all tributaries, as defined in the CWA. Waters of the U.S. are subject to the CWA and are under the jurisdiction of the United States Corps of Engineers (USACE). A permit from USACE is necessary for all projects that would discharge dredged or fill material into waters of the U.S., including wetlands.



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For the 2045 LRTP, the National Wetlands Inventory (NWI) and aerial photography were reviewed within the Grand Island MPO study area to determine potential project impacts on wetlands and other waters of the U.S. Several roadway alternatives would potentially affect wetlands and other waters of the U.S. Wetland delineations are recommended in the initial stages of these roadway improvement project to determine the boundaries of wetlands and other waters of the U.S. within the project area and to coordinate with USACE to determine if USACE has jurisdiction over these areas.

Floodplains and Levees

Development in floodplains is regulated by the Federal Emergency Management Agency (FEMA) and the Nebraska Department of Natural Resources. A floodplain permit from the city or county is required for most projects within a floodplain. A hydraulic review must be completed for projects within floodplains to determine the effect of the project on the water surface elevation of the 100-year flood. FEMA regulations prohibit encroachments in regulated floodways unless it is accompanied by a no-rise analysis that demonstrates the project would cause no increase in the 100-year flood level. Civil Works projects such as levees, floodwalls, dams, and reservoir are regulated by the USACE as part of Section 14 of the Rivers and Harbors Act (33 USC 408). The Wood River levees, located adjacent to Wood River throughout Grand Island, were constructed as part of a Civil Works project to protect the City of Grand Island from floods. Modification or alteration of these levees would require clearance from the USACE to help



Elm Street in Alda

ensure that modifications would not reduce the intended benefits to the public.

Roadway alternatives for the 2045 LRTP were reviewed to determine the extent that they would occur within the 100-year floodplain using the latest Flood Insurance Rate Maps showing the extent of the 100-year floodplain in Hall County. Roadway alternatives were also reviewed to determine the extent that they would potentially alter the Wood River levees. Several alternatives are located adjacent to the levees and would need to be further evaluated.

Threatened and Endangered Species

Threatened and endangered species listed under the federal Endangered Species Act (ESA) would need to be considered for each project. The State of Nebraska maintains a list of state-listed threatened and endangered species, as well as species of special concern. Federally listed species are outlined below. Consultation with U.S. Fish and Wildlife Service (USFWS) and Nebraska Game and Parks would be required to determine which listed species have the potential to occur within each project area and the potential for the project to affect each species present.

- Whooping crane (*Grus americana*)
- Piping Plover (*Charadrius melodus*)
- Least tern (*Sterna antillarum*)
- Western prairie fringed Orchid (*Platanthera praeclara*)
- Northern Long-Eared Bat (*Myotis septentrionalis*)

Roadway alternatives were reviewed for their potential to affect protected species by assessing the potential habitat affected by each alternative. Potential habitat does exist along various alternatives. Projects moving forward in the planning process would need further review for their potential to affect species by completing habitat surveys and potential consultation with the U.S. Fish and Wildlife Service and Nebraska Game and Parks Commission.



Fiscally Constrained Plan Impact on Environmental Resources

The fiscally constrained roadway and bicycle and pedestrian projects were screened to determine which projects could potentially impact sensitive environmental resources of wetlands and floodplains. The projects were mapped for proximity to resources, with proximity defined

as being located within 500 feet. This is a conservative approach to screening for potential impacts and found 74% of the fiscally constrained projects are located within proximity of an identified wetland while 47% of the projects are within proximity of an identified floodplain. **Table 10-1** lists each project and whether they are in proximity to potentially impact an identified wetland or floodplain.

Table 10-1: Fiscally Constrained Plan Potential Impacts on Wetlands and Floodplains in the GIAMPO Region

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	PROJECT TYPE	WETLANDS	FLOODPLAIN
Roadway Projects					
Short-Term (2026-2030)	4	Claude Rd, Faidley to State	New Corridor	■	
	7	Broadwell Ave at UP railroad	Grade Separation		
	9	Locust St, Walnut to Fonner Park	Reconstruction and Intersection Improvement	■	■
	10	State St west of US 281	Access Management	■	■
	11	13th St west of US 281	Access Management	■	
	12	Faidley Ave west of US 281	Access Management	■	
Mid-Term (2031-2037)	16a	Capital Ave, Broadwell to St Paul	Widen		
	22	State St, Lafayette to Broadwell	Widen		
Long-Term (2038-2045)	2	13th St, North Ave to Independence Ave	Widen		
	25	Old Potash, Engelman to North	Widen	■	
	27	Stolley Park Road widening to 3 lanes between Kingswood Dr and Stuhr Rd	Widen	■	■



Table 10-1: Fiscally Constrained Plan Potential Impacts on Wetlands and Floodplains in the GIAMPO Region (continued)

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	PROJECT TYPE	WETLANDS	FLOODPLAIN
Bicycle and Pedestrian Projects					
Short-Term (2026-2030)	3	Capital Ave Trail to Eagle Scout Park Connection	Trail		
	41	Trail between Cedar Hills Park and the new medical center, Stuhr Trail and Riverway Trail.	Trail	■	■
Mid-Term (2031-2037)	4	Connection between Shoemaker Trail and Cedar Hills Park.	Trail	■	■
	29	Oak Street Bike Boulevard	Bike Boulevard	■	■
	44	State Fair Boulevard / Bellwood Drive Trails	Trail	■	■
Long-Term (2038-2045)	12	NW High School to State Street Trail Connection	Trail	■	
	25	Stolley Park to LE Ray Park Trail	Trail	■	■
	32	South Locust Street Trails	Trail		



Environmental Justice Assessment

Executive Order 12898 requires federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects, including the interrelated social and economic effects of their programs, policies, and activities on minority populations and low-income populations in the United States. USDOT Order 5610.2(A) and FHWA Order 6640.23A define an adverse effect as the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to:

- Bodily impairment, infirmity, illness or death;
- Air, noise, and water pollution and soil contamination;
- Destruction or disruption of human-made or natural resources;
- Destruction or diminution of aesthetic values;
- Destruction or disruption of community cohesion or a community's economic vitality;
- Destruction or disruption of the availability of public and private facilities and services;
- Vibration;
- Adverse employment effects;
- Displacement of persons, businesses, farms, or nonprofit organizations;
- Increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and
- The denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities.

In accordance with FHWA Order 6640.23A, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, minority and low-income populations were identified in the

area affected by the LRTP. Projects identified as part of the 2045 Long Range Transportation Plan were analyzed to determine if they would potentially disproportionately highly and adversely affect minority and low-income populations in the Grand Island area. The City would engage all populations, including minority and low-income populations, in the LRTP public involvement process to obtain public comments during the planning process. The Grand Island MPO's Public Participation Plan is the basis for the public engagement efforts for the Long Range Transportation Plan update and provides the direction with the intent of involving all populations within the community.

NEPA documentation for the LRTP projects would analyze these populations at a more detailed level, address potential disproportionate impacts to these populations, document efforts to inform minority and low-income populations of proposed road improvement activities and engage them in the public involvement process, and document efforts to minimize and avoid environmental impacts on the environmental justice populations.

Minority Populations

FHWA defines a minority population as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity. FHWA defines a minority as:

- **Black:** a person having origins in any of the black racial groups of Africa
- **Hispanic or Latino:** a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race





- **Asian American:** a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
- **American Indian and Alaskan Native:** a person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition
- **Native Hawaiian and Other Pacific Islander:** a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

The 2045 LRTP utilized the 2014-2018 ACS to determine the number and percentage of minority populations in Grand Island Area MPO. The 2020 decennial census is currently underway and data for 2020 is not available. Per FHWA guidance, readily identifiable groups of minority persons of minority populations were identified. A group of minority persons was identified as any census block group¹ with a substantial minority population: where the percentage of minority population was at least one standard deviation (11%) higher than the mean of a typical normal data distribution curve as compared to the percentage of the minority population within the Grand Island MPO boundary. The minority population of the Grand Island MPO area is 13% of the total population; the threshold value used to determine a substantial minority population is 15% (13% multiplied by 1.17). Figure 10 3 shows the Environmental Justice populations identified.

Low-Income Populations

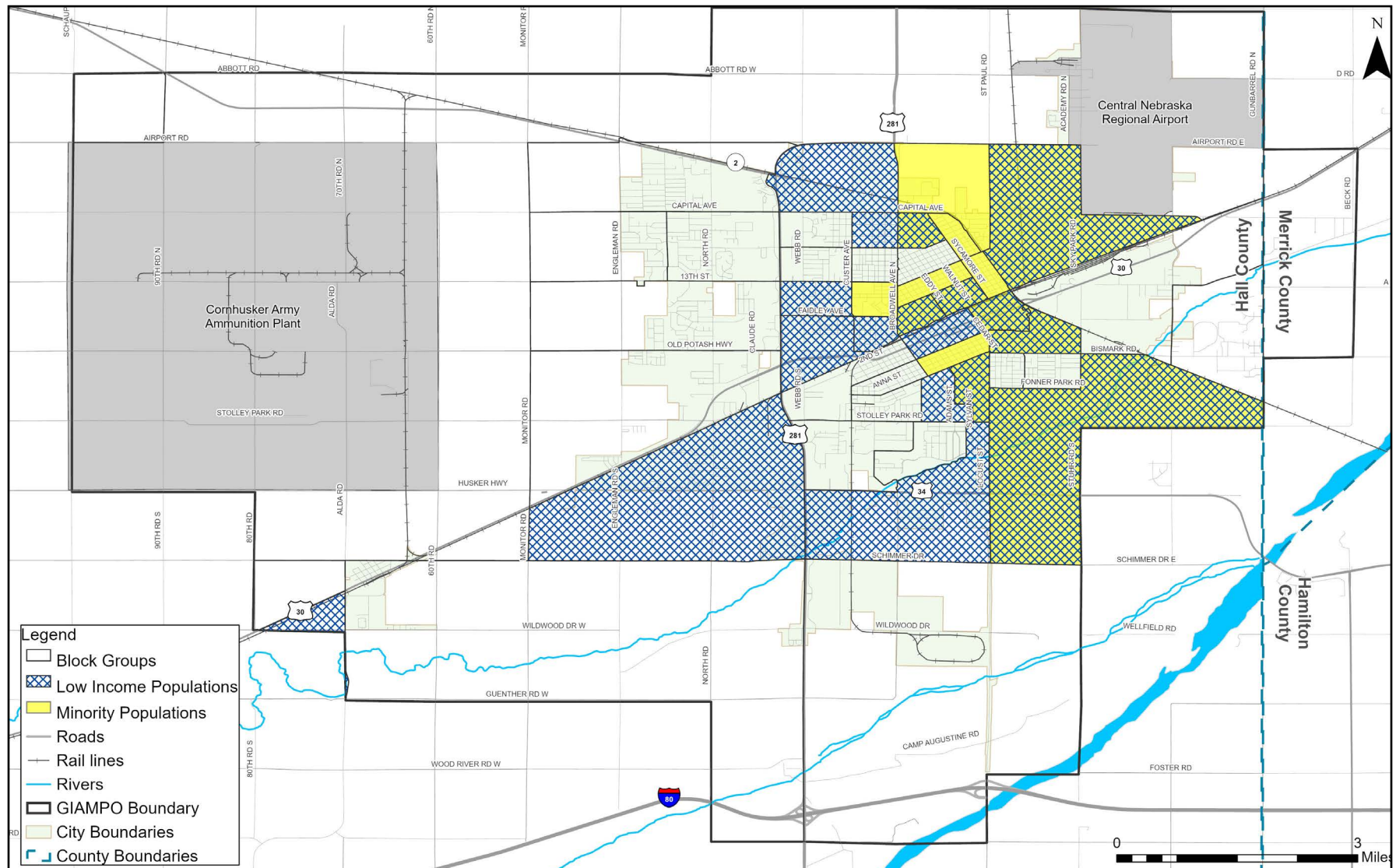
FHWA defines a low-income population as any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity. FHWA defines

low-income as a person whose median household income is at or below the Department of Health and Human Services (DHSS) poverty guidelines. The best approximation for the number of people below the DHHS poverty guidelines in a particular area is the number of persons below the Census Bureau poverty thresholds in that area. In this analysis, 2014-2018 ACS was used to determine low-income data for the Grand Island MPO area. Similar to the minority population, a readily identifiable group of low-income population was identified as any census block group with a substantial low-income population: where the percentage of low-income population was at least one standard deviation (34%) higher than the mean of a typical normal data distribution curve as compared to the Grand Island MPO area percentage of the low-income population. The low-income population of the Grand Island MPO area is 26% of the total population; the threshold value used to determine a substantial low-income population is 35%. **Figure 10-3** shows the Environmental Justice populations identified.

¹ Block Groups (BGs) are statistical divisions of census tracts and are generally defined to contain between 600 and 3,000 people. A block group consists of clusters of blocks within the same census tract that have the same first digit of their four-digit census block number



Figure 10-3: Preliminary Identified Environmental Justice Populations





Fiscally Constrained Plan Impact on Environmental Justice Populations

Projects included in the Fiscally Constrained Plan (documented in **Chapter 9**) were evaluated for their proximity to the identified environmental justice populations shown in **Figure 10-3**. This evaluation provides an assessment the proportion of roadway and bicycle and pedestrian projects that could potentially benefit or impact EJ populations. The analysis used in this process considers a project to have potential benefits or impacts on EJ populations if that project is within a quarter mile of a low-income and/or minority population group. For the purpose of this analysis, project benefits and impacts are defined as:

- **Benefits:** Projects assumed to provide benefits are those that improve mobility and accessibility in EJ neighborhoods through the construction of new trails, pedestrian facilities, and roadway rehabilitation and system management projects with limited impacts to adjacent residents.
- **Impacts:** Projects assumed to have impacts are those with the potential for negative outcomes for adjacent EJ populations. The construction of new roadways and roadway widenings are examples of projects that could impact adjacent residents through increased travel speeds and neighborhood noise, property acquisitions, and discourage bicycle and pedestrian activity and/or degrade environmental resources.
- **Mixed:** Some projects have the potential for significant impacts and benefits to the surrounding community and were placed in the mixed category. The specific example of this mixed project type is railroad grade separation. This type of improvement provides the neighborhood with improved access reliability and emergency response times without train interruptions, but also has the potential for some property impacts.

Proportion of Regional Households Located in EJ Areas

This analysis compares the distribution of planned projects for both EJ and non-EJ populations. The EJ populations were defined based on the number of regional households located within a transportation analysis zone (TAZ) located within identified EJ areas. This analysis has identified 10,823 households within EJ areas, or 49.7% of the total 21,768 households in the region. This does not mean that 49.7% of the regional households contain EJ populations but means that they are within the areas designated as containing EJ populations.

Accessibility of Fiscally Constrained Projects to Environmental Justice Areas

There are 11 roadway projects and 8 bicycle and pedestrian projects in the Fiscally Constrained Plan. The resulting proximity analysis shows:

- 64% of fiscally constrained roadway projects (7 of 11) are accessible, or within a quarter mile of an identified EJ area.
- 100% of fiscally constrained bicycle and pedestrian projects (8 of 8) are accessible, or within a quarter mile of an identified EJ area.

Potential Benefits and Impacts of Fiscally Constrained Projects on Environmental Justice Areas

The summary of potential project benefits and impacts in relationship to EJ accessibility is shown in **Table 10-2**.



**Table 10-2: Benefits and Impacts of Fiscally Constrained Projects on EJ Populations**

Project Category	EJ Accessible Projects		Total Projects (EJ and Non-EJ)	
	Number	Percentage	Number	Percentage
Bicycle and Pedestrian Projects with Potential Benefits	8	100%	8	100%
Roadway Projects with Potential Benefits	3	75%	4	100%
Roadway Projects with Potential Impacts	3	50%	6	100%
Roadway Projects - Mixed Benefits and Impacts	1	100%	1	100%

The following bullets summarize the relationship between EJ populations and planned project impacts and benefits:

- **Bicycle and Pedestrian Projects with Potential Benefits:** All eight, or 100% of bicycle and pedestrian projects included in the fiscally constrained plan were accessible to EJ populations. This is significantly higher than the 49.7% of the population located within EJ areas.
- **Roadway Projects with Potential Benefits:** Three of the four, or 75% of roadway projects with potential benefits included in the fiscally constrained plan were accessible to EJ populations. This is significantly higher than the 49.7% of the population located within EJ areas.
- **Roadway Projects with Potential Impacts:** Three of the six, or 50% of roadway projects with potential impacts included in the fiscally constrained plan were adjacent to EJ populations. This is approximately equivalent with the 49.7% of the population located within EJ areas.
- **Roadway Projects with Mixed Potential Benefits and Impacts:** The one project (100%) with a mix of potential benefits and impacts was adjacent to EJ populations. While only one project, this percentage is significantly higher than the 49.7% of the population located within EJ areas.

Figure 10-4 shows fiscally constrained roadway and bicycle and pedestrian projects, and their adjacency to EJ populations in the GIAMPO region.



More EJ Project benefits than regional average

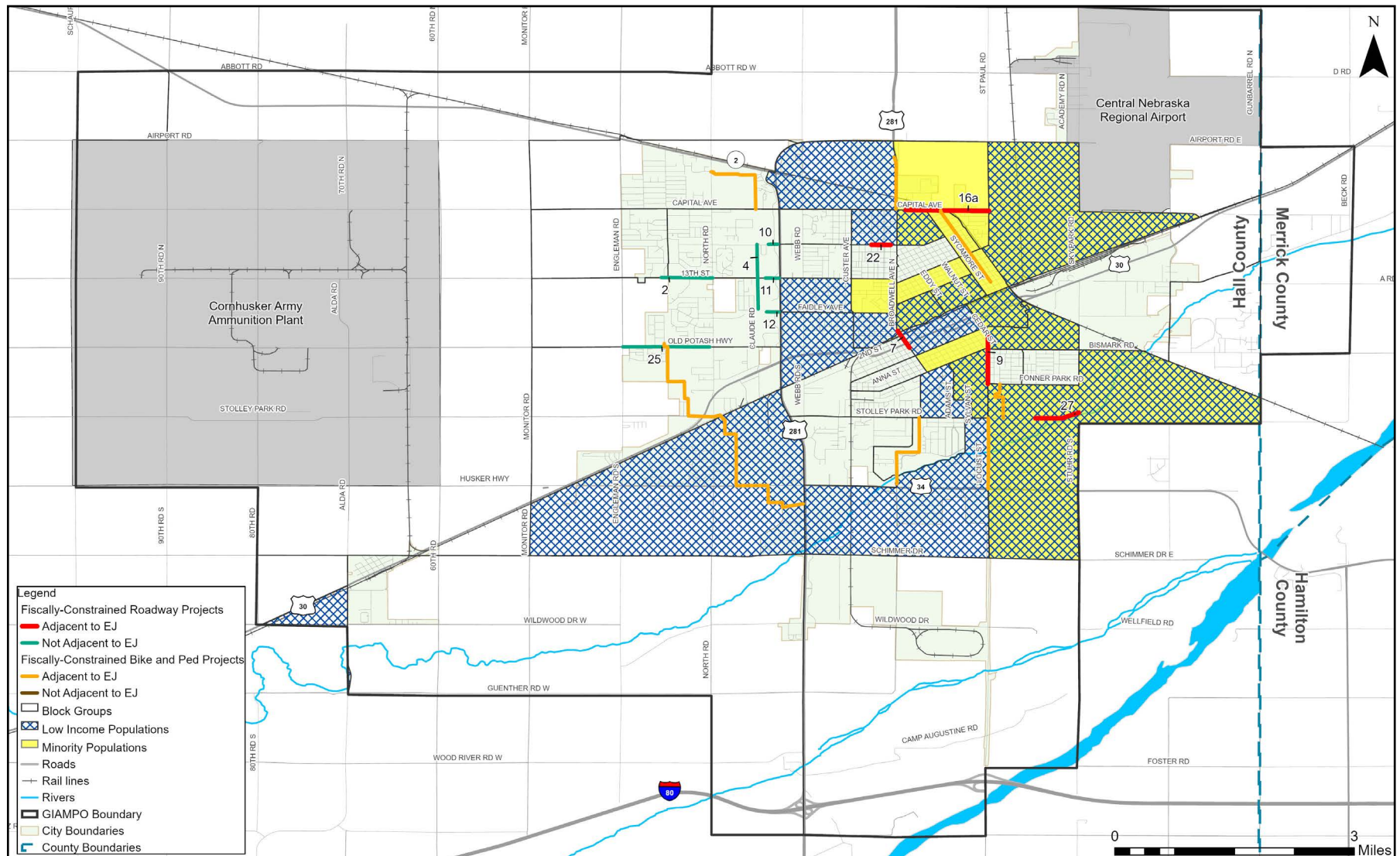


Similar EJ Project impacts as regional average



More EJ projects with mixed benefits and impacts than regional average

Figure 10-4: Fiscally Constrained Roadway and Bike and Ped Project Proximity to EJ Populations





The Role of Transit in Environmental Justice

Transit can play a key role in providing benefits to Environmental Justice populations. Transit services provide a key linkage between low income and minority communities to jobs and services, particularly for households with limited automobile availability. Thus, transit services need to be tailored with low-income and mobility-challenged households in mind. CRANE and GIAMPO are committed to effective transit service for environmental justice populations, and in 2019 included an environmental justice analysis as a part of local planning for future service and facility needs.

Chapter 9 outlined the fiscally constrained transit plan, and how potential future service expansions will be developed through more detailed transit planning studies in the next two years. One of the factors that will go into any future transit service changes in Grand Island is how those service changes can be equitable and provide transit access to low-income neighborhoods and communities of color.



Chapter 11 FAST Act Compliance

Metropolitan long-range transportation plans must be performance-driven and outcome-based. The GIAMPO 2045 LRTP addresses these Federal requirements with a performance-driven approach that combines Federal, state, and local goals, objectives, planning factors, and performance measures. **Table 4-2** previously showed how the goals and objectives fit with the national planning factors. This chapter demonstrates how the LRTP is compliant with the Federal performance requirements contained in the FAST Act.

Below is a summary of how each GIAMPO 2045 LRTP goal area ties into the Federal metropolitan planning factors, Federal performance

measures, and LRTP project scoring metrics outlined in Chapter 4. In this section, each of the Federal performance measures are listed, and how they line up with the three major performance measure categories:

- Safety Performance (PM 1)
- Pavement and Bridge Condition Performance (PM 2)
- NHS System Performance/Freight on Interstates/CMAQ Performance (PM 3)



SYSTEM SAFETY	
Objectives	Reduce the incidence and rate of crashes
	Reduce severe injury and fatal crashes
	Reduce bicycle and pedestrian crashes
Federal Performance Measures	Fatal and Serious Crash Rates (PM 1)
	Nonmotorized Fatal and Serious Crash Rates (PM 1)
Project Scoring Metrics	Vehicular Safety Assessment
	Non-motorized Safety Assessment
National Planning Factors	Safety
	Security



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MULTIMODAL CONNECTIVITY AND ACCESSIBILITY

Objectives	Provide improved connections to key destinations across the community
	Reduce regional freight impediments
	Increase the connectivity of the bicycle and pedestrian system
	Continue to provide quality public transit services.
Federal Performance Measures	Freight Reliability (PM 3)
Project Scoring Metrics	Connection to Dense Development Nodes
	Multimodal Connectivity
	Transit Operations and State of Good Repair
National Planning Factors	Economic Vitality
	Accessibility and Mobility for People and Freight
	Environment and Energy Conservation, Quality of Life, and Economic Development
	System Integration and Connectivity for People and Freight
	Efficient Operations and Management
	System Resiliency and Reliability; Reduce or Mitigate Stormwater Impacts



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**ECONOMIC VITALITY****Objectives**

- Identify transportation strategies that support economic development projects
- Identify transportation strategies that provide enhanced access to jobs for low income residents
- Provide active transportation options that promote the health and well-being of residents
- Provide access to tourist destinations
- Identify how transportation can support affordable housing
- Promote freight connectivity and access

Federal Performance Measures

- No Direct Federal Performance Measures

Project Scoring Metrics

- Identify transportation strategies that support economic development projects
- Identify transportation strategies that provide enhanced access to jobs for low income residents
- Provide active transportation options that promote the health and well-being of residents
- Provide access to tourist destinations
- Identify how transportation can support affordable housing
- Promote freight connectivity and access

National Planning Factors

- Economic Vitality
- Accessibility and Mobility for People and Freight
- Environment and Energy Conservation, Quality of Life, and Economic Development
- System Integration and Connectivity for People and Freight
- Enhance Travel and Tourism



SYSTEM PRESERVATION	
Objectives	Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition
Federal Performance Measures	Pavement and Bridge Condition (PM 2)
Project Scoring Metrics	Project Enhances Pavement or Bridge Condition
National Planning Factors	Economic Vitality
	Efficient Operation and Management
	Preserve the Existing Transportation System



ENVIRONMENT AND SYSTEM RESILIENCY

Objectives	Promotes energy conservation, especially for non-renewable energy sources
	Transportation projects should limit impacts to the natural and build environment
	Invest in alternative and renewable fuel infrastructure when practical
	Identify strategies to make transportation infrastructure more resilient to natural and manmade events
Federal Performance Measures	No Direct Federal Performance Measures
Project Scoring Metrics	Vehicular Travel Reduction
	Project Impact Screening
	Infrastructure Resiliency
National Planning Factors	Security
	Environment and Energy Conservation, Quality of Life, and Economic Development
	System Resiliency and Reliability; Reduce or Mitigate Stormwater Impacts



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TRAFFIC OPERATIONS AND SYSTEM RELIABILITY	
Objectives	Limit the emergence of recurring congestion
	Improve travel reliability on arterial roadways
	Support high levels of freight reliability on the state highway system
	Promote development outside of flood prone areas
Federal Performance Measures	Passenger Reliability (PM 3)
	Freight Reliability (PM 3)
Project Scoring Metrics	Corridor Level of Service
	Corridor Reliability LOTTR
	Freight Reliability TTTR
National Planning Factors	Economic Vitality
	Accessibility and Mobility for People and Freight
	Efficient Operation and Management
	System Resiliency and Reliability; Reduce or Mitigate Stormwater Impacts



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Executive Summary

2045 Long Range Transportation Plan

Introduction

The Grand Island Area Metropolitan Planning Organization (GIAMPO) is responsible for multimodal transportation planning and administering Federal and state transportation funds within the urbanized area of Grand Island. One major duty of GIAMPO is to update its Long Range Transportation Plan (LRTP) every five years, per Federal requirement. The 2045 LRTP lays out a 25-year roadmap for the region's future transportation system that details the condition, issues, and opportunities of the existing system, while outlining a realistic plan for future improvements based on historical and projected funding trends.

The 2045 LRTP draws on technical analysis, public input, and local MPO staff input to identify the most pressing issues facing GIAMPO's transportation system and create solutions to these issues that were developed through a comprehensive, cooperative, and continuing program.

Who We Are

As the formal transportation planning body for the Grand Island Urbanized Area, GIAMPO defines the region's shared vision for the multimodal system and sets the policy direction to achieve it. GIAMPO facilitates collaboration between member jurisdictions, Federal and state agencies, and residents so that transportation resources can be allocated in the most efficient way possible.

GIAMPO maintains two groups whose voting members consist of local policy makers, including city council members, as well as city and county staff members. Non-voting members include other transportation professionals from Federal, state, and local agencies.

GIAMPO Member Jurisdictions

- City of Grand Island
- Village of Alda
- Hall County
- Merrick County
- Nebraska Department of Transportation
- Central Nebraska Airport

GIAMPO Policy Board: The Policy Board is responsible for the preparation and adoption of planning studies, review transportation projects to align with regional transportation goals, adopt a four-year Transportation Improvement Program (TIP) and review Federal and state funding available for local transportation projects, oversee updates to the Long-Range Transportation Plan (LRTP), adopt an annual Unified Planning Work Program (UPWP), and implement a Public Participation Process (PPP). The board consists of eight voting members.

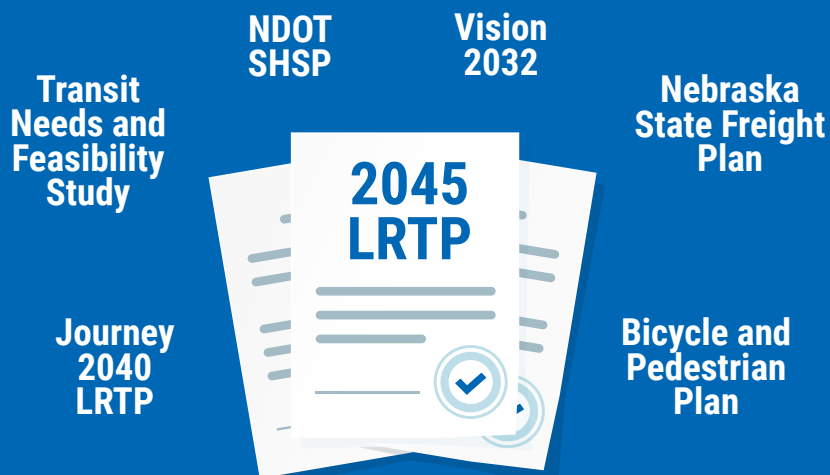
GIAMPO Technical Advisory Committee (TAC): The TAC is responsible for overseeing and advising the Policy Board on the technical matters related to their duties discussed above. The TAC provides oversight in the development and review of the LRTP in addition to other work products developed by the MPO. The TAC is comprised of 11 voting members.

In addition to the Policy Board and TAC, GIAMPO creates additional subcommittees, working groups, and roundtables to address various transportation-related issues within the planning area.

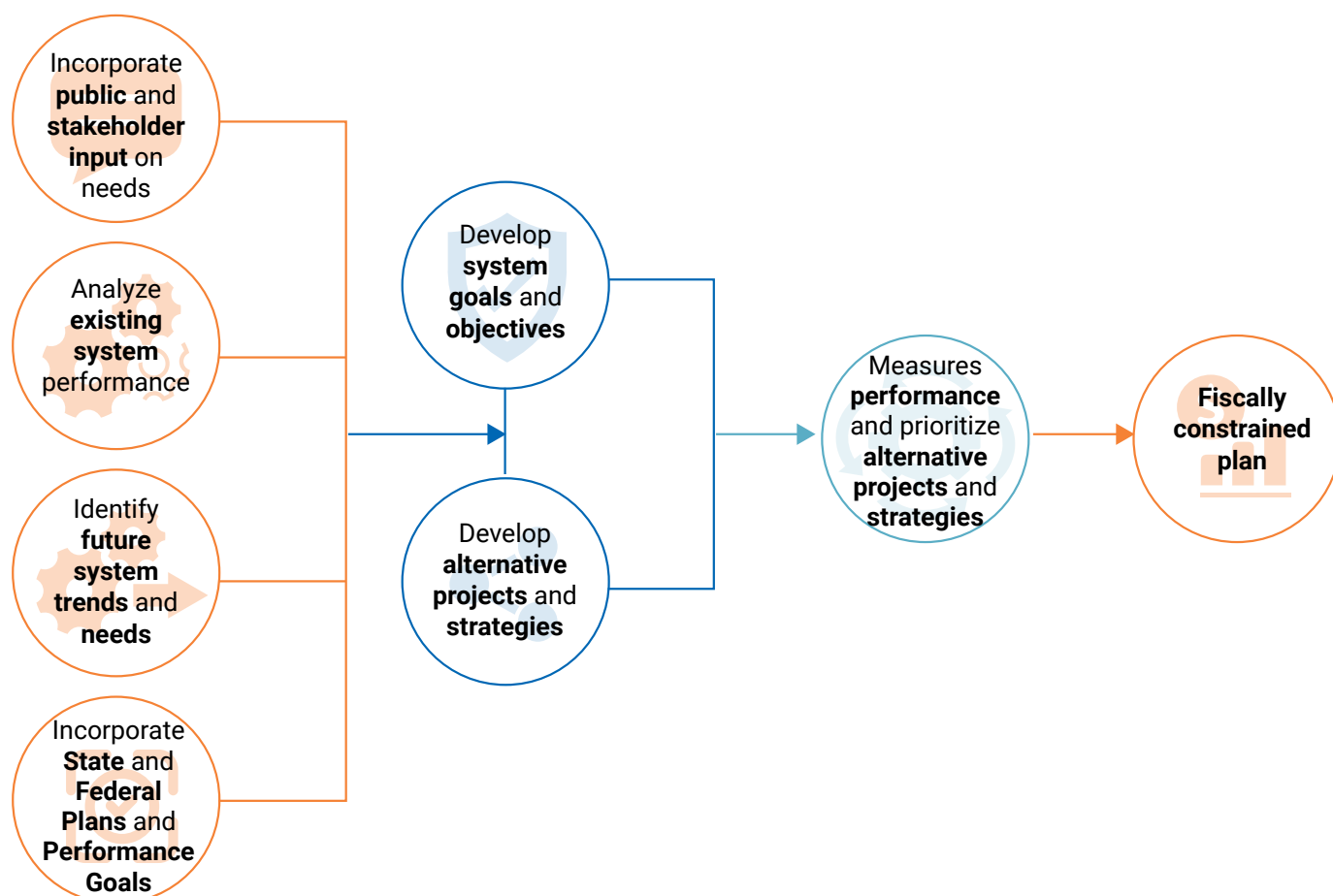
2045 LRTP Planning Process

The 2045 LRTP has been developed through a performance-based approach that applies the Federal Highway Administration’s (FHWA) performance management techniques that tie together Federal, state, and local transportation goals while providing for the ongoing monitoring of progress made towards the regional vision.

Major plans and studies prepared by NDOT that tie into the 2045 LRTP include NDOT’s LRTP, Vision 2032, the 2017 Strategic Highway Safety Plan (SHSP), and the Nebraska State Freight Plan. The 2045 LRTP builds off the MPO’s previous LRTP, Journey 2040, adopted in 2015, as well as the Transit Needs and Feasibility Study (2018) and the Bicycle and Pedestrian Plan (2017) for the City of Grand Island.



The 2045 LRTP is developed through a multimodal lens and draws on public input to create goals, objectives, and strategies that provide improvements for the roadway, bicycle and pedestrian, and transit systems. The infographic below illustrates the process followed during the 2045 LRTP’s development.



2045 LRTP Goals and Objectives

Goals and objectives were developed for the 2045 LRTP to provide direction for the regional transportation vision. They were developed based on community input and tie into state and Federal transportation goals.



System Safety

- Reduce the incidence and rate of crashes
- Reduce severe injury and fatal crashes
- Reduce bicycle and pedestrian crashes



Multimodal Connectivity and Accessibility

- Provide improved connections to key destinations across the community
- Reduce regional freight impediments
- Increase the connectivity of the bicycle and pedestrian system
- Continue to provide quality public transit services



Economic Development

- Identify transportation strategies that support economic development projects
- Identify transportation strategies that provide enhanced access to jobs for low income residents
- Provide active transportation options that promote the health and well-being of residents



System Preservation

- Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition



Environment and System Resiliency

- Promotes energy conservation, especially for non-renewable energy sources
- Transportation projects should limit impacts to the natural and build environment
- Invest in alternative and renewable fuel infrastructure when practical
- Identify strategies to make transportation infrastructure more resilient to natural and manmade events



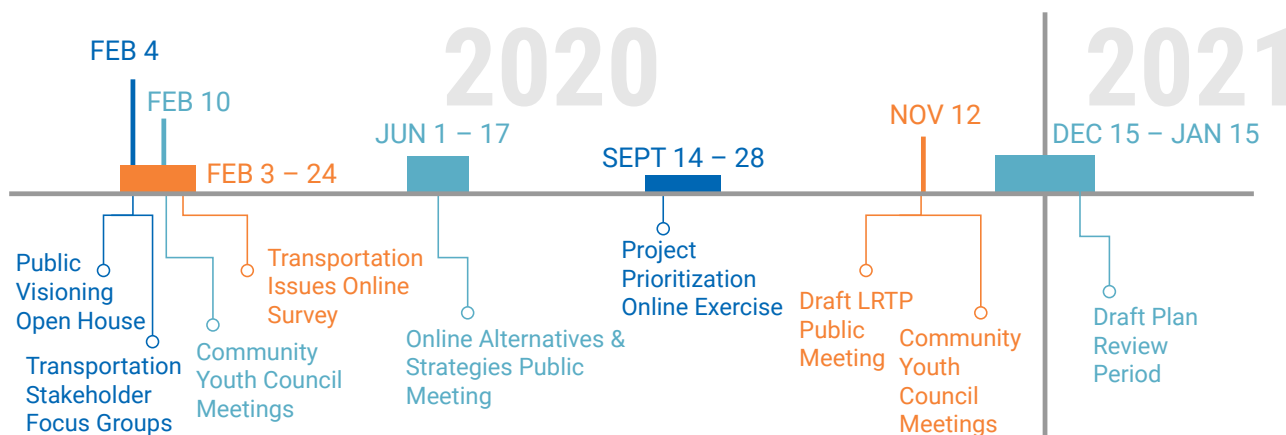
Traffic Operations and System Reliability

- Limit the emergence of recurring congestion
- Improve travel reliability on arterial roadways
- Support high levels of freight reliability on the state highway system

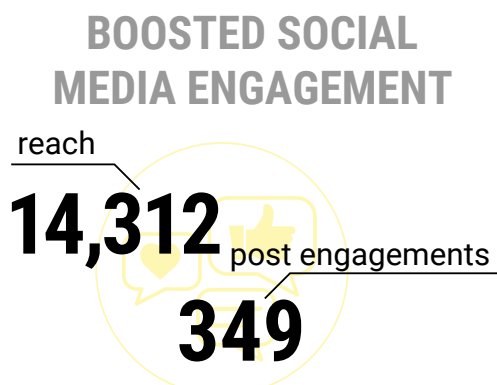
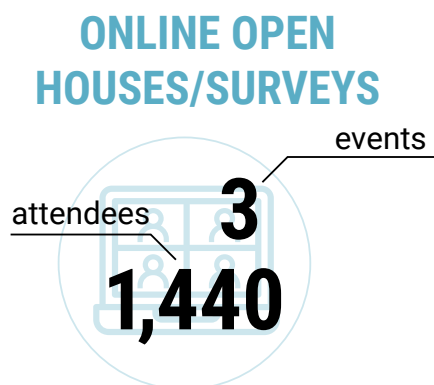
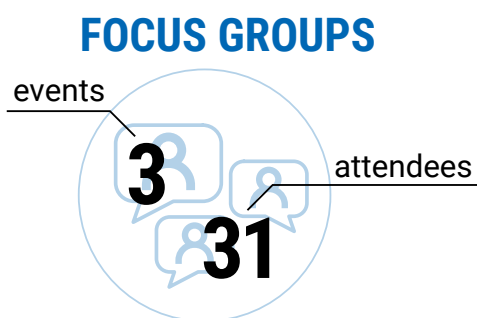
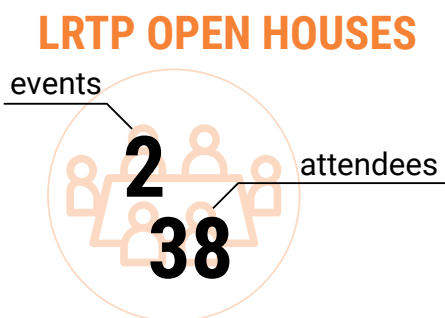
Community Engagement

Multiple community engagement opportunities were held throughout the 2045 LRTP process to solicit feedback from the public regarding the 2045 LRTP’s vision, goals and objectives, and the transportation priorities of the region. These opportunities included public meetings, focus groups, workshops, and online surveys where attendees were able to interact with GIAMPO staff and the LRTP project team to discuss various aspects of the existing and future transportation system while communicating their own vision for the future.

Timeline of Community Engagement Events:



In-person community engagement events were held at the Grand Island Public Library and the Grand Island City Hall Community Meeting Room. Due to the COVID-19 Pandemic that emerged during development of the LRTP, many public events transitioned to online.



2045 LRTP Project Selection Process

Roadway, bicycle and pedestrian, and transit projects considered for inclusion in the 2045 LRTP were identified from a range of sources. These sources included:



Input from residents during community engagement opportunities



Technical analyses conducted during the 2045 LRTP development process



Previous plans and studies in the GIAMPO area

After categorizing projects by mode (highway, bicycle and pedestrian, and transit), each candidate project was evaluated through a screening process that assessed each project's fit within the 2045 LRTP goals and objectives. Next, these projects were further screened through a process that incorporated qualitative and quantitative elements to further refine which projects best fit the needs of the regional transportation system. The final determination in selecting projects for the 2045 LRTP was completed by the TAC, evaluating projected project costs and how well each project's future cost fit within GIAMPO's anticipated future funding revenues.

Fiscally Constrained Plan

LRTPs are required to be fiscally constrained, meaning GIAMPO should demonstrate that project costs can be reasonably funded by future transportation revenues. Fiscal constraint is a core element of the performance-based planning process and ensures that MPOs are planning a financially sustainable transportation system.

After screening the roadway and bicycle and pedestrian projects for consistency with the LRTP goals and objectives and determining which projects best meet the needs of the regional transportation system, those projects that fit within anticipated future transportation revenues were chosen for the Fiscally Constrained Plan, which categorizes project implementation by timeframe – Short-Term (2026-2030), Mid-Term (2031-2037), and Long-Term (2038-2045).

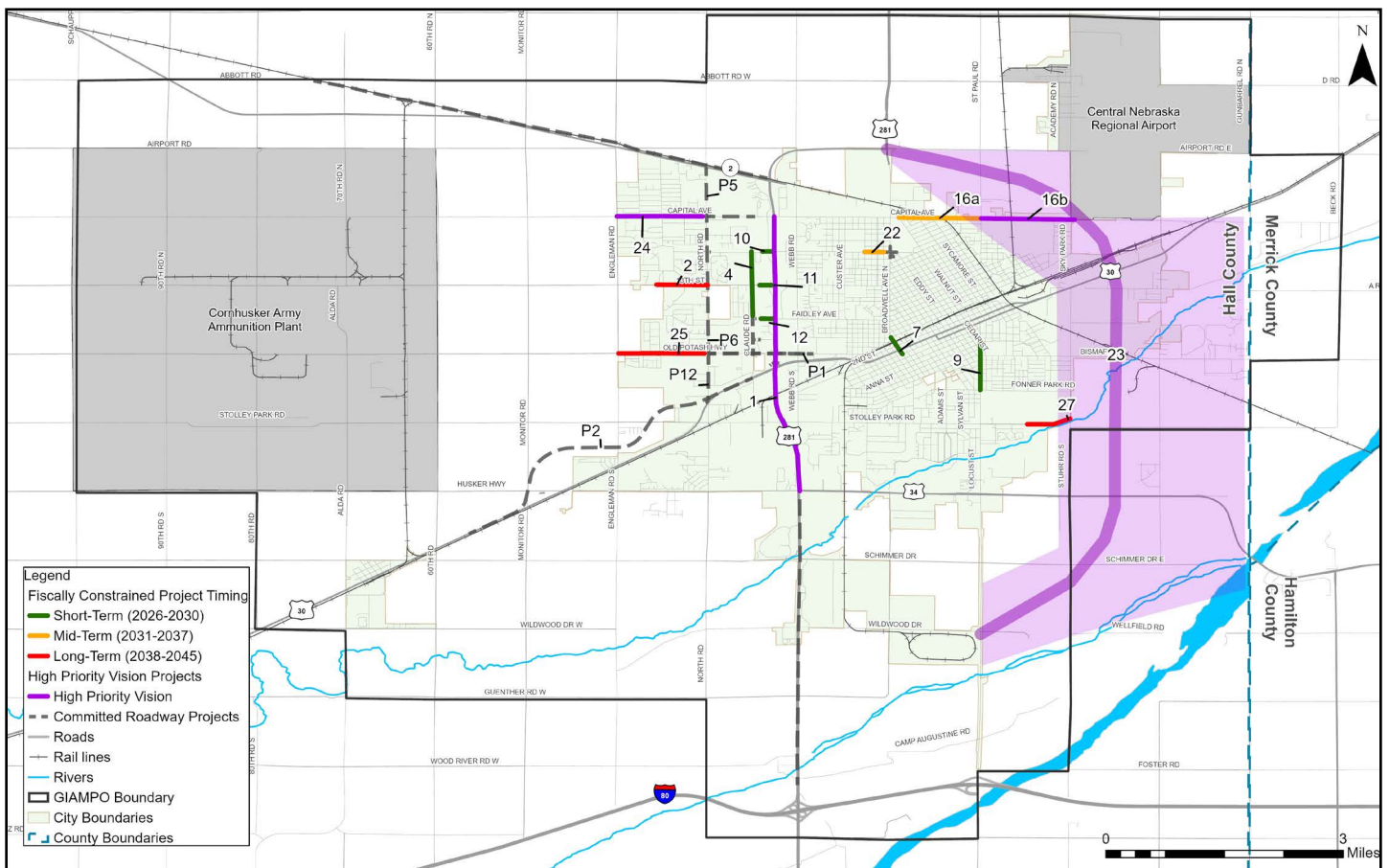
Funding for the Fiscally Constrained Plan comes from a variety of Federal, State, and local sources. Several projects that currently do not fit within the fiscally constrained budget, but are priorities for future implementation should funding become available, are considered High Priority Vision projects and are included in the discussion of the Fiscally Constrained Plan.

The following tables and figures illustrate the roadway and bicycle and pedestrian plan projects. Costs are shown in both 2020 dollars, and year of expenditure (YOE) dollars.

In the short term, CRANE is expected to complete some service expansion and move into a new operations facility by 2025. Future service changes are anticipated, but the exact nature of the future service is not yet determined. Transit planning studies are anticipated to be completed by 2022 that will identify the preferred concept for future transit service in the Grand Island area.

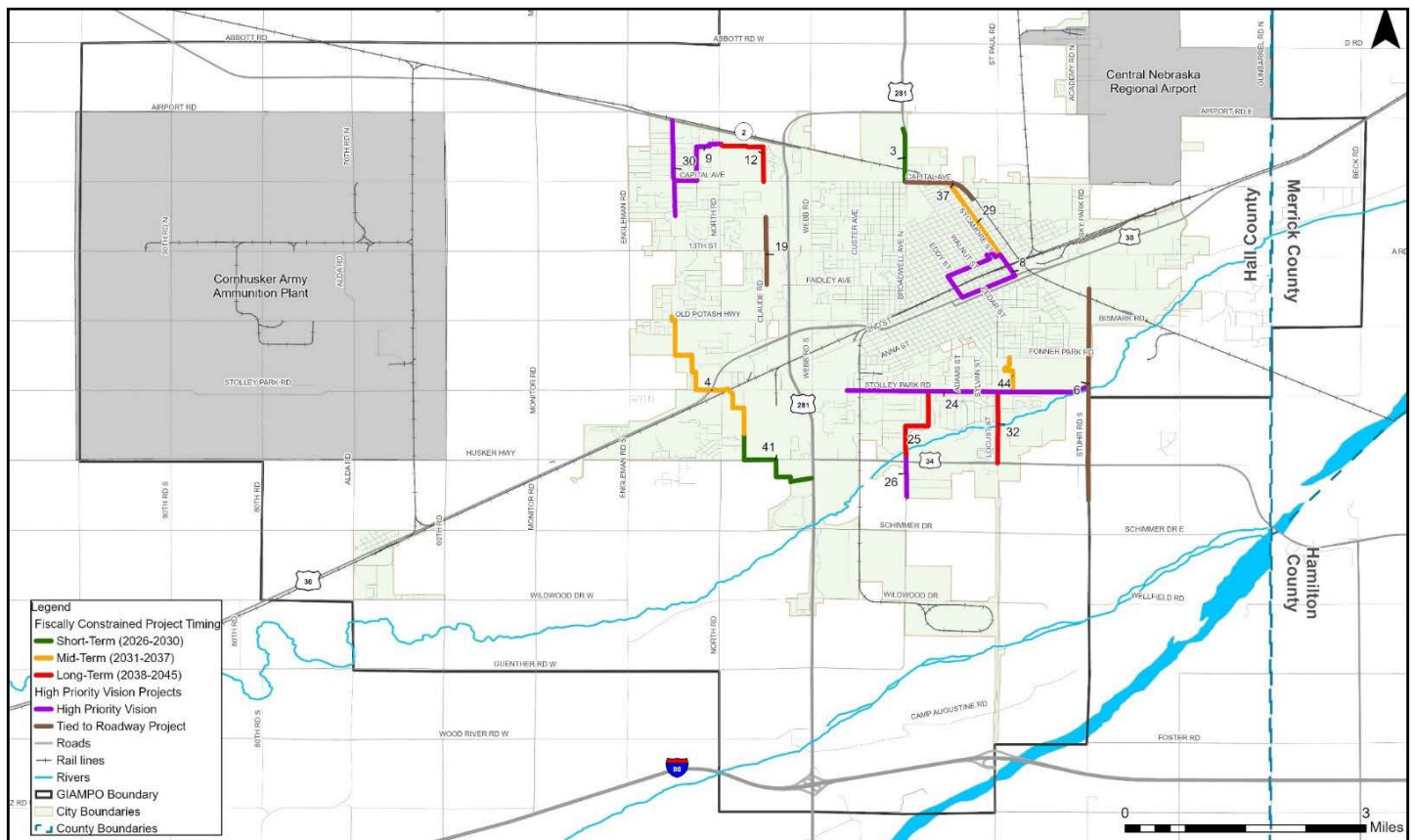
Roadway Fiscally Constrained Project Table and Map

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	IMPROVEMENT TYPE	COST (2020 \$)	COST (YOE \$)
Short-Term (2026-2030)	4	Claude Rd, Faidley to State	New Corridor	\$5,950,000	\$8,140,000
	7	Broadwell Ave at UP railroad	Grade Separation	\$25,000,000	\$34,210,000
	9	Locust St, Walnut to Fonner Park	Reconstruction and Intersection Improvement	\$6,620,000	\$9,060,000
	10	State St west of US 281	Access Management	\$750,000	\$1,030,000
	11	13th St west of US 281	Access Management	\$760,000	\$1,040,000
	12	Faidley Ave west of US 281	Access Management	\$760,000	\$1,040,000
Mid-Term (2031-2037)	16a	Capital Ave, Broadwell to St Paul	Widen	\$5,150,000	\$8,920,000
	22	State St, Lafayette to Broadwell	Widen	\$1,400,000	\$1,920,000
Long-Term (2038-2045)	2	13th St, North Ave to Independence Ave	Widen	\$3,850,000	\$8,950,000
	25	Old Potash, Engelman to North	Widen	\$5,000,000	\$11,620,000
	27	Stolley Park Road widening to 3 lanes between Kingswood Dr and Stuhr Rd	Widen	\$3,000,000	\$6,970,000



Bicycle and Pedestrian Fiscally Constrained Project Table and Map

TIME FRAME	PROJECT ID	PROJECT DESCRIPTION	IMPROVEMENT TYPE	COST (2020 \$)	COST (YOE \$)
Short-Term (2026-2030)	3	Capital Ave Trail to Eagle Scout Park Connection	Multiuse Trail	\$300,000	\$410,000
	41	Trail between Cedar Hills Park and the new medical center, Stuhr Trail and Riverway Trail.	Multiuse Trail	\$720,000	\$990,000
Mid-Term (2031-2037)	4	Connection between Shoemaker Trail and Cedar Hills Park.	Multiuse Trail	\$980,000	\$1,700,000
	44	State Fair Boulevard / Bellwood Drive Trails	Multiuse Trail	\$240,000	\$420,000
	29	Oak Street Bike Boulevard	Bicycle Boulevard	\$200,000	\$350,000
Long-Term (2038-2045)	12	NW High School to State Street Trail Connection	Multiuse Trail	\$400,000	\$930,000
	25	Stolley Park to LE Ray Park Trail	Multiuse Trail	\$500,000	\$1,160,000
	32	South Locust Street Trails	Multiuse Trail	\$410,000	\$950,000
Trail Funded by Roadway Projects	19	Claude Avenue Trail from Faidley Ave to Capital Street	Multiuse Trail	Funded with Roadway Project	Funded with Roadway Project



2045 Long Range Transportation Plan

Appendix



APPENDIX CONTENTS

February 2021



APPENDIX A Public Engagement



APPENDIX B Existing System Conditions



APPENDIX C Freight System



APPENDIX D Travel Demand Model Documentation



APPENDIX E Alternatives and Strategies Development



APPENDIX F Current Transportation Improvement Program,
2021-2025



APPENDIX A



APPENDIX B



APPENDIX C



APPENDIX D



APPENDIX E



APPENDIX F

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Public Engagement Plan

Background

The Grand Island Area Metropolitan Planning Organization (GIAMPO) has served as the designated metropolitan planning organization for the Grand Island, Nebraska urbanized area since 2013. The purpose of this project is to update the current Long-Range Transportation Plan (LRTP) known as, *Journey 2040*. This update will guide transportation investments within the GIAMPO region through the planning horizon year of 2045.

Public Involvement Goals & Objectives

The purpose of this Public Involvement Plan is to define the process by which GIAMPO will communicate with the public updates to the 2045 LRTP. All public involvement defined within this plan will align with GIAMPO's Public Participation Plan (PPP) adopted on February 28, 2016. The PPP ensures that GIAMPO's planning processes and decisions consider public needs and preferences through multiple feedback mechanisms to gain meaningful input.

The overall goal of the 2045 LRTP public involvement effort is to educate the public and stakeholders on the purpose and need of the LRTP. GIAMPO will provide opportunities for meaningful feedback on transportation issues facing Grand Island residents and determine what the public's preferences for future transportation improvements in Grand Island look like. This will be accomplished through the use of multiple tools and techniques.

Public involvement success will be measured by the following objectives:

- The public and stakeholders have an understanding of the 2045 LRTP effort and have ample opportunities for input, as outlined in the Communication Tools & Tactics section.
- Engagement and/or feedback was received from a diverse set of stakeholders that are representative of the Grand Island community.

Project Schedule & Public Involvement Milestones



Public Involvement Team

GIAMPO / City of Grand Island

- Andy Gomez, MPO Program Manager / Project Manager
- Kieth Kurz, Assistant Public Works Director
- Chad Nabity, Regional Planning Director

HDR

- Kristen Veldhouse, Public Involvement Lead
- Jason Carbee, Project Manager / QA/QC
- Jeremy Williams, Transportation Planner

Stakeholder Identification

Appendix A contains a list developed from the GIAMPO Contact List provided by GIAMPO and supplemented through desktop research.

Key Messages

The Grand Island Area Metropolitan Planning Organization (GIAMPO) is updating their Long-Range Transportation Plan (LRTP) to the year 2045. The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and provides a list of transportation projects that meet future transportation needs in the region. This is accomplished through a technical analysis of how all modes of transportation perform including highways, roads, transit, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, results of technical analyses, and community preferences of Grand Island area residents.

Communication Tools & Tactics

Project Website

A project website will serve as the central communications hub and project information repository for the project. The project website will be hosted at www.GI2045.com and will include general project information, materials from public open house meetings, project schedule, a blog for project updates at key milestones and a comment input form. The website will host links to the City's website (www.grand-island.com) and social media pages (facebook.com/GI.PublicWorks; twitter.com/GIPublicWorks). The City's website will host a link [here](#) to direct interested public towards the official project website.

Public Notification

The general public and interested stakeholders will be notified of all key input opportunities, open houses and other key project milestones. All public notification will be launched two weeks in advance of in-person open houses and online meetings. The following public notifications will be developed in association with each in-person open house and online meeting:

Press Releases: HDR will develop press releases ahead of each open house to be sent to local newspapers, television and radio stations. GIAMPO will launch press releases to their existing media list.

Meeting Advertisement: HDR will develop meeting advertisements for GIAMPO to place in the *Grand Island Independent*.

Social Media: HDR will develop social media posts and graphics for GIAMPO to use on the City's Public Works Facebook and Twitter channels to help communicate project information and invite the public to open house meetings. These posts will also include content to post open house invitations on Nextdoor.com.

Email Notifications: An email notification will be sent to each stakeholder and member of the public who opts-in to the email list. Content will include invitations to open houses or updates regarding project progress. Email addresses will be collected at all open houses and through the website comment form.

Spanish-Language Outreach: HDR will translate each press release into Spanish. GIAMPO will launch the press release to their existing Spanish media list. Additionally, HDR will develop a flier in English/Spanish, which will promote each open house meeting. Fliers will be distributed by GIAMPO staff at one of the monthly Local Continuum of Care meetings so the organization leaders can share meeting information with their stakeholders. GIAMPO staff will also make an effort to post fliers at the following organizations:

- Multi-Cultural Coalition
- Grand Island Public Schools Outreach Center
- Heartland CASA
- Hope Harbor
- Independence Rising

Additional Outreach: HDR will contact CRANE Public Transit, El Centro Hispano, and the Nebraska Somali Community Association, as well as each public school in Grand Island in order to promote the open house meetings using their existing outreach mechanisms (i.e. email blasts, newsletters, fliers, etc.).

Public Open Houses

Three public open houses will be held throughout the 2045 LRTP effort. The first open house is the Public Visioning Workshop, which will solicit input and feedback from the public to help the project team identify LRTP goals and objectives, as well as transportation issues and potential strategies the team should consider in the Grand Island area. The second open house is the Public Prioritization Workshop, which will present potential projects and strategies for the LRTP and solicit feedback on the public's priorities. The final open house is the Public Draft LRTP Public Meeting, which will present the Draft LRTP and solicit final feedback before the LRTP is adopted by the GIAMPO Policy Board.

Location: The Grand Island Public Library has been tentatively identified as a venue for all open houses. The Library satisfies the Americans with Disabilities Act requirements. HDR will work with Library staff to arrange for tables, chairs, easels, A/V and other required items to be available for use and setup during the open houses.

Meeting Materials: HDR will design and print a handout, display boards, printed and online surveys, and collateral materials for each open house. Interactive exercises will be prepared for the Public Visioning Workshop and the Public Prioritization Workshop. A brief presentation will be prepared for the Draft LRTP Public Meeting.

Spanish-Language Meeting Materials: HDR will translate meeting handouts and online surveys into Spanish. A Spanish interpreter will also be available at each public open house.

Focus Group Meetings

Focus group meetings are intended to provide similar information and meeting materials as the February 2020 Public Visioning Workshop, but will be hosted in one hour sessions during the day to be more convenient for participants and to facilitate deeper conversations between project team members and major employers, transportation providers, educational institutions, elected officials, bike and pedestrian users (GIAMPO Non-Motorized Subcommittee), nonprofits, and emergency responders. It is anticipated that three or four focus group meetings will be organized. The agenda for the focus group meetings will be posted on the City and project website. A detailed list of organizations identified to be a part of Focus Group Meetings is below. Stakeholders will be invited to meetings via email invitation.

Focus Group Meetings – Organizations to Invite		
Grand Island Convention & Visitors Bureau	Grow Grand Island - Livable Community	Heartland Lutheran Schools
Grand Island Area Chamber of Commerce	Multicultural Coalition	Merrick County
Grand Island Economic Development Corporation	CNHD Walk/Bike Initiative	Hall County
Doniphan Economic Development Corporation	Grand Island Public Schools	City of Grand Island
Nebraska State Fair	Grand Island Northwest Public Schools	Cairo
Hornaday Manufacturing	Doniphan-Trumbull Public Schools	Wood River
Grand Island Express - Trucking and Shipping	Centura Public Schools	Doniphan
Sunrise Express	Wood River Public Schools	Alda
Devall Trucking, Inc.	Central Community College of Nebraska	City of Grand Island - Police Department
JBS S.A.	UNL Extension	AARP (Tri-City Rural Mobility Study)
Central Nebraska Transload	Doane College	5307/5310/5311 Committee
Wood River Economic Development Corporation	Grand Island Central Catholic School	Nebraska Transit

Communications Protocol & Reporting

The project website's comment input form will be available for public comments throughout the life of the project. All comments received through the website's comment input form will be automatically forwarded to Kristen.Veldhouse@hdrinc.com, Jason.Carbee@hdrinc.com, and AndyG@grand-island.com. HDR will provide support for key messaging, response development, etc. GIAMPO is responsible for sending responses. All other communications (emails, phone calls, comment forms, etc.) should be scanned/forwarded to Kristen.Veldhouse@hdrinc.com for project comment recordation.

All public involvement activities and communications will be documented in a report at the conclusion of the project effort. The report will include items such as this plan, copies of public meeting outreach and meeting materials, summaries of focus group meetings and comments/responses throughout the project effort.

Public Visioning Open House

Outreach Content

Outreach Material	Launch Responsibility	Launch Date
Press Release	City of Grand Island	January 21, 2020
Meeting Advertisement	GIAMPO	January 26, 2020
Social Media	City of Grand Island	See Table
Email Notification	HDR	January 21, 2020
Spanish-Language Outreach	GIAMPO	Beginning January 7, 2020
Focus Group Meeting Invite	GIAMPO	January 21, 2020

Press Release

City of Grand Island
January 21, 2020

FOR IMMEDIATE RELEASE

News Contact: Andy Gomez, MPO Manager, 308-389-0273, andyg@grand-island.com

GIAMPO Kicks off 2045 Long Range Transportation Plan; Asks for Input at Public Visioning Workshop

GRAND ISLAND, Neb.—The Grand Island Area Metropolitan Planning Organization (GIAMPO) is holding a Public Visioning Workshop for the 2045 Long Range Transportation Plan (LRTP) on Tuesday, February 4, 2020, from 5:00 p.m. to 6:30 p.m. at the Grand Island Public Library, 1124 W 2nd St, Grand Island, NE 68801.

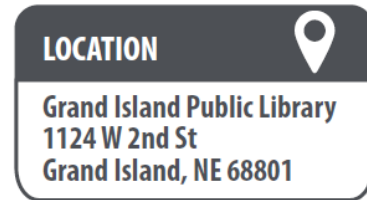
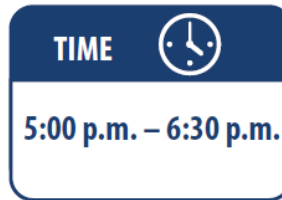
The Public Visioning Workshop will provide details about the LRTP and will have interactive exercises where attendees can help define the vision and goals for Grand Island's transportation future as well as provide input on Grand Island's needs for highway, roads, transit, freight, bicycle and pedestrian facilities that should be addressed in the plan. There will be no formal presentation. Attendees are encouraged to attend at any time during the workshop.

The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Community input throughout development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. Everyone is encouraged to attend and participate. If you are unable to attend the Public Visioning Workshop in-person, the materials from the workshop will be available for review at www.GI2045.com, where interested persons may also submit feedback.

Meeting Advertisement

Give your feedback for the 2045 Long Range Transportation Plan (LRTP) at a
PUBLIC VISIONING WORKSHOP



The Public Visioning Workshop will provide details about the LRTP and will have interactive exercises where attendees can help define the vision and goals for Grand Island's transportation future as well as provide input on Grand Island's needs for highway, roads, transit, freight, bicycle and pedestrian facilities that should be addressed in the plan.


The 2045 LRTP will result in a 25-year multi-modal plan that will guide transportation system decision-making for the Grand Island area and provides a list of projects that meet future transportation needs in the region.



www.GI2045.com

Social Media

Launch Date	Content	Graphic
January 21	Exciting news! It's time for us to update our 2045 Long Range Transportation Plan. That means we're planning for the future of transportation in GI & we'll need your input to do it. You're invited to a Public Visioning Workshop www.GI2045.com #2045LRTP	
January 25	We recently launched the update of our 2045 Long Range Transportation Plan. Want to know what that is? → www.GI2045.com #2045LRTP	
January 28	Mark your calendar for next week, February 4. We're having a Public Visioning Workshop for the 2045 Long Range Transportation Plan and we want you there. Click here for more details: www.GI2045.com #2045LRTP	
February 3	TOMORROW is the 2045 Long Range Transportation Plan Public Visioning Workshop. We want to see you there! www.GI2045.com #2045LRTP	

February 4	<p>It's Public Visioning Workshop day for the 2045 Long Range Transportation Plan! Come down to the library between 5 and 6:30pm to learn more and provide input www.GI2045.com #2045LRTP</p>	 <p>Public Visioning Workshop</p> <p>TODAY!</p> <p>5:00 p.m. – 6:30 p.m.</p> <p>Grand Island Public Library 1124 W 2nd St Grand Island, NE 68801</p> <p><small>CITY OF GRAND ISLAND Grand Island Area Metropolitan Planning Organization</small></p> <p>www.GI2045.com</p>
February 5	<p>Last night's 2045 Long Range Transportation Plan Public Visioning Workshop was a success! You can review meeting materials and provide feedback online at www.GI2045.com #2045LRTP</p>	 <p>Thank you for your input!</p> <p><small>CITY OF GRAND ISLAND Grand Island Area Metropolitan Planning Organization</small></p> <p>www.GI2045.com</p>
February 11	<p>If you missed last week's 2045 Long Range Transportation Plan Public Visioning Workshop visit www.GI2045.com. Meeting materials are up and you can also sign up for notifications for future public meetings. #2045LRTP</p>	 <p><small>CITY OF GRAND ISLAND Grand Island Area Metropolitan Planning Organization</small></p> <p>www.GI2045.com</p>

Email Notification



The Grand Island Area Metropolitan Planning Organization (GIAMPO) is inviting you to a Public Visioning Workshop for the 2045 Long Range Transportation Plan (LRTP). **JOIN US:**

Date: Tuesday, February 4, 2020
Time: 5:00 p.m. to 6:30 p.m.
Location: Grand Island Public Library
 1124 W 2nd St
 Grand Island, NE 68801

The Public Visioning Workshop will provide details about the LRTP and will have interactive exercises where attendees can help define the vision and goals for Grand Island's transportation future as well as provide input on Grand Island's highway, roads, transit, freight, bicycle and pedestrian facilities that should be addressed in the plan. There will be no formal presentation. You are encouraged to attend at any time during the workshop.

Community input throughout development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. Everyone is encouraged to attend and participate. If you are unable to attend the Public Visioning Workshop in-person, the materials from the workshop will be available for review at www.GI2045.com, where interested persons may also submit feedback.

WHAT IS THE 2045 LRTP


The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Spanish-Language Outreach

Press Release


[Translated after English press release is final.]

English/Spanish Flier




Give your feedback for the 2045 Long Range Transportation Plan at a

PUBLIC VISIONING WORKSHOP



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LOREM IPSUM DOLOR SIT



Visit www.GI2045.com for more information.
 Lorem www.GI2045.com dolor sit amet.

5:00 p.m. – 6:30 p.m.

Grand Island Public Library
 1124 W 2nd St
 Grand Island, NE 68801

Tuesday, February 4
Martes 4 de febrero

The Public Visioning Workshop will provide details about the 2045 Long Range Transportation Plan (LRTP) and will have interactive exercises where attendees can help define the vision and goals for Grand Island's transportation future as well as provide input on Grand Island's needs for highway, roads, transit, bicycle and pedestrian facilities that should be addressed in the plan. There will be no formal presentation. Attendees are encouraged to attend at any time during the workshop.

The 2045 LRTP will result in a 25-year multi-modal (highways, roads, transit, freight, bicycle and pedestrian facilities) plan that will guide transportation system decision-making for the Grand Island area and provides a list of transportation projects that meet future transportation needs in the region.

Community input throughout development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. We hope to see you there!

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A Public Visioning Workshop was held the evening of February 4, 2020 at the Grand Island Public Library. The purpose of the workshop was to allow for Grand Island area residents to provide their ideas for the future transportation system and voice issues concerning the existing system in an open house format. When attendees entered the Workshop, the goal was to provide self-guided information to orient them to the plan. There were a series of large, informational boards that encompassed two categories of information:

- **MPO Overview:** The first set of boards welcomed the attendees and described the role and duties of GIAMPO.
- **LRTP Overview:** The next several boards provided an overview of the LRTP update process.

Attendees then made their way through four activities located at different stations across the room:

- **Bicycle and Pedestrian System Mapping:** Attendees reviewed large boards that mapped the existing and proposed bicycle and pedestrian system, and then were able to use markers on a large, plotted study area map to record their comments related to safety issues, opportunities for new bicycle and pedestrian facilities, and barriers that exist to bicyclists and pedestrians.
- **Roadway Mapping:** Attendees reviewed large boards that mapped the roadway high-crash intersections and locations crash hot-spots for the years 2014-2018, and a congestion map showing the different areas of Grand Island that currently exhibit lower traffic Levels of Service (LOS). After reviewing these information boards, residents were able to use markers on a large, plotted study area map to record their comments related to roadway safety, congestion, and connectivity issues.
- **Future Public Transit Service Brainstorm:** Attendees were provided markers and a large “brainstorming” sheet of white paper to provide their ideas for future public transit service in the GIAMPO region.
- **Transportation Priorities:** Attendees were provided three stickers to select their top priorities across eight different transportation priority areas, placing stickers on the three they felt the MPO should focus on in future decision-making. The stickers were recorded on a large board with definition of each of the priority areas.

Approximately 35 individuals attended the Public Visioning Workshop.

Results of the Public Visioning Workshop Activities

The Bicycle and Pedestrian System Mapping activity identified several potential areas for future bicycle and pedestrian trail extensions. **Figure 1** presents the input for the bicycle and pedestrian system mapping, with descriptions of each numbered bicycle and pedestrian map item described in **Table 1**.

Figure 2 presents the input for the roadway vehicular system mapping received from the public during the Visioning Workshop, with descriptions of each numbered roadway vehicular map item described in **Table 2**.

Figure 2. Public Input from the Roadway Vehicular Mapping Activity

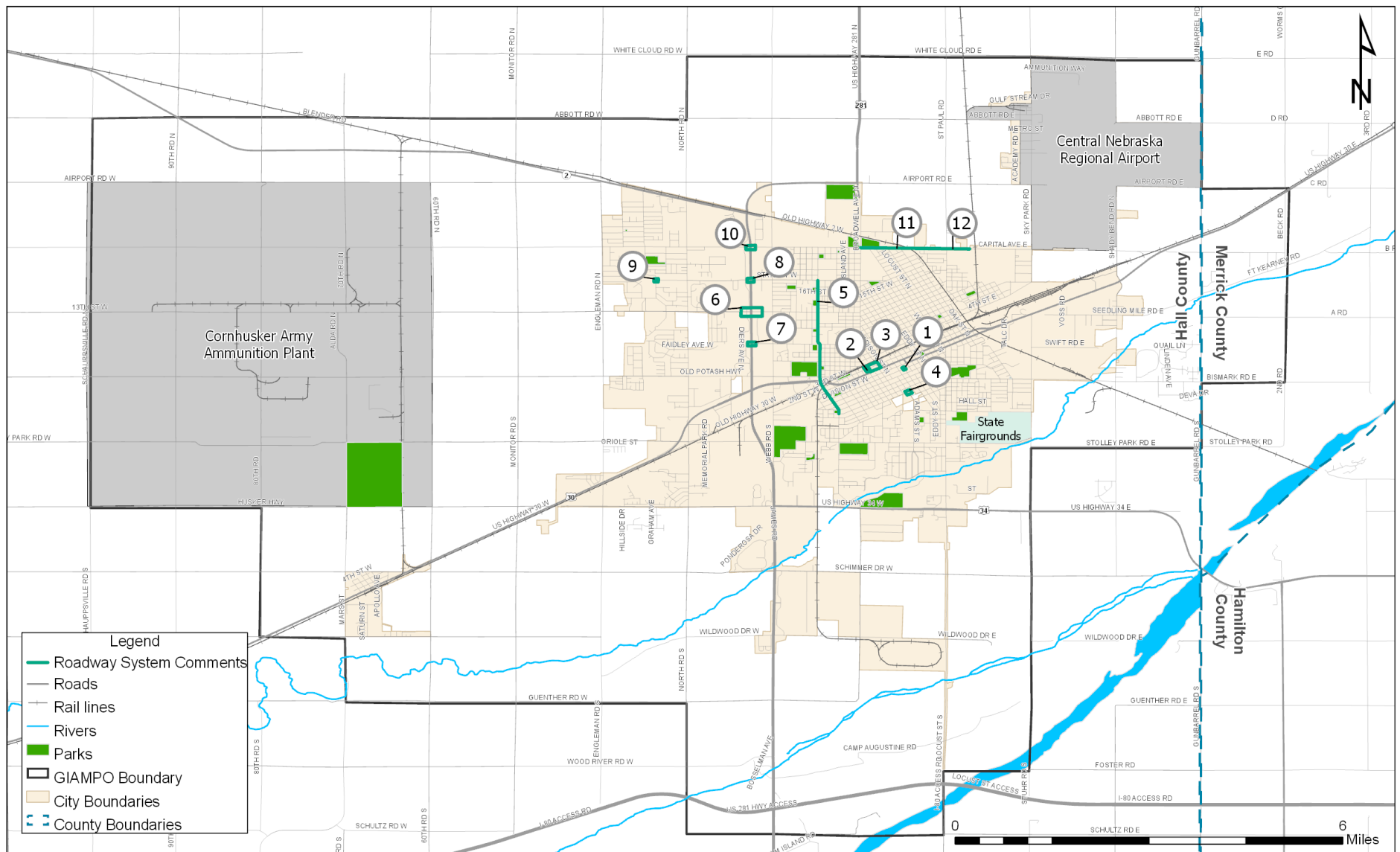


Table 1. Public Workshop Bike and Pedestrian Issues / Opportunities Map Comments

Comment Map Number	Comment Provided
1	Connect Trails
2	Improve pedestrian crossing
3	New trail connection to Mormon Island
4	Extend trail
5	Need sidewalks
6	Work with railroad (UP) on extending trail
7	Improve US 281 pedestrian infrastructure

Table 2. Public Workshop Roadway Vehicular Issues / Opportunities Map Comments

Comment Map Number	Comment Provided
1	Pedestrian crossing
2	Need pedestrian / bicycle crossing
3	Build overpass and implement quiet zones
4	Hard to cross - Adams/Anna needs traffic signal
5	Desire for added lane
6	Long delay for E/W traffic
7	Need traffic signal at Faidley / Diers
8	No southbound and northbound lefts
9	Consider a roundabout
10	Longer left turn arrow
11	Congested - consider widening with more lanes
12	Congested - consider widening with more lanes

Attendees of the Public Visioning Workshop shared their ideas for the future public transit system in a similar brainstorming activity the Focus Groups participated in. The results of this activity for the Public Visioning Workshop uncovered some of the same issues discussed in that morning's Focus Groups. **Table 3** summarizes the comments made during the public transit brainstorming activity at the Public Visioning Workshop.

Table 3. Public Visioning Workshop Future Public Transit Service Brainstorm Activity Comments

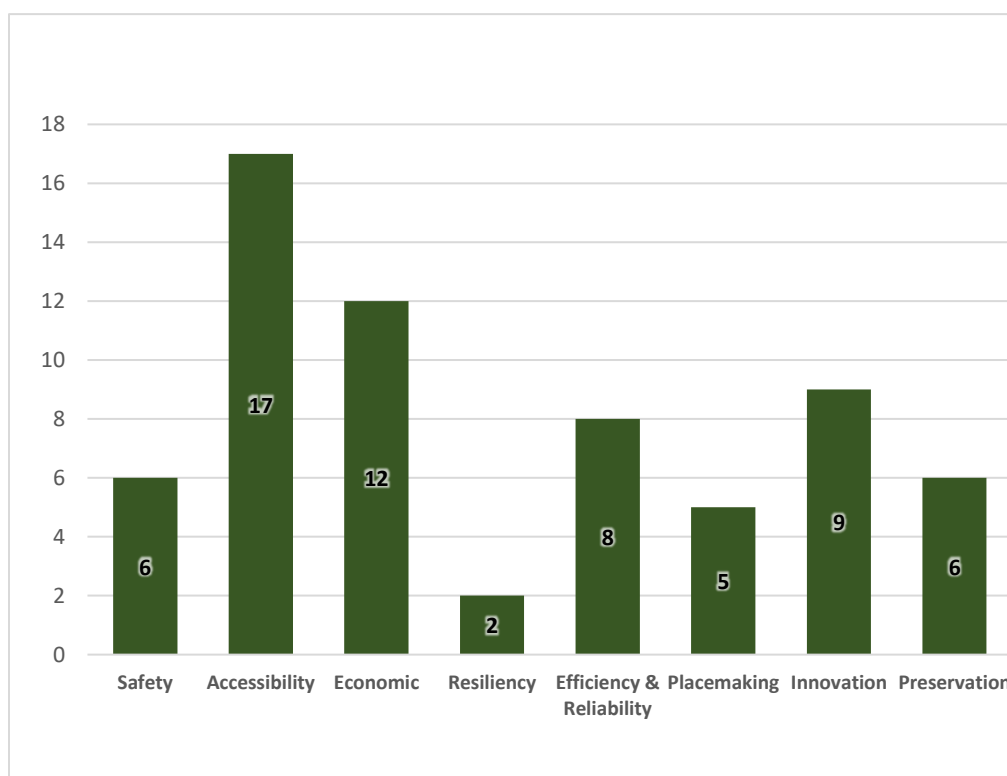
Comment
Flexible fixed routes
Extended hours of service
Same day service for paratransit
Provide on-going, social media marketing
Late evening/early morning service to factories

The top three priority areas in the final Transportation Priorities activity were:

- Accessibility (17 stickers)
- Economic (12 stickers)
- Innovation (9 stickers)

Figure 3 presents the total breakdown of Transportation Priorities input.

Figure 3. Input Results for Public Visioning Workshop Transportation Priorities



Community Youth Council Meeting

A third opportunity to solicit feedback from Grand Island area residents came at the Grand Island Community Youth Council (CYC) meeting held on Monday, February 10, 2020 at the Grand Island City Hall Community Meeting Room. The CYC members are sophomores, juniors, and seniors from area high schools. During this meeting, a member of the 2045 LRTP planning team gave a brief presentation outlining an overview of transportation planning, the role of GIAMPO, the LRTP process, and initial technical analysis results. After the presentation, members of the CYC were invited to provide their insight into the issues and opportunities facing the GIAMPO transportation system, similar to the activities held during the focus group meetings.

Based on the feedback from the CYC group, the main challenges of the existing transportation system are:

- Safer pedestrian crossings, especially for students of Grand Island Senior High School crossing State Street.
- Traffic queues on US 281 and Diers Avenue that build up due to close spacing of signalized intersections.
- Lack of sidewalks for students, especially along North Road and adjacent schools.

Some opportunities for the existing transportation system that were voiced by the CYC group were:

- The implementation of innovative traffic control measures to calm traffic in busier parts of the City of Grand Island.
- Widening of Sturh Road to accommodate freight truck traffic, particularly near the JBS plant.

Public Visioning Workshop Sign-In Sheets

Focus Group

Meeting Invite

(Email; follow up calls may be required)

Subject Line: Focus Group Meeting Invitation for 2045 LRTP

Good morning,

The Grand Island Area Metropolitan Planning Organization (GIAMPO) is updating its Long Range Transportation Plan (LRTP) to the year 2045 and to ensure its success, GIAMPO needs input from a diverse group of stakeholders. Your organization has been identified as a stakeholder and GIAMPO requests your input and participation as part of the planning process. Please mark your calendar for a focus group meeting:

Date: Tuesday, February 4, 2020
Time: [9:30 a.m. – 10:30 a.m. / 11:00 a.m. – Noon / 1:00 p.m. – 2:00 p.m.]
Location: Grand Island City Hall – Community Meeting Room
 100 East First Street, Grand Island, NE 68801

The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Input from stakeholders and the public is crucial in developing a well-rounded 2045 LRTP. In addition to stakeholder meetings, GIAMPO will also be hosting a Public Visioning Workshop on Tuesday, February 4, 2020, from 5:00 p.m. to 6:30 p.m. at the Grand Island Public Library, 1124 W 2nd St, Grand Island, NE 68801. The purpose of the workshop is to discuss the LRTP. We will also have interactive exercises where attendees can help define the vision and goals for Grand Island's transportation future as well as provide input on Grand Island's needs for highway, roads, transit, bicycle and pedestrian facilities. Our goal is to address these needs in the plan. Attendance and participation by you and representatives of your organization is encouraged at the workshop in addition to the focus group meeting.

The focus group meeting will take approximately one hour of your time and you should be prepared to discuss the transportation issues that are relevant to your organization. **Please RSVP to Kristen Veldhouse at Kristen.veldhouse@hdrinc.com or 402-399-1405 by Friday, January 31, 2020.** If you are unable to attend, please identify a representative to take your place.

We look forward to working with you and we'll see you on February 4.

Sincerely,

Andres Gomez
MPO Manager

Grand Island Area MPO

100 East First Street
Grand Island, NE 68801
308-389-0273

AndyG@grand-island.com

Focus Group Presentation

Focus Group Meetings February 4, 2020



CITY OF GRAND ISLAND
Grand Island Area Metropolitan Planning Organization

2045 LONG RANGE TRANSPORTATION PLAN

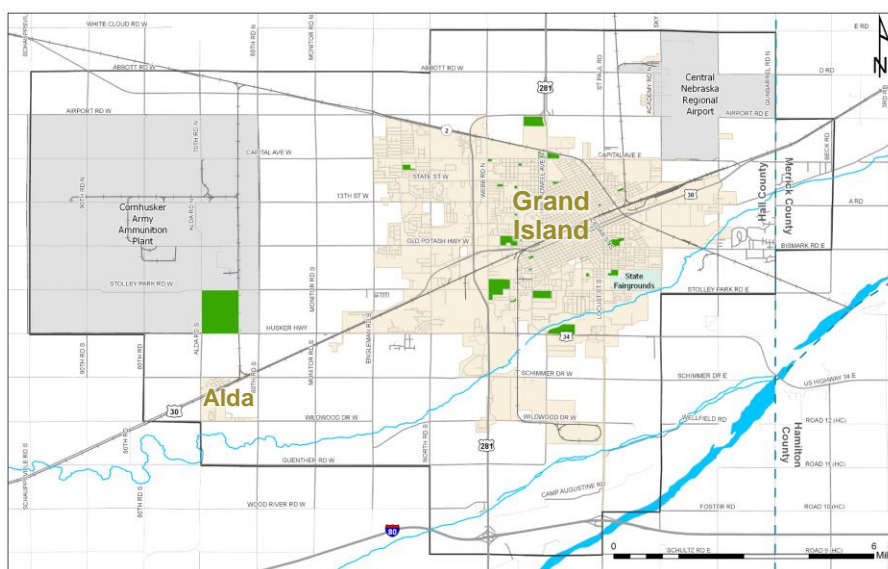
Agenda

- Brief Metropolitan Planning Organization (MPO) and Long Range Transportation Plan (LRTP) overview
- Review existing system conditions for Grand Island area
- Discussion regarding:
 - Current transportation issues
 - Grand Island area transportation priorities

What is the Grand Island Area Metropolitan Planning Organization (GIAMPO)?

- Federal Law: Any Urbanized Area with exceeding the population threshold of 50,000 must form an MPO
- Established in 2013
 - Result of 2010 Census
- GIAMPO carries out **multi-modal** transportation planning for the area
 - Highways
 - Roads
 - Transit (Bus)
 - Freight
 - Bicycle
 - Pedestrian

GIAMPO Study Area



2045 LONG RANGE TRANSPORTATION PLAN

What is a Long Range Transportation Plan (LRTP)?

- MPOs must update every 5 years
- MPO region's plan to accomplish transportation goals
- Includes all modes of travel:
 - (Highways, Roads, Transit (Bus), Freight, Bicycle, Pedestrian)
- Must be fiscally-constrained
- Must promote regional performance measures and targets



2045 LONG RANGE TRANSPORTATION PLAN

Performance-Based LRTP

- Definition: Apply Performance Measures to the Decision-Making Process to Achieve Desired Outcomes



2045 LRTP Schedule



Overall Public Engagement Efforts

- Three Public Open Houses
 - First Open House Tonight at the Public Library from 5:00-6:30.
- Focus Group Meetings
 - Three Different Groups Meet Today
- Project Website (gi2045.com)
- Press Releases
- Meeting Advertisement
- Social Media
- Email Outreach
- Phone Calls to Strategic Organizations

Today's Goals

- Existing System Conditions Results Available for Your Review
 - Crash / Congestion
 - Bicycle and Pedestrian System
- Activities:
 - Map Your Modal Issues
 - Provide Your Transportation Priorities / Goals

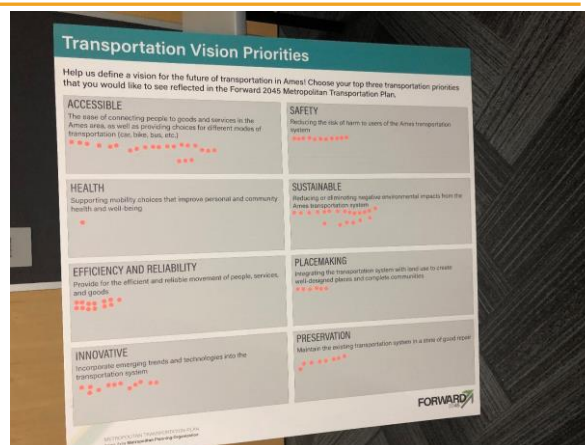
Map Your Issues

- Where Could Transportation Be Improved?
- What Are Good Transportation Examples You Want to See More Of?



Provide Your Transportation Priorities / Goals

- What are Your Top 3 Transportation Priorities?
- Choices Are:
 - Safety
 - Accessibility
 - Economic
 - Resiliency
 - Efficiency and Reliability
 - Placemaking
 - Innovation
 - Preservation



Next Steps

- Public Visioning Workshop **Tonight**
 - Grand Island Public Library
 - 5:00 p.m. – 6:30 p.m.
- Provide Public Workshop Results
 - MPO Technical Advisory Committee (TAC) – Presentation February 10
 - On Website – Next Week after TAC
- Finalize LRTP Goals and Objectives
- Begin Developing Transportation Strategies and Alternatives

Focus Group Results

Three focus group meetings were held on February 4, 2020 at the Grand Island City Hall Community Meeting Room. Attendees of the focus groups represented a diverse range of transportation stakeholders and elected officials and provided GIAMPO staff and the planning team valuable feedback on the existing transportation system and potential areas for improvement. **Table 4** summarizes the three focus groups and includes the number of attendees at each meeting.

Table 4. Focus Group Attendees

Focus Group	Focus Group Description	Number of Attendees
Schools and Transportation	Public and post-secondary institutions, non-profit groups, human services groups, emergency responders, and others operating in the GIAMPO region	18
Major Employers and Economic Development	Area chambers of commerce, economic development corporations, and large employers	8
Elected Officials and Public Agencies	City of Grand Island and City of Wood River public officials	5

Attendees at the Focus Group meetings were given a brief presentation providing an overview of the MPO and the LRTP update, and their role in providing input. Next, they were asked to participate in three activities:

- **Map Your Issue:** Attendees marked their transportation issues and ideas on a map of the GIAMPO area.
- **Future Public Transit Service Brainstorm:** Attendees provided their ideas for public transit issues and potential opportunities.
- **Transportation Priorities:** Attendees selected their top three priorities from a list of eight topics for the future of GIAMPO transportation. Priority areas were:
 - Safety
 - Economic
 - Efficiency and Reliability
 - Innovation
 - Accessibility
 - Resiliency
 - Placemaking
 - Preservation

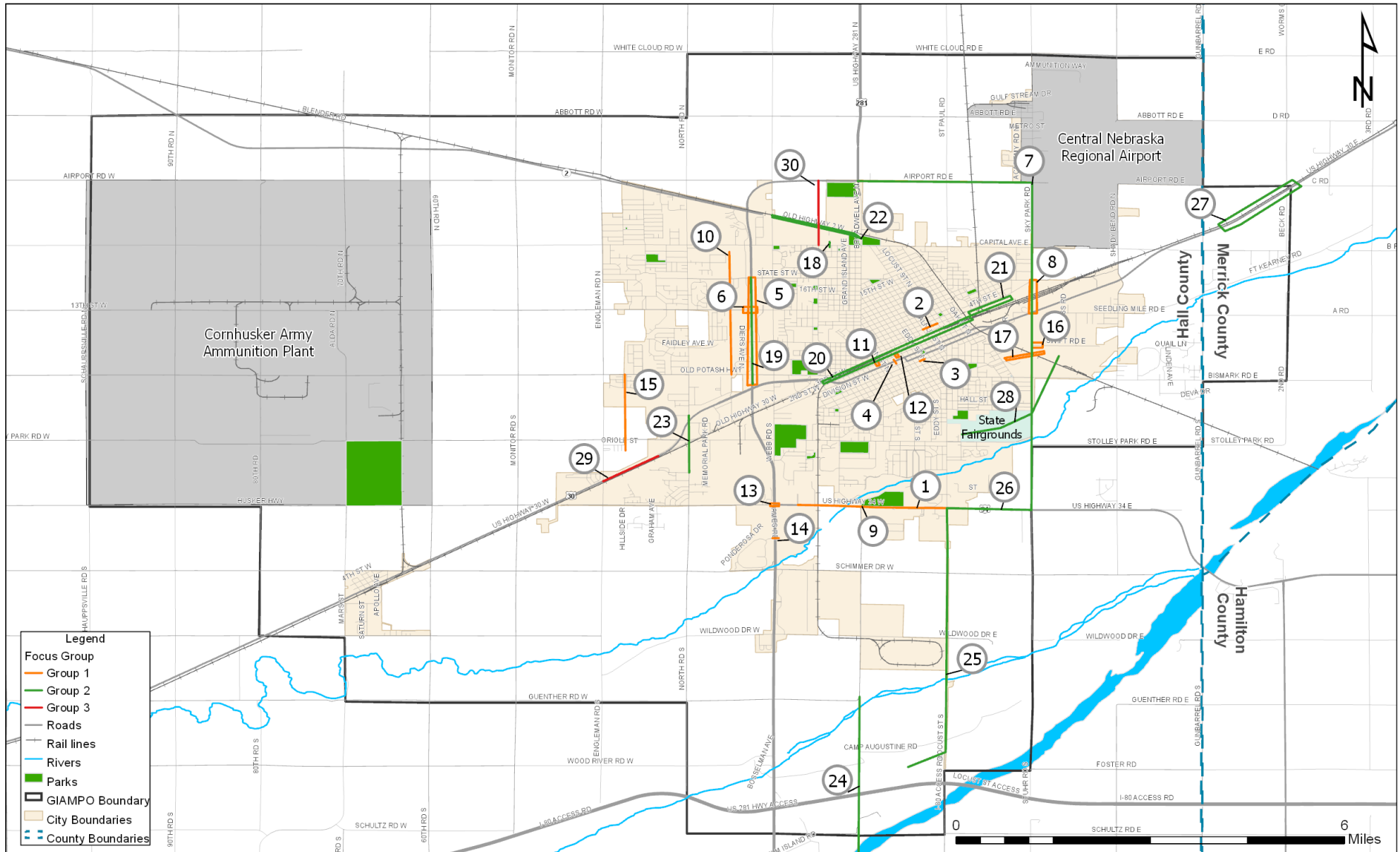
Results of Focus Group Activities

Results from the focus group activities highlighted a range of issues and opportunities for the GIAMPO transportation system. The map in **Figure 4** presents the results of the Map Your Issue Activity, with descriptions of each numbered map item described in **Table 5**.

Table 5. Focus Group Map Issues / Opportunities Map Comments

Focus Group	Comment	
	Map Number	Comment Provided
Group 1	1	Connect apartments to college with pedestrian infrastructure
	2	Trains cause left turning traffic to delay all traffic
	3	On-street parking blocks drivers sight lines
	4	Provide safe pedestrian crossing to library
	5	Improve US 281 pedestrian infrastructure
	6	Close 13th St signals at Diers and US 281 confuse drivers
	7	Improved ring route / designate as US 281
	8	Railroad overpass
	9	Longer turn lane from US 34 to college
	10	Extend Claude Road
	11	Need pedestrian / bicycle crossing
	12	Safer pedestrian crossing of railroad
	13	Improve pedestrian crossing between college and hospital
	14	Consider grade separated crossing
	15	Extend Trail
	16	Truck congestion from JBS Plant
	17	Create bike / pedestrian connection from JBS to rest of city
Group 2	18	Improve midblock crossing
	19	Lack of safe midblock pedestrian crossings
	20	Need more pedestrian crossings of railroad
	21	Gateway to Airport - improve appearance
	22	Plan for future vehicular / pedestrian crossing
	23	Plan for future vehicular / pedestrian crossing
	24	Rail to trail opportunity to Hastings
	25	New trail connection
	26	Improved ring route - designate as US 281
	27	Improved US 30 to Columbus
	28	Extend trail
Group 3	29	Short term safety improvements until US 30 is moved north
	30	Extend Custer Ave

Figure 4. Results of Focus Group's Map Your Issue Activity



The results of the Future Public Transit Service Brainstorm activity indicate the desire of residents and transportation stakeholders for a fixed route transit system, and for greater transit accessibility for all residents, especially those with alternative work schedules and/or children.

Table 6 contains all the transit ideas from the focus groups.

Table 6. Focus Group Transit Service Brainstorm Activity Comments

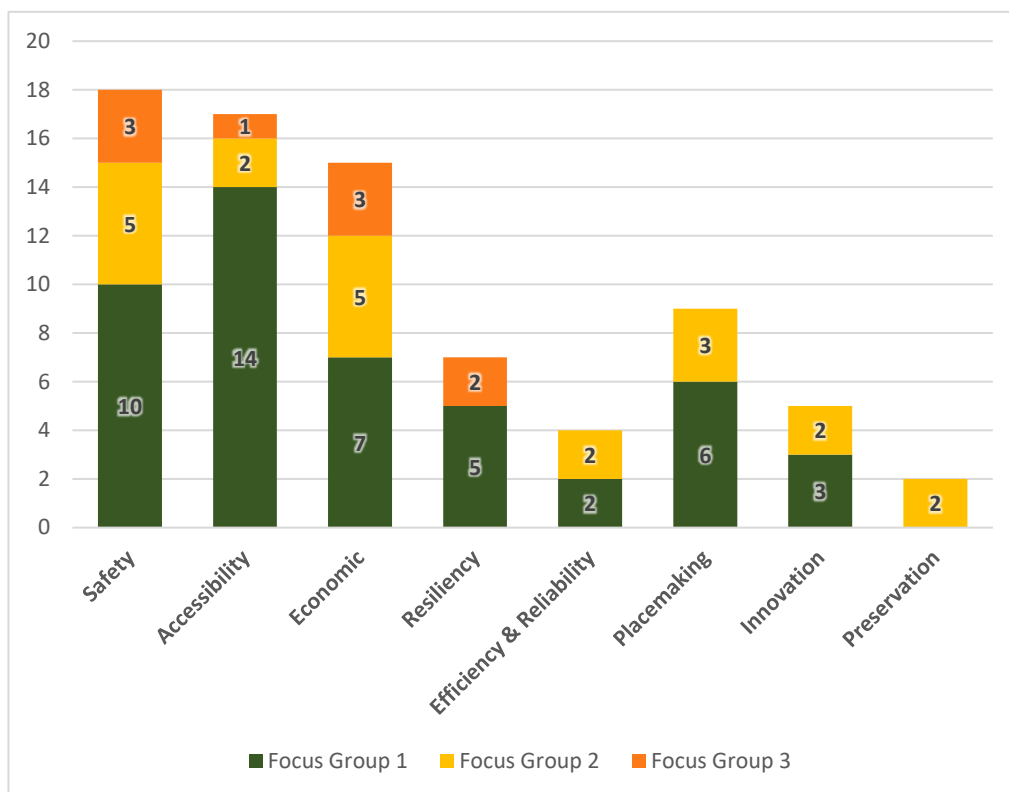
Comment
Fixed route bus system
Economically-viable, accessible system to all. Consider alternative work schedules
Vouchers for low-income
Bus access for children
Inter-city system (Lincoln, Omaha) (Kearney, Hastings)
Later bus schedule (weekend/holidays)
CRANE 24-hour notice too much, not always enough staff for users
Need more traction (not discussion)

The final focus group activity was about transportation priorities, and asked attendees to place a sticker on the top three areas that should be prioritized in future transportation decisions. Attendees could choose from the following eight topics:

- **Safety:** Reducing the risk of harm to the users of the Grand Island transportation system.
- **Economic:** Focus on transportation as a means of supporting and promoting the economic vitality of the Grand Island area.
- **Efficiency and Reliability:** Provide for the efficient and reliable movement of people, services, and goods.
- **Innovation:** Incorporate emerging trends and technologies into the transportation system.
- **Accessibility:** The ease of connecting people to goods and services in the Grand Island area, as well as providing choices for different modes of transportation (car, bike, bus, etc.).
- **Resiliency:** The ability of the transportation system to be adaptable and continue providing service when significant impactful events occur.
- **Placemaking:** Integrating the transportation system with land use to provide transportation facilities that fit in with their surrounding neighborhoods and development, and create well-designed places and complete communities.
- **Preservation:** Maintain the existing transportation system in a state of good repair, and plan for a system that can be sustained into the future with reasonably-expected funding sources.

The top three priority areas identified by the focus group were Safety, Accessibility, and Economic. **Figure 5** shows the breakdown of stickers by focus group.

Figure 5. Input Results for Transportation Priorities by Focus Group



Public Prioritization Exercise

Outreach Material	Launch Responsibility	Launch Date
Press Release	City of Grand Island	June 1, 2020
Facebook Advertisement	GIAMPO	June 1, 2020
Social Media	City of Grand Island	See Table
Email Notification	HDR / GIAMPO / Chamber	June 1, 2020
Email Notification	HDR / GIAMPO / Chamber	June 10, 2020
Spanish-Language Outreach	GIAMPO	TBD

Press Release

City of Grand Island
June 1, 2020

FOR IMMEDIATE RELEASE

News Contact: Andy Gomez, MPO Manager, 308-389-0273, andyg@grand-island.com

GIAMPO Seeks Public Input on Transportation Alternatives & Strategies for 2045 Long Range Transportation Plan

GRAND ISLAND, Neb.— Due to COVID-19 public gathering restrictions, the Grand Island Area Metropolitan Planning Organization (GIAMPO) is hosting an online alternatives and strategies development public meeting for the 2045 Long Range Transportation Plan (LRTP) starting today, June 1 through Monday, June 15 at:

www.GI2045.com/onlineMeeting

Within the online alternatives and strategies development public meeting, participants will be asked to participate in interactive exercises to review potential future multi-modal (highway, roads, transit, freight, bicycle and pedestrian facilities) transportation strategies and proposed alternatives that might be included in the plan. The online meeting will take approximately 10 minutes and feedback will be used to help guide transportation planning decisions for the next 25 years.

“This is a really important point in the LRTP to participate in. Public input will help us develop projects that should be considered for implementation,” said Andy Gomez, MPO Manager at GIAMPO. “It is also a great opportunity for us to gut check our past planning efforts to see how they align with current thoughts from the public.”

The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform, including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a

prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Community input throughout the development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. Everyone is encouraged to participate. To learn more about the 2045 LRTP, visit www.GI2045.com.

Para la reunión en línea en español, visite www.GI2045.com/esonlinemeeting.

Facebook Advertisement

Post Text: Visit our online alternatives and strategies development public meeting today to help us take the next step in developing the 2045 Long Range Transportation Plan.

Be a part of **Grand Island's** transportation future












Provide feedback at our online alternatives and strategies development public meeting at www.GI2045.com/onlinemeeting



Grand Island Area Metropolitan Planning Organization

Social Media

Launch Date	Content	Graphic
June 1	<p>Instead of an in-person event, we're hosting an ONLINE alternatives and strategy development public meeting for the 2045 Long Range Transportation Plan. #2045LRTP</p> <p>You can review potential strategies and provide ideas for transportation alternatives, which will address future multi-modal (🚶 🚲 🚗 🚌 🚝) transportation needs.</p> <p>We appreciate your input!</p> <p>www.GI2045.com/onlinemeeting</p>	
June 3	<p>In our #2045LRTP online prioritization public meeting, we're looking for your ideas on various transportation alternatives and strategies for cars, bicyclists, pedestrians and transit riders.</p> <p>We need YOU to review and prioritize these proposed alternatives so the #2045LRTP reflects the community's needs and wants.</p> <p>www.GI2045.com/onlinemeeting</p>	
June 6	<p>Do you want to have a say in Grand Island's transportation system? Want to provide your ideas for 2045 Long Range Transportation Plan, which plans for Grand Island's future?</p> <p>Visit our online meeting today and spend ten minutes providing you input: www.GI2045.com/onlinemeeting #2045LRTP</p>	
June 9	<p>If you have a little extra time after work, school or any other activity tomorrow, visit our online strategies and alternatives development public meeting. A little bit of your time can influence the transportation system for the next 25 years! #2045LRTP www.GI2045.com/onlinemeeting</p>	<p>Be a part of Grand Island's transportation future</p>  <p>Provide feedback at our online alternatives and strategies development public meeting at www.GI2045.com/onlinemeeting</p>

June 11	<p>Don't miss out on your chance to tell us your transportation ideas! We want your thoughts on Grand Island's future for cars, bicyclists, pedestrians, transit users and freight.</p> <p>www.GI2045.com/onlinemeeting It's just ten minutes of your time! #2045LRTP</p>	 <p>www.GI2045.com/onlinemeeting</p>
June 15	<p>Today is the LAST DAY you can participate in the #2045LRTP online alternatives and strategy development public meeting. It's only 10 minutes and you'll help us prioritize transportation alternatives for the GI area:</p> <p>www.GI2045.com/onlinemeeting</p>	<p>LEARN MORE!</p> 

Email Notification

June 1, 2020



Due to COVID-19 public gathering restrictions, the Grand Island Area Metropolitan Planning Organization (GIAMPO) is hosting an online alternatives and strategies development public meeting for the 2045 Long Range Transportation Plan (LRTP) starting today, June 1 through Monday, June 15. Click the button below to view and participate in the online meeting:

[Visit the Online Meeting >>](#)

Within the online prioritization public meeting, you will be asked to participate in interactive exercises to review potential future multi-modal (highway, roads, transit, freight, bicycle and pedestrian facilities) transportation strategies and proposed alternatives that might be included in the plan. The online meeting will take approximately 10 minutes and feedback will be used to help guide transportation planning decisions for the next 25 years. Para la reunión en línea en español, visite www.GI2045.com/ESonlinemeeting.

To learn more about the 2045 LRTP, visit www.GI2045.com.

WHAT IS THE 2045 LRTP?

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June 10, 2020



If you haven't already, please visit the Grand Island Area Metropolitan Planning Organization's (GIAMPO) online alternatives and strategies development public meeting for the 2045 Long Range Transportation Plan (LRTP) by Monday. It takes just 10 minutes to review and complete, and your feedback is invaluable to creating a well-rounded plan.

[Visit the Online Meeting >>](#)

Within the online public meeting, you will be asked to participate in interactive exercises to review potential future multi-modal (highway, roads, transit, freight, bicycle and pedestrian facilities) transportation strategies and proposed alternatives that might be included in the plan. Para la reunión en línea en español, visite www.GI2045.com/ESonlinemeeting.

Community input throughout the development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. Everyone is encouraged to participate. To learn more about the 2045 LRTP, visit www.GI2045.com.

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The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform, including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Spanish-Language Outreach

Press Release

Ciudad de Grand Island

1 de junio de 2020

PARA LA DIVULGACIÓN INMEDIATA

Contacto de noticias: Andy Gomez, gerente de MPO, 308-389-0273, andyg@grand-island.com

GIAMPO busca información del público sobre alternativas de transporte y estrategias para el Plan de Transporte a Largo Plazo 2045

GRAND ISLAND, Neb.— Debido a las restricciones de reuniones públicas por la COVID-19, la Organización de Planificación Metropolitana del Área de Grand Island (GIAMPO) está organizando una reunión pública en línea sobre el desarrollo de alternativas y estrategias para el Plan de Transporte a Largo Plazo (LRTP) 2045 a partir del lunes 1 de junio al lunes 15 de junio en:

www.GI2045.com/esonlinemeeting

En la reunión pública en línea de desarrollo sobre alternativas y estrategias, se pedirá a los participantes que participen en ejercicios interactivos para analizar posibles estrategias de transporte multimodal para el futuro (autopista, carreteras, tránsito, transporte de mercancías, bicicletas e instalaciones peatonales) y otras alternativas propuestas que podrían incluirse en el plan. La reunión en línea llevará unos 10 minutos y los comentarios se utilizarán para ayudar a orientar las decisiones de planificación del transporte para los próximos 25 años.

"Este es un punto de participación muy importante en el LRTP. Los aportes del público nos ayudarán a desarrollar proyectos que deben considerarse para su implementación", dijo Andy Gomez, gerente de MPO de GIAMPO. "También es una gran oportunidad para que nosotros revisemos nuestros esfuerzos de planificación anteriores y veamos cómo se alinean con los pensamientos actuales del público".

El LRTP 2045 es un plan de 25 años que guiará la toma de decisiones del sistema de transporte para el área de Grand Island y proporcionará una lista de proyectos de transporte que satisfará las necesidades de transporte futuras de la región. El LRTP se desarrollará a través del aporte del público y un análisis técnico sobre el rendimiento de todos los modos de transporte, incluidos autopistas, carreteras, tránsito, transporte de mercancías, bicicletas e instalaciones peatonales. GIAMPO analizará cómo funciona el sistema en la actualidad y pronosticará condiciones para los próximos 25 años. El LRTP 2045 definitivo incluirá estrategias y una lista de proyectos priorizados según la financiación anticipada, los resultados de los análisis técnicos y las preferencias comunitarias de los residentes del área de Grand Island.

Los aportes de la comunidad durante el desarrollo del LRTP 2045 son fundamentales para crear un plan sólido para los próximos 25 años. Se anima a todos a participar. Para obtener más información sobre el LRTP 2045, visite www.GI2045.com.

English/Spanish Flier

Help shape the future of transportation!
 Participate in an online alternatives and strategies
 development public meeting!

¡Ayude a formar el futuro del transporte!
 ¡Participe en una reunión pública en línea sobre el
 desarrollo de alternativas y estrategias!

Due to COVID-19 public gathering restrictions, the Grand Island Area Metropolitan Planning Organization (GIAMPO) is hosting an online alternatives and strategies development public meeting for the 2045 Long Range Transportation Plan (LRTP) starting Monday, June 1 through Monday, June 15 at:
www.GI2045.com/onlinemeeting

Debido a las restricciones de reuniones públicas por la COVID-19, la Organización de Planificación Metropolitana del Área de Grand Island (GIAMPO) está organizando una reunión pública en línea sobre el desarrollo de alternativas y estrategias para el Plan de Transporte a Largo Plazo (LRTP) 2045 a partir del lunes 1 de junio al lunes 15 de junio en:
www.GI2045.com/esonlinemeeting

Within the online public meeting, participants will be asked to participate in interactive exercises to provide transportation strategies and alternatives, which will address future multi-modal (highway, roads, transit, freight, bicycle and pedestrian facilities) transportation needs. The online meeting will take approximately 10 minutes and feedback will be used to help guide transportation planning decisions for the next 25 years.

The 2045 LRTP will result in a 25-year multi-modal plan that will guide transportation system decision-making for the Grand Island area and provides a list of transportation projects that meet future transportation needs in the region.

Community input throughout the development of the 2045 LRTP is critical in developing a well-rounded plan for the next 25 years. Thank you in advance for your feedback!

En la reunión pública en línea, se pedirá a los participantes que participen en ejercicios interactivos para proporcionar estrategias y alternativas de transporte, que abordarán las futuras necesidades de transporte multimodal (autopista, carreteras, tránsito, transporte de mercancías, bicicletas e instalaciones peatonales). La reunión en línea llevará unos 10 minutos y los comentarios se utilizarán para ayudar a orientar las decisiones de planificación del transporte para los próximos 25 años.

El LRTP 2045 producirá un plan multimodal de 25 años que guiará la toma de decisiones del sistema de transporte para el área de Grand Island y proporcionará una lista de proyectos de transporte que satisfará las necesidades de transporte futuras de la región.

Los aportes de la comunidad durante el desarrollo del LRTP 2045 son fundamentales para crear un plan sólido para los próximos 25 años. ¡Gracias de antemano por sus comentarios!



Online Alternatives & Strategies Public Meeting

The Grand Island Area Metropolitan Planning Organization (GIAMPO) hosted an online alternatives and strategies public meeting from Monday, June 1 through Wednesday, June 17 as part of the 2045 Long Range Transportation Plan (LRTP) update. The goal of this public engagement effort was to have Grand Island residents provide their input on potential future multi-modal strategies and proposed alternatives that might be included in the plan.

GIAMPO hosted an online meeting instead of an in-person meeting due to public gathering restrictions related to COVID-19. However, online meeting participation far exceeded expected in-person public meeting participation with:

- 256 unique users
- 509 unique comment entries

The online meeting, available in both English and Spanish, provided a brief review of the 2045 LRTP, presented how to provide feedback in the online meeting, and described previous public involvement efforts. Participants were then asked to review technical analyses for Grand Island's roadways, bicycle and pedestrian facilities, transit and freight facilities. Following their review of the technical analyses, participants were asked to provide their feedback on proposed alternatives and strategies through mapping exercises and surveys.

Context of Public Comments

The public participated in comment mapping exercises and surveys to elicit feedback on potential multi-modal strategies. The feedback received and documented in this summary was reviewed by technical staff from GIAMPO and the City of Grand Island. Comments that were feasible and consistent with general safety and mobility standards will be considered further. Some strategy ideas provided are likely not feasible or safe, and will not be considered further. Some treatments used in one part of the Grand Island area may be harmful if deployed in other parts of the area.

As GIAMPO and City staff considered input from the online meeting, they also kept in mind the role of different types of streets in the Grand Island area. Streets and roads are classified generally into the following categories:

- **Arterial streets** provide a high level of mobility and tend to carry high volumes of traffic over longer distances. Arterials are classified as Principal and Minor Arterials.
- **Collector streets** "collect" traffic from Local streets and connect traffic to Arterial streets.
- **Local streets** provide high levels of direct access to neighborhoods and residences and tend to carry lower volumes of traffic.

The purpose of the 2045 LRTP is to provide long-term recommendations for Federal Aid-eligible roadways, bicycle and pedestrian facilities, and public transit operations. Federal Aid-eligible roadways include Collector and Arterial streets. Local streets constitute a large portion of the Grand Island area street network, but are not Federal Aid-eligible. As such, any potential roadway projects related to local streets will not be included in the 2045 LRTP. Bicycle and pedestrian projects can typically be on or adjacent to local streets and be eligible for Federal funding.

Results of the Online Alternatives & Strategies Public Meeting

Roadway Results

Figure 6 presents the number of public comments each proposed roadway strategy received within the comment mapping activity. **Figure 7** and **Figure 8** maps public comments received for each proposed roadway strategy, with descriptions of each numbered roadway map item described in **Table 7**, in the words provided by public participants. When comments across multiple entries were consistent, those entries have been combined. **Figure 9** presents public feedback on the importance of implementing each proposed roadway strategy.

Figure 6. Roadway Strategy Selection Total

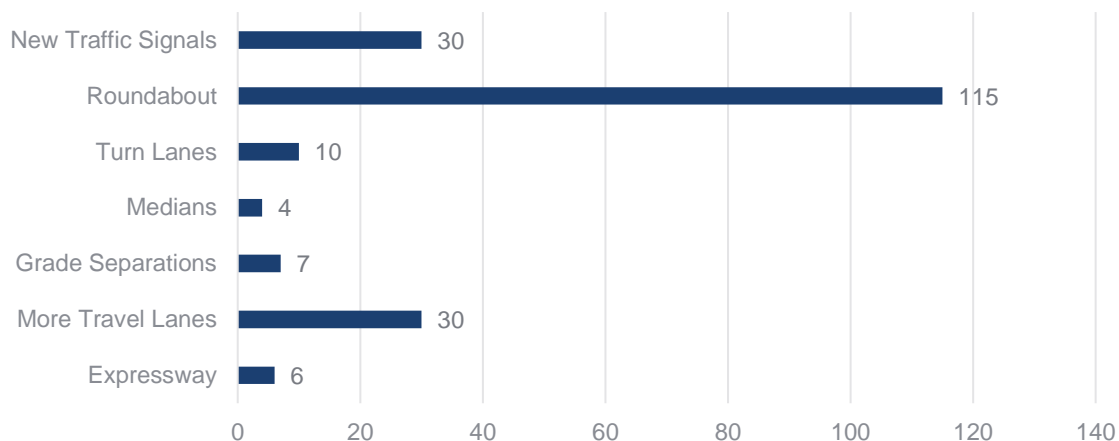


Figure 7. Public Input from the Roadway Mapping Activity, Street Comments

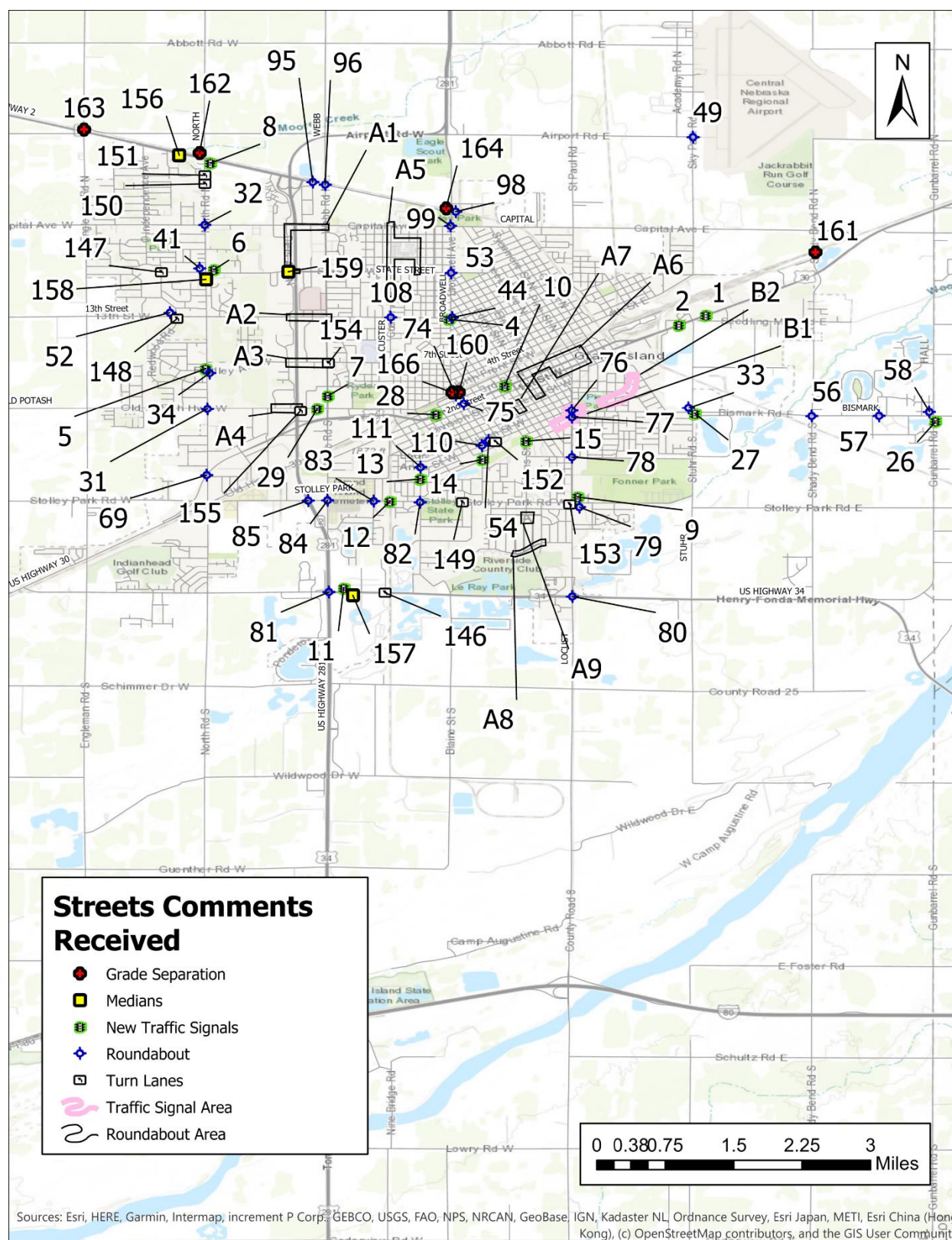


Figure 8. Public Input from the Roadway Mapping Activity, New Lane and Expressway Comments

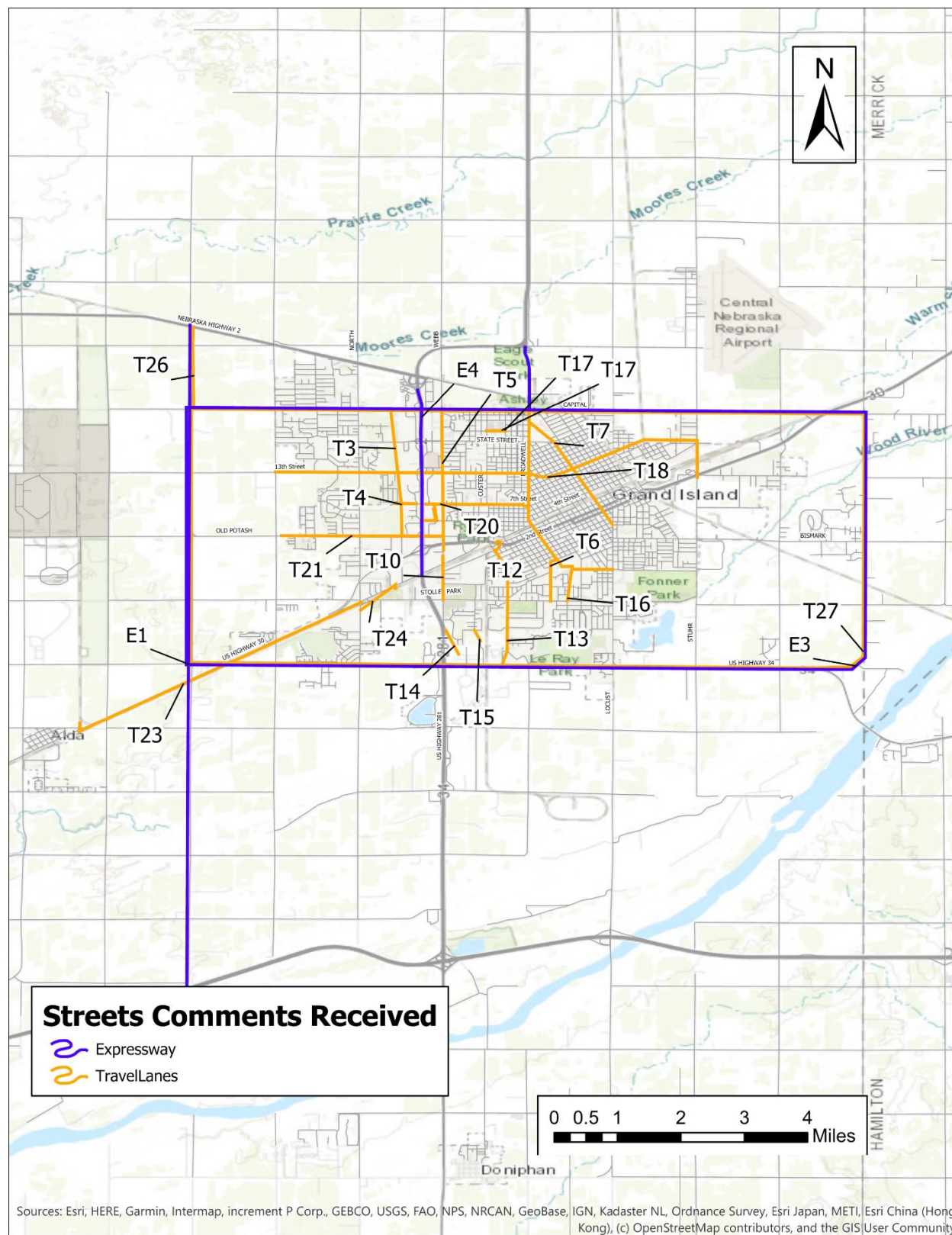
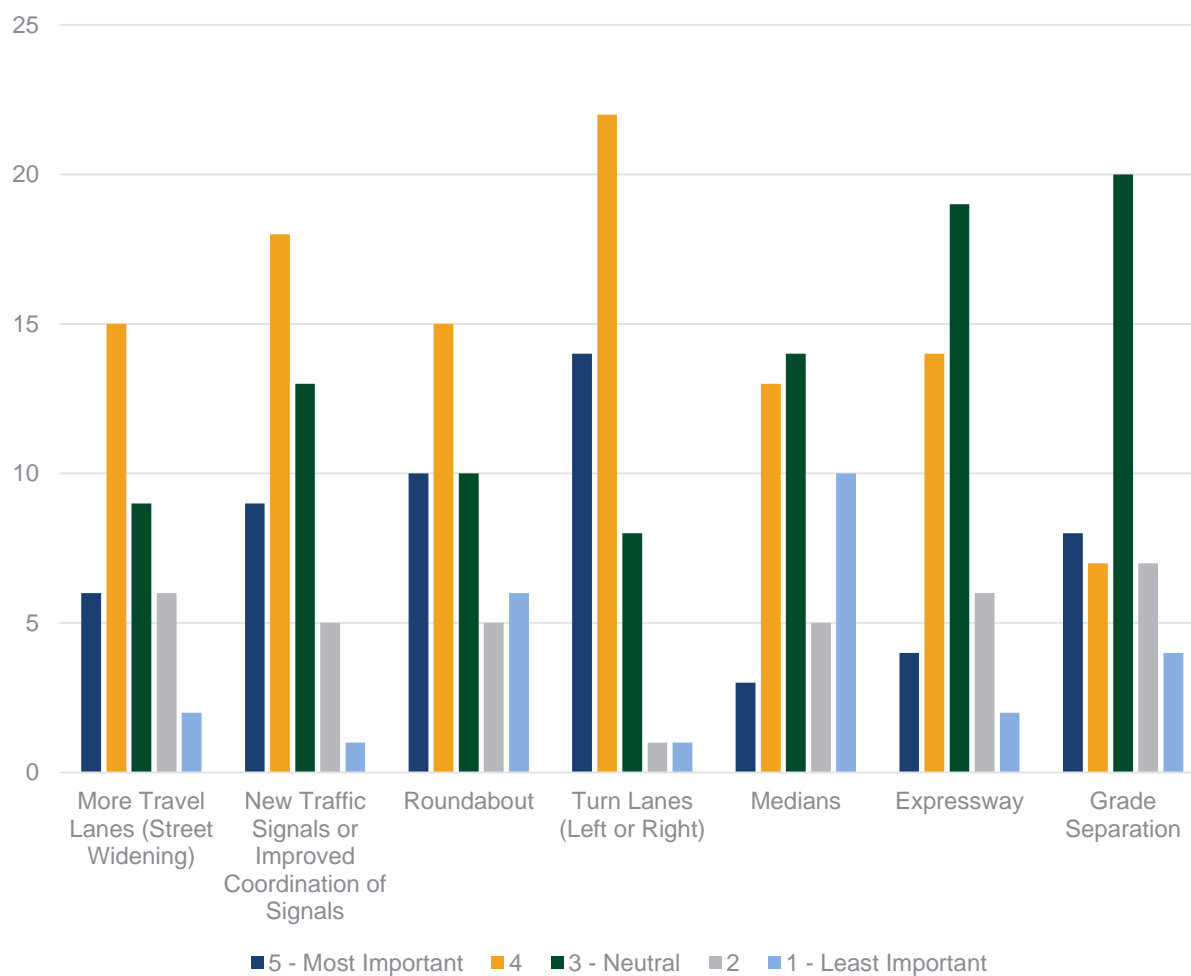


Table 7. Roadway Mapping Comments

Comment ID	Comment	Strategy Type
1	Yellow warning light that main light is going to change	Intersection Control
2	Two sided yellow light warning when light on either side is going to change	Intersection Control
4	Light with traffic sensor.	Intersection Control
5, 6	Light with traffic sensor, so everybody doesn't have to stop every time through.	Intersection Control
7	The traffic signals on Webb Road could be greatly improved. We definitely don't need more traffic signals, but smarter ones with better timing. It would be nice to be able to travel the length of Webb and only hit one light (like you can on HWY 281).	Intersection Control
8, 26, 27		Intersection Control
9	coordinated s locust signals from Stolley to 4th St	Intersection Control
10	Busy Street, difficult to see oncoming traffic, lots of pedestrians need a crossing to library.	Intersection Control
11-15	Protect Pedestrian/Bike Crossing	Intersection Control
28	Too many pedestrian crossing from hotels, there is are parks near here. Need to stop traffic and let them cross safely instead of jaywalking all over.	Intersection Control
29	It is insane to get in and out of this grocery store and surround businesses	Intersection Control
31, 32, 34, 41, 44, 56-58, 108, 110, 111	-	Intersection Control
33	School and Swift let-out times are horrendous!	Intersection Control
49	traffic signal not needed, roundabout would be best	Intersection Control
52	This intersection during the school year is so busy and difficult to get through	Intersection Control
53	Need roundabout. traffic signal is confusing and dangerous	Intersection Control
54	Busy Intersection	Intersection Control
69	this intersection is ridiculous	Intersection Control
74	for UP	Intersection Control
75-96, 99	Roundabout	Intersection Control
98	for RR	Intersection Control
146 - 152		Turn Lanes
153	Busy, Busy intersection during the fair.	Turn Lanes
154	It would be great to have a turning lane from North bound Webb to turn right (east) on Faidley.	Turn Lanes
155	All Hwy 281 intersections should have right and left turn lanes added - from Interstate to Airport Road.	Turn Lanes
156	Remove median from highway for turn lane and North bound traffic to be able to turn West on Highway 2.	Medians
157, 158		Medians

Comment ID	Comment	Strategy Type
159	need median across intersection with turning restrictions	Medians
160	Roadway over or under tracks	Grade Separation
161	Overpass to allow traffic on East end of city when trains block tracks, and increase safety.	Grade Separation
162-164		Grade Separation
166	need grade separation; very busy	Grade Separation
A1	36,43,48,66,67,70-73,91-94,159	Intersection Control
A2	37,65,89,90,122,123	Intersection Control
A3	47,64,87,88,124	Intersection Control
A4	62,63,86	Intersection Control
A5	68,100-107	Intersection Control
A6	125-145	Intersection Control
A7	59-61	Intersection Control
A8	118-121	Intersection Control
A9	112-117	Intersection Control
T3	Relief for 281 and Diers	More Travel Lanes
T4	Relief for 281 Retail traffic	More Travel Lanes
T5, T19		More Travel Lanes
T6	Need Clear N/S Main Route from Anna to Stolley Park Rd.	More Travel Lanes
T7	thru street from s locust north to Capital Ave	More Travel Lanes
T8	access to Hyvee off Faidley	More Travel Lanes
T9	Alleviate 281 traffic at Old Potash	More Travel Lanes
T10	two lanes each way from Hwy 30 to Stolley park with turn lane	More Travel Lanes
T11	access to Blaine s/b from Hwy 30	More Travel Lanes
T12	Create N/S Route W of Broadwell	More Travel Lanes
T13	Need N/S Route to Hwy2/34 between Locust and 281	More Travel Lanes
T14	Connect Webb to College, eliminate 281	More Travel Lanes
T15	Connect the campus from Webb or form, Brentwood	More Travel Lanes
T16	access to Stolley park Rd from an arterial n/s street east of Custer	More Travel Lanes
T17	open again have kids travel under or over	More Travel Lanes
T18	Create E/W corridor thru town that goes from Engleman to east side of BNSF	More Travel Lanes
T20	Always busy, needs at least a turn lane.	More Travel Lanes
T21	Hornady employees!	More Travel Lanes
T22	need alt access to 281 for northbound traffic	More Travel Lanes
T23	More Travel lanes for wherever HWY 30 is relocated.	More Travel Lanes
T24	More travel lanes for HW30 to where the 4 lanes already are located.	More Travel Lanes
T25	better access to south locust from arterial south of Hwy 30	More Travel Lanes
T26	Connect to Hwy 2	More Travel Lanes
T27	Makes for a nice roundabout for traffic to move around the city.	More Travel Lanes
E1, E5		New Expressway
E3	More lanes and or expressway	New Expressway
E4	281 expressway over commercial 281 and Hwy 30. would eliminate a lot of traffic congestion/accidents on the 281 corridor	New Expressway

Figure 9. Importance of Implementing Roadway Strategies



Bicycle & Pedestrian Results

Figure 10 presents the number of public comments each proposed bicycle and pedestrian strategy received within the comment mapping activity. **Figure 11** and **Figure 12** maps public comments received for each proposed bicycle and pedestrian strategy, with descriptions of each numbered bicycle and pedestrian map item described in **Table 8**, in the words of the respondents. **Figure 13** presents public feedback on the importance of implementing each proposed bicycle and pedestrian strategy.

Figure 10. Bicycle & Pedestrian Strategy Selection Total

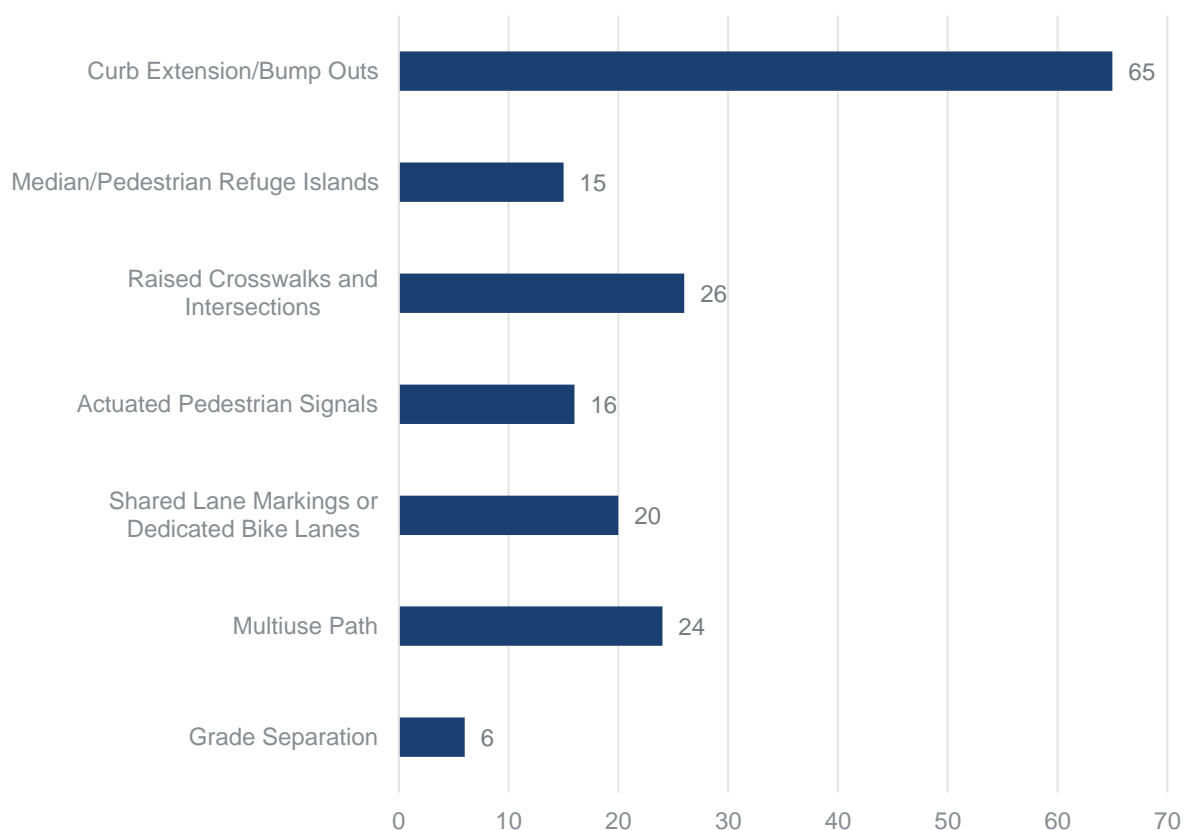


Figure 11. Public Input from the Bicycle & Pedestrian Mapping Activity, Regional View

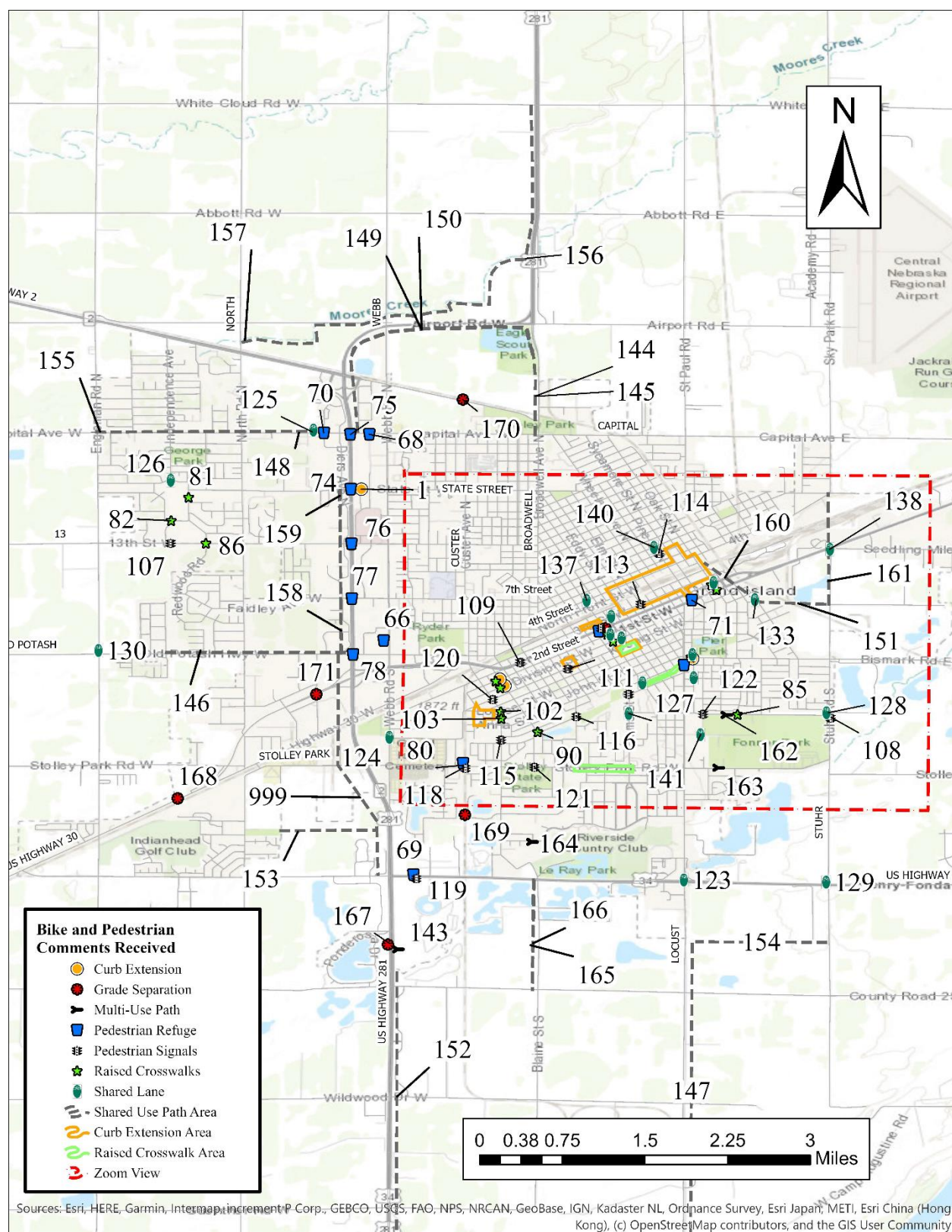


Figure 12. Public Input from the Bicycle & Pedestrian Mapping Activity, Urban Core View



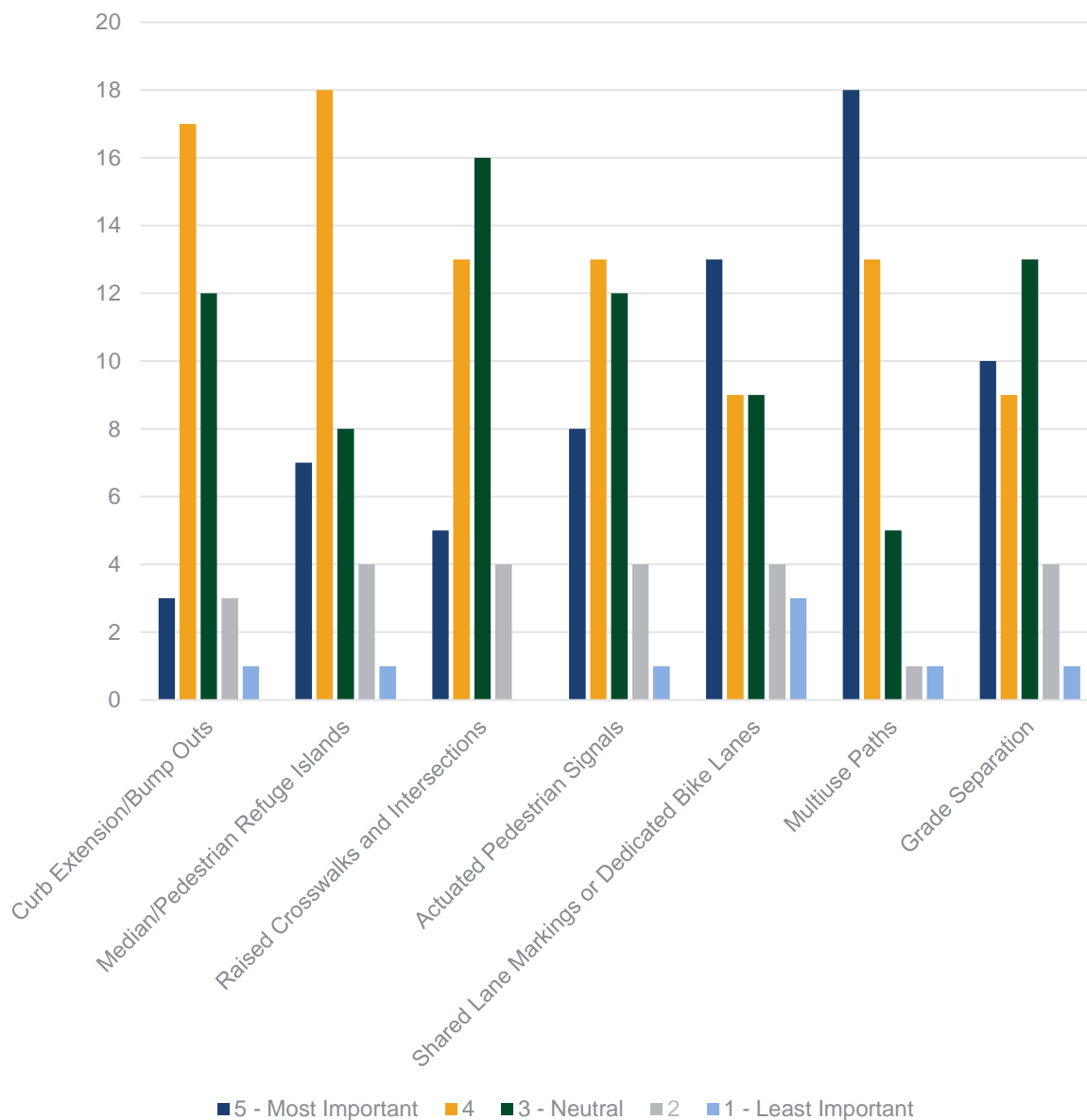
Table 8. Bicycle & Pedestrian Mapping Comments

Comment ID	Comment	Strategy Type
1-3, 42, 51, 52		Curb Extension
4	Major Intersection where High-Speed Traffic meets a school and route to/from school to library	Curb Extension
5-41	Protect Pedestrians in only walkable commercial district in the city	Curb Extension
43-45	Accentuate Library Pedestrian Visuals	Curb Extension
46-50	Protect School Children	Curb Extension
53-56	Retention Pond is a de facto Park	Curb Extension
57-65	Augustine Park to Gates is one giant pedestrian area	Curb Extension
66	Tested with my phone	Pedestrian Refuge
67	have needed a crossing at this location since 1974 when library moved to this location	Pedestrian Refuge
68-71, 74-86		Pedestrian Refuge
72	Need a way to cross 30 from Wasmer	Pedestrian Refuge
73	Need to protect Pedestrians at multiple places on 30	Pedestrian Refuge
87	Stop-Signs on Lincoln invite too much speeding in residential area.	Raised Crosswalks
88	Stop Signs on Lincoln invite n/s speeding	Raised Crosswalks
89	Stop signs on Lincoln invite N/S speeding right by a school	Raised Crosswalks
90-96, 100, 101		Raised Crosswalks
97-99	Protect School Children	Raised Crosswalks
102-103	Augustine Park to Gates is one giant pedestrian area	Raised Crosswalks
104-106	Stolley Park Rd has three schools, two major parks and churches. It should be entirely bikeable and protect pedestrian throughout	Raised Crosswalks
107, 108		Pedestrian Signals
109	Need a way to protect pedestrians who currently jaywalk from hotels, restaurants.	Pedestrian Signals
110	Need a way for pedestrians to safely cross 30 to library, especially Wasmer students.	Pedestrian Signals
111	Broadwell needs a means of crossing for pedestrians	Pedestrian Signals
112	Major Intersection where High-Speed Traffic meets a school and route to/from school to library	Pedestrian Signals
113	Need safe bike routes into downtown	Pedestrian Signals
114	Protect Pedestrians in only walkable commercial district in the city	Pedestrian Signals
115, 119		Pedestrian Signals
116, 118	Too Busy to not have a signal	Pedestrian Signals
117	Too busy to not have a signal to protect school kids	Pedestrian Signals
120	Augustine Park to Gates is one giant pedestrian area	Pedestrian Signals
121	Stolley Park Rd has three schools, two major parks and churches. It should be entirely bikeable and protect pedestrian throughout	Pedestrian Signals
122	Kids bike to the water park. Protect them with a safe dedicated route. And we could expand that to facilitate more biking to alleviate state fair parking issues.	Pedestrian Signals

Comment ID	Comment	Strategy Type
123	Need bike lanes on Locust as well as Highway 34 at least to Central Community College and north on Locust to State Fair and downtown	Shared Lane
124	bike lanes needed for all of Webb Road	Shared Lane
125	Bike lanes and/or path should continue on Capital Ave to Engleman Rd	Shared Lane
126, 129		Shared Lane
127	bike lanes needed on Fonner Park Drive	Shared Lane
128	bike lanes needed on Stuhr Road	Shared Lane
130	bike lane to cornhusker AD and husker harvest	Shared Lane
131	Lincoln is major N/S route, passes library and Wasmer. Need a formal bike lane.	Shared Lane
132	Rather than make Koenig a Bike Route, let cars have Koenig and give Division Bike Lanes	Shared Lane
133	Extend Bike Path to Downtown	Shared Lane
134	Extend Bike Path up Pine Street to Connect to Downtown. Streets are wide enough to add designated lane.	Shared Lane
135	Give Lincoln Bike Lane, connect to Jog Path, is best way to Connect N/S and then branch of East midway to Downtown.	Shared Lane
136	Is Lincoln gets a Bike Lane, then branch off to 3rd Street to reach downtown.	Shared Lane
137	If Lincoln gets a Bike Lane, Connect it to a 4th Street Bike Lane	Shared Lane
138	Too many of Swift's employees are low income. Providing them a route to work that doesn't entail owning/leasing a car would be a great service.	Shared Lane
139	Much of the residents North of 4th street are low income, and many work at Swift. We can and should provide them a route to Swift that doesn't require a car.	Shared Lane
140	Many residents north of 4th St. are low income, and many work at Swift. We should make a route that directly allows them a path to work that doesn't require a car. Bike lanes down Pine, to a dedicated 2nd/St + Hwy 30 Bike Path that connects to Swift.	Shared Lane
141	With Parking a challenge for the State Fair, bike paths or lanes would be very helpful.	Shared Lane
142	Connect Water Park/Fonner to Bike network.	Shared Lane
143, 148, 156		Multi-Use Path
144	Trail needed to connect to ball fields and eagle scout	Multi-Use Path
145	trail needed to connect ball fields and capital	Multi-Use Path
146	trail connection needed on west side from Shoemaker to new hospital trail	Multi-Use Path
147	Trail ends here and could continue as a crushed rock trail on old railroad grade as far as possible to Platte River!	Multi-Use Path
149	Trail around small pond and connecting to Eagle Scout Park	Multi-Use Path
150	trail connecting to small pond near intersection of Highway 2 and 281 that connects to Capital sidewalk trail	Multi-Use Path

Comment ID	Comment	Strategy Type
151	Trail just ends here, should connect to JBS and beyond	Multi-Use Path
152	Trail can continue to Mormon Island State Park	Multi-Use Path
153	trail connection from Shoemaker to new hospital	Multi-Use Path
154	Trail connection to Locust on existing grade	Multi-Use Path
155	bike path from Engleman Rd to existing path near Carelton	Multi-Use Path
157	Beginning of Moores Creek bike path	Multi-Use Path
158	Add a multi-use path between State St. and Old Potash HWY	Multi-Use Path
159	Multiuse path between State St and Old Potash Hwy	Multi-Use Path
160	Extend Bike Path to Downtown	Multi-Use Path
161	Many of Swift's employees are low income. Providing a route to work that doesn't require a car would be a great service to that segment of our community.	Multi-Use Path
162	With Parking a challenge for the State Fair, bike paths or lanes would be very helpful.	Multi-Use Path
163	With Parking a challenge for the State Fair, bike paths or lanes would be very helpful. Stolley Park Rd. Should be bikeable from Fonner to Cemetery.	Multi-Use Path
164	Create path to LE Ray Park that avoids Blaine Street, possibly using utility right of way	Multi-Use Path
165	Create sidewalk on west side of Paradise Lake to provide alternative to walking on Blaine Street.	Multi-Use Path
166	Create path from LE Ray Lake to Hike/trail to provide a safe alternative to walking on Blaine Street.	Multi-Use Path
167, 170		Grade Separation
168	Will need a bridge or crossing over/under highway 30 for new west side trail connecting Shoemaker elementary to new hospital and Central Community College	Grade Separation
169	bridge needed over spillway	Grade Separation
171	Bridge under/over highway 30 needed to connect Shoemaker trail to new hospital trail and CCC	Grade Separation
172	If this route is to become the major N/S connector to the pedestrian walk/bike network, then putting a safe crossing over the HWY 30 to the library is a must.	Grade Separation
999	Hospital Trail?	Multi-Use Path

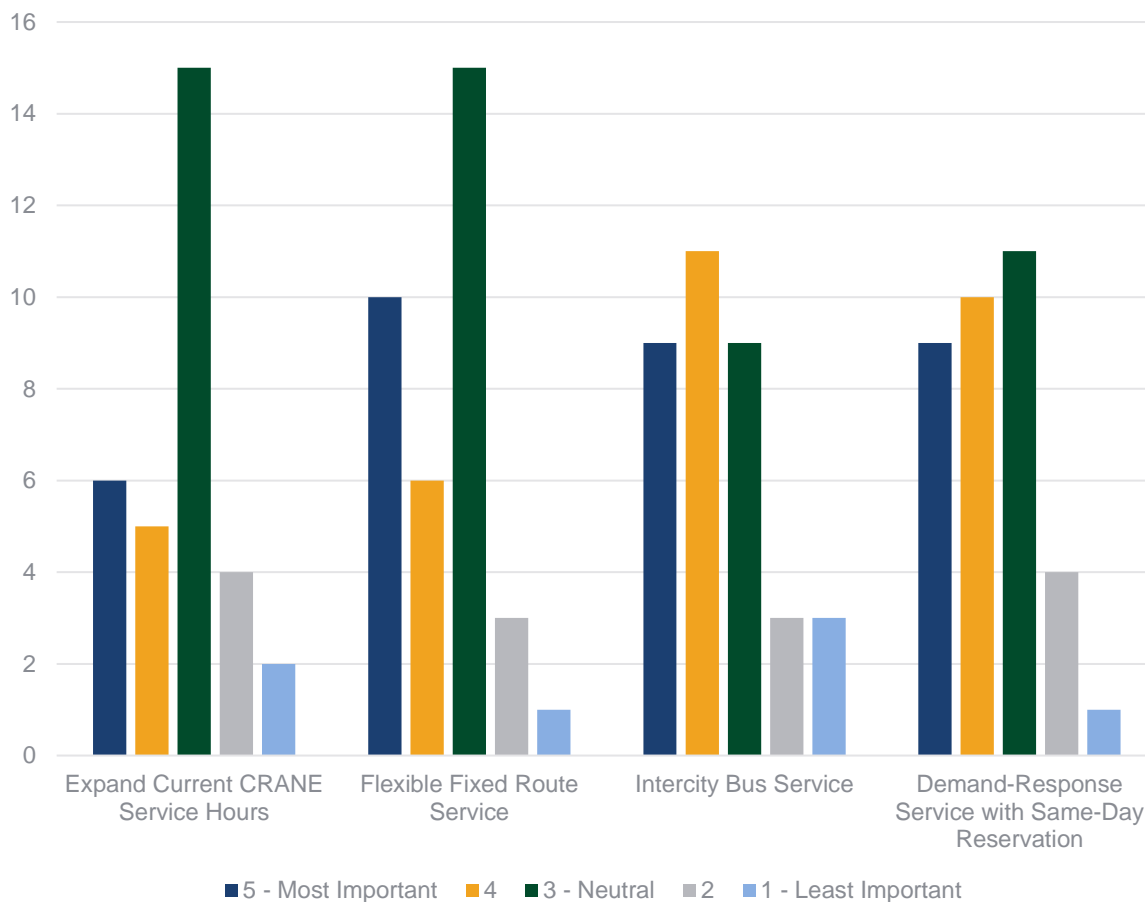
Figure 13. Importance of Implementing Bicycle & Pedestrian Strategies



Transit Survey

Figure 14 presents public feedback on the importance of implementing each proposed transit strategy.

Figure 14. Importance of Implementing Transit Strategies



Freight Survey

Table 9 presents public feedback received through the general comment form.

Table 9. Public Input from the Freight Comment Form

Comment
Would advocate a truck route around the city to keep non local trucks out of more congested areas of the city. COVID 19 is changing how consumers do business, it is questionable if shopping malls will exist in 10 to 15 years. Provide non local trucks and travelers that have no intention of stopping an alternative route, alleviating congestion in community traffic flow.
There are not enough railroad crossings open in Grand Island.
I think if the city made riding a bike and walking safer and more accessible it could potentially help to encourage people to use other means of transportation besides cars. It would be nice to have a safe way to cross 281 to get to restaurants and stores near 13th and State street or even Faidley.
Provide a better route from I80 north - up Locust - and around East side of City to Airport and Hwy 281 North.
seems to be satisfactory
I do not think that East Beltway for north/south traffic is warranted for the cost required to provide railroad overpasses, land purchases and rights of way, etc. JBS Swift and the Airport.
I think an expressway or bypass road around the main traffic area would be helpful.
Less trucks on Highway 34, between Locust and Highway 281. Alternate route needed
Provide grade separation with high volume roads intersecting with rail crossing.
Noise is the biggest issue with freight. Train noise has improved, truck noise is worse with jake brakes. Ideally, trucks would be diverted around town.
Freight trucks should not be allowed to travel on 13th street. These should be rerouted through HWY 2/Hwy 30 and Monitor Rd
none
I believe it's very important to keep the highway and interstate open and avoid a lot of road closures and construction at the same time so the trucks can get around to do their deliveries. Many times Grand Island does a lot of the construction and closures at the same time and it causes clusters and delays with traffic and makes it hard for emergency vehicles to get around too.

Bonus Exercise

Email Notification

Subject Line: We need your help! Participate in our Project Prioritization Exercise now through September 28!

Content: **NEED TO UPDATE LINK WHEN READY**



The Grand Island Area Metropolitan Planning Organization (GIAMPO) needs YOU to provide your input on regional priorities and ranking for the fiscally-constrained roadway, bicycle and pedestrian, and transit projects to include in the 2045 Long Range Transportation Plan (LRTP). This online exercise will take you less than five minutes and all we need you to do is drag and drop projects that you think are important to prioritize for Grand Island's future.

[Click here to participate >>](#)

This exercise is available now through September 28. To learn more about the 2045 LRTP, visit www.GI2045.com.

WHAT IS THE 2045 LRTP?

The 2045 LRTP is a 25-year plan that will guide transportation system decision-making for the Grand Island area and will provide a list of transportation projects that meet future transportation needs in the region. The LRTP will be developed through public input and a technical analysis of how all modes of transportation perform, including highways, roads, transit, freight, bicycle and pedestrian facilities. GIAMPO will not only analyze how the system operates today, but will also forecast conditions for the next 25 years. The final 2045 LRTP will include strategies and a prioritized list of projects based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents.

Social Media

Launch Date	Content	Graphic
September 14	<p>For the #2045LRTP we have selected potential projects to include in the 2045 Long Range Transportation Plan. We need YOUR input to help prioritize these fiscally constrained roadway, bicycle and pedestrian, and transit projects.</p> <p>Our online exercise takes less than five minutes and we would appreciate your participation 😊</p> <p>[insert link]</p>	
September 19	<p>It takes only five minutes to participate in an online exercise where you can rank projects that you would like to prioritize for Grand Island's future. Take the time today and make a plan for the next 25 years.</p> <p>[insert link]</p>	
September 23	<p>Want to be a part of the future of Grand Island? Now's your chance! We have a brief online exercise where you can provide input and rank a variety of transportation projects that will be incorporated in a plan for the next 25 years. #2045LRTP</p> <p>[insert link]</p>	
September 28	<p>Today is your last chance to take our online exercise to provide input and rank fiscally constrained roadway, bicycle and pedestrian, and transit projects for the #2045LRTP</p> <p>[insert link]</p>	

Website Update

August 2020

Project Prioritization Exercise

From September 14 through September 28, 2020, we need your help in choosing and ranking fiscally constrained roadway, bicycle and pedestrian, and transit projects to include in the 2045 LRTP. A link will be provided September 14.

September 14, 2020

Project Prioritization Exercise

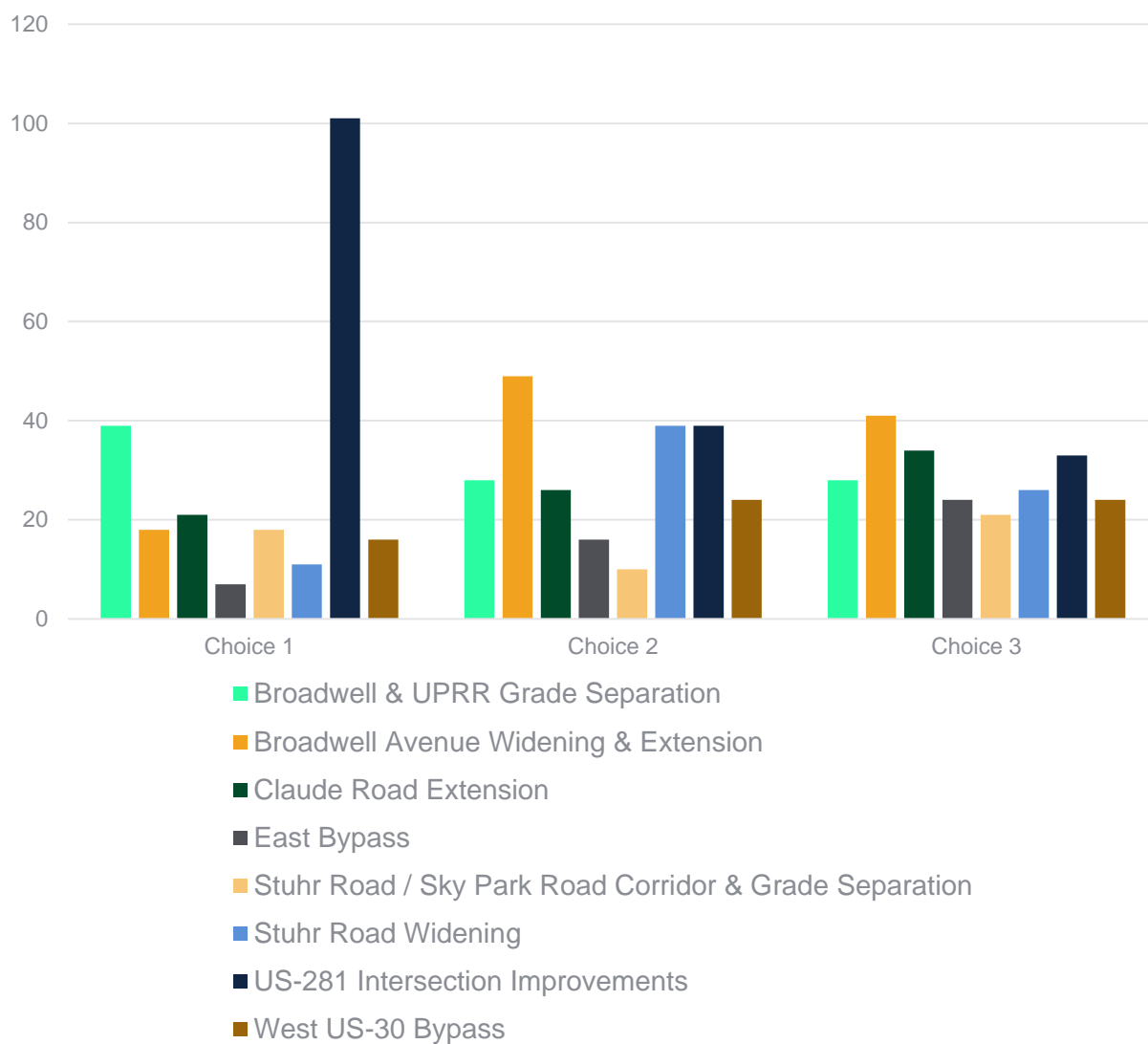
GIAMPO is hosting a brief, online exercise through September 28 where you can help provide input on regional priorities and rank fiscally constrained roadway, bicycle and pedestrian, and transit projects to include in the 2045 Long Range Transportation Plan (LRTP). This online exercise will take you less than five minutes and you can drag and drop projects that you think are important to prioritize for Grand Island's future.

Bonus Exercise Results

The Grand Island Area Metropolitan Planning Organization (GIAMPO) hosted an online project prioritization exercise from Monday, September 14 through Monday, September 28 for input on regional priorities for fiscally constrained roadway, bicycle and pedestrian, and transit projects to include in the 2045 Long Range Transportation Plan (LRTP). GIAMPO received a total of 669 responses through the exercise website. The following sections summarize the results from this public input activity.

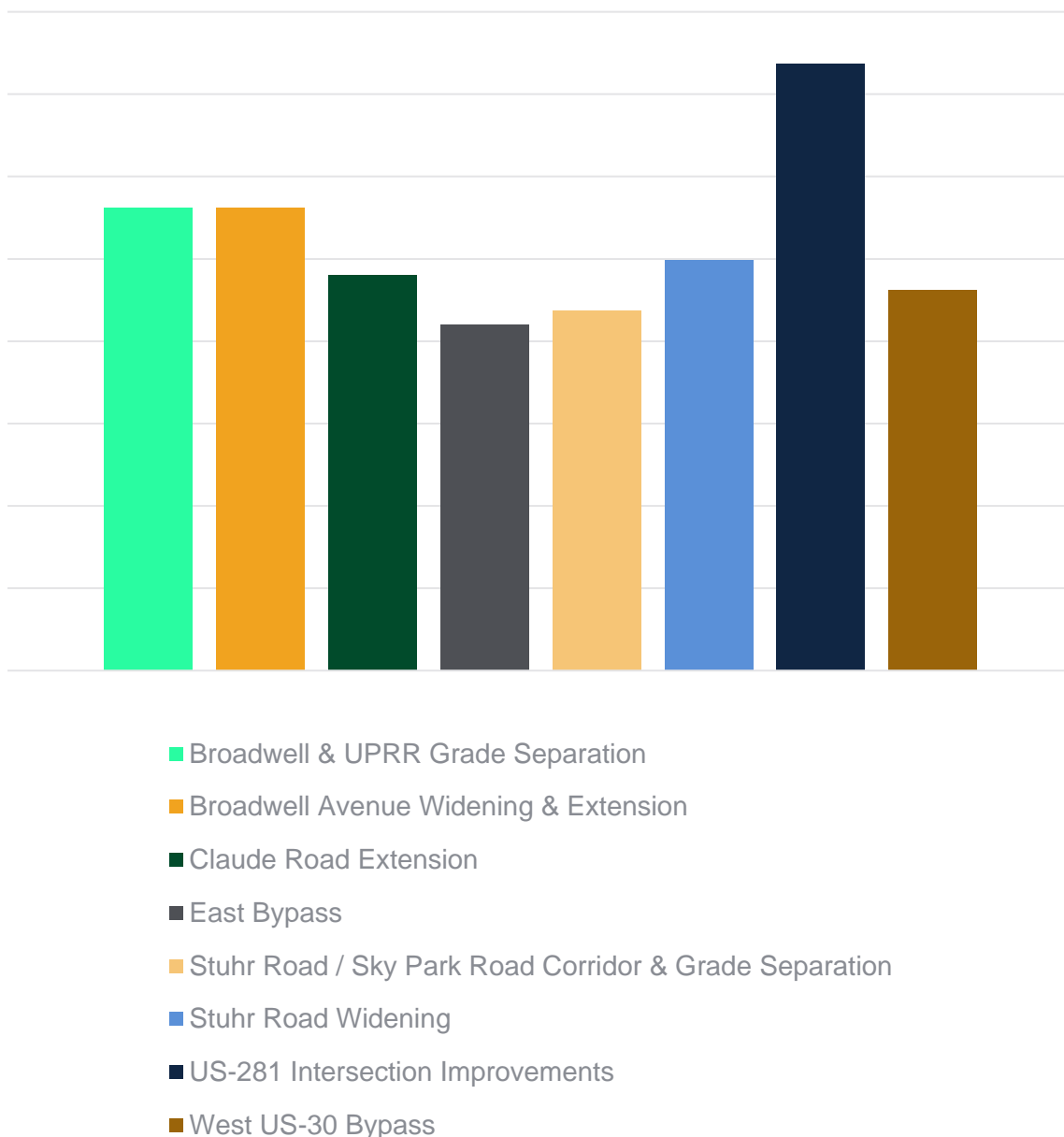
Roadway Projects

GIAMPO received **231** roadway project ranking responses through the website. The public's first choice among the proposed roadway projects was the US-281 Intersection Improvements, followed by the Broadwell Avenue Widening & Extension project, which tied for second and third choice.



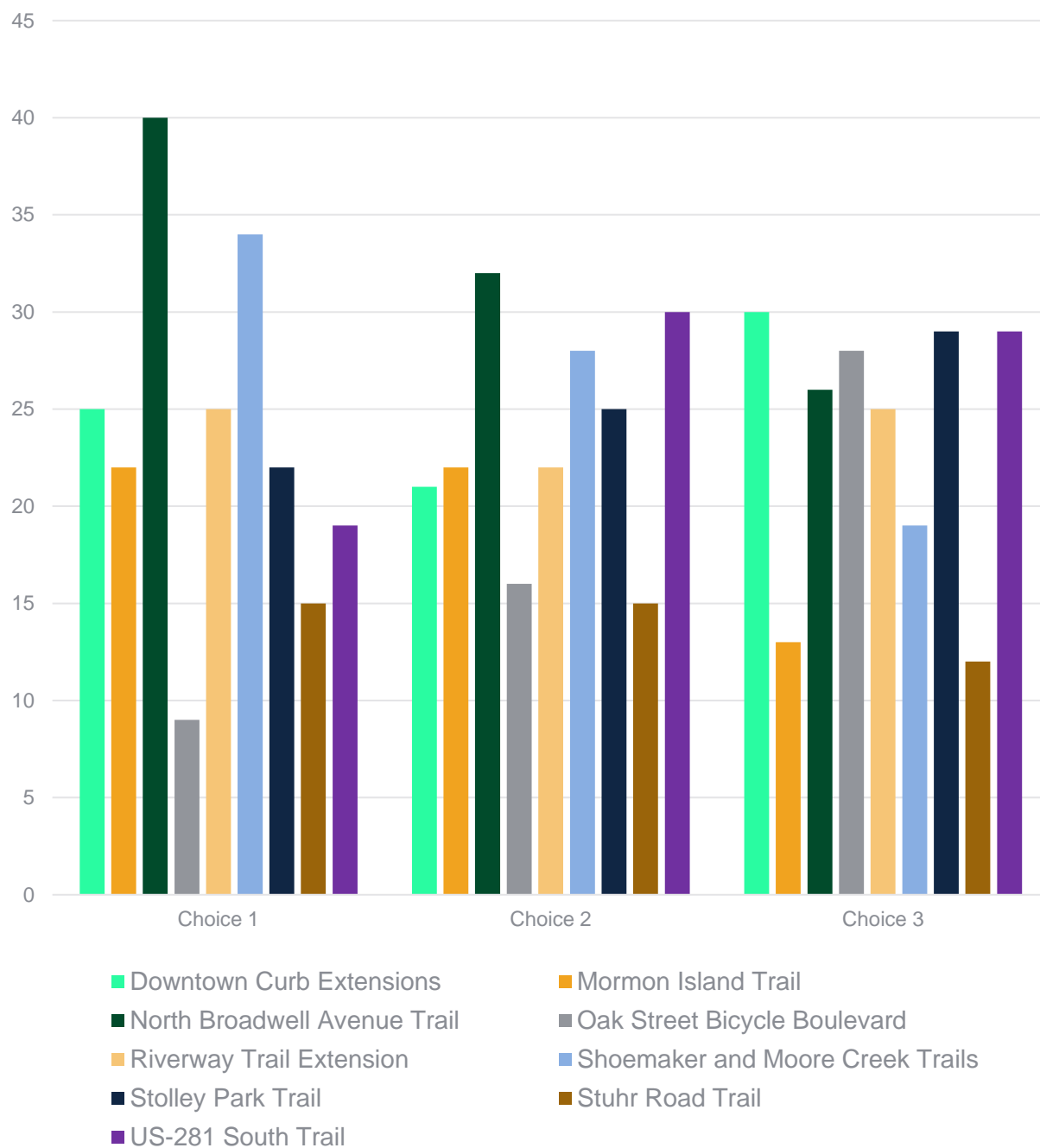
All roadway projects were then analyzed using weighted scores, resulting in the following overall project ranking:

1. US-281 Intersection Improvements
2. Tied: Broadwell & UPRR Grade Separation; Broadwell Avenue Widening & Extension
3. Stuhr Road Widening
4. Claude Road Extension
5. West US-30 Bypass
6. Stuhr Road / Sky Park Road Corridor & Grade Separation
7. East Bypass



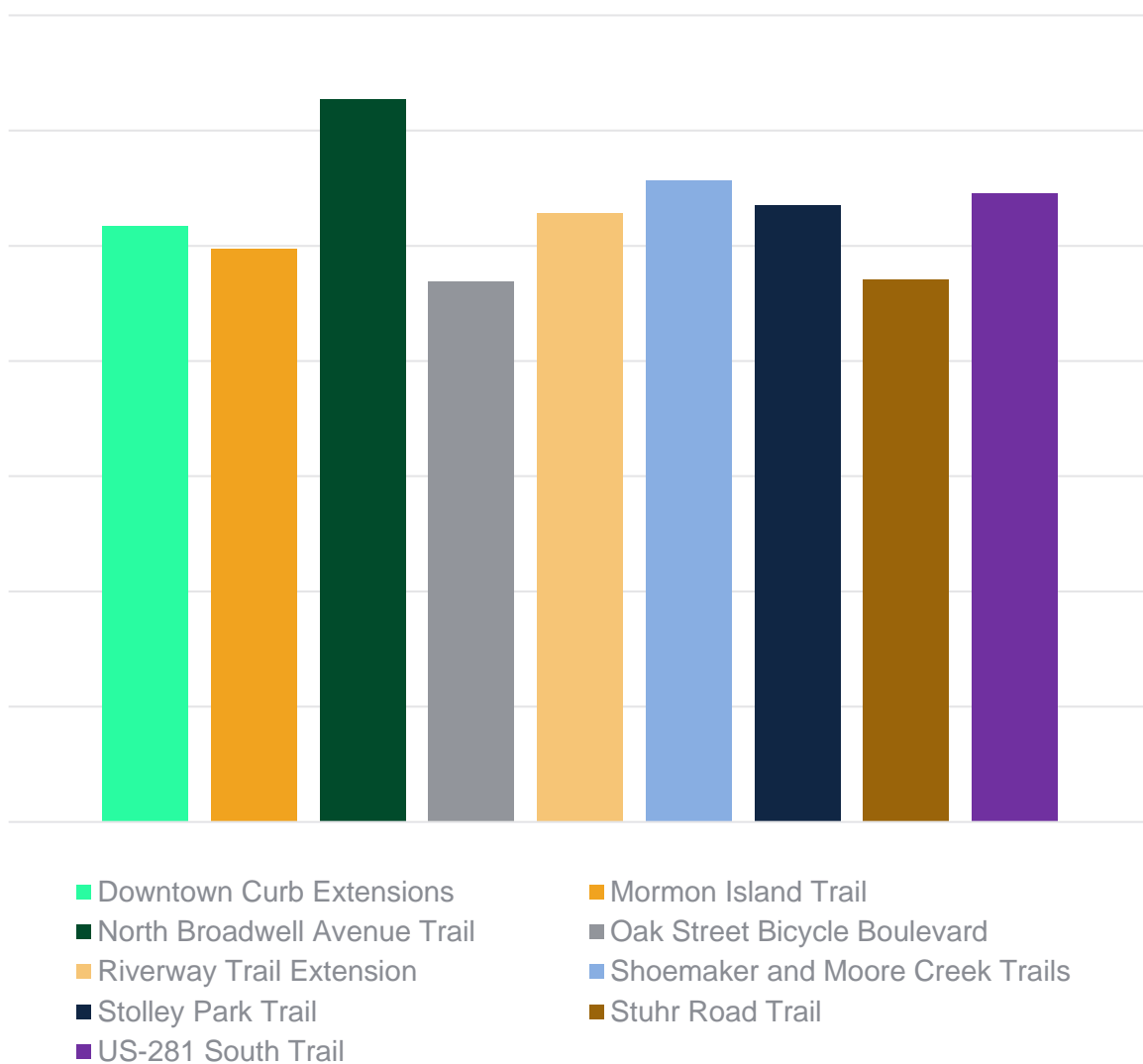
Bicycle and Pedestrian Projects

GIAMPO received **211** bicycle and pedestrian ranking responses through the website. The public's first choice among the proposed bicycle and pedestrian projects was the North Broadwell Avenue Trail, followed by the US-281 South Trail project and then the Stolley Park Trail project and US-281 South Trail project, which tied for third choice.



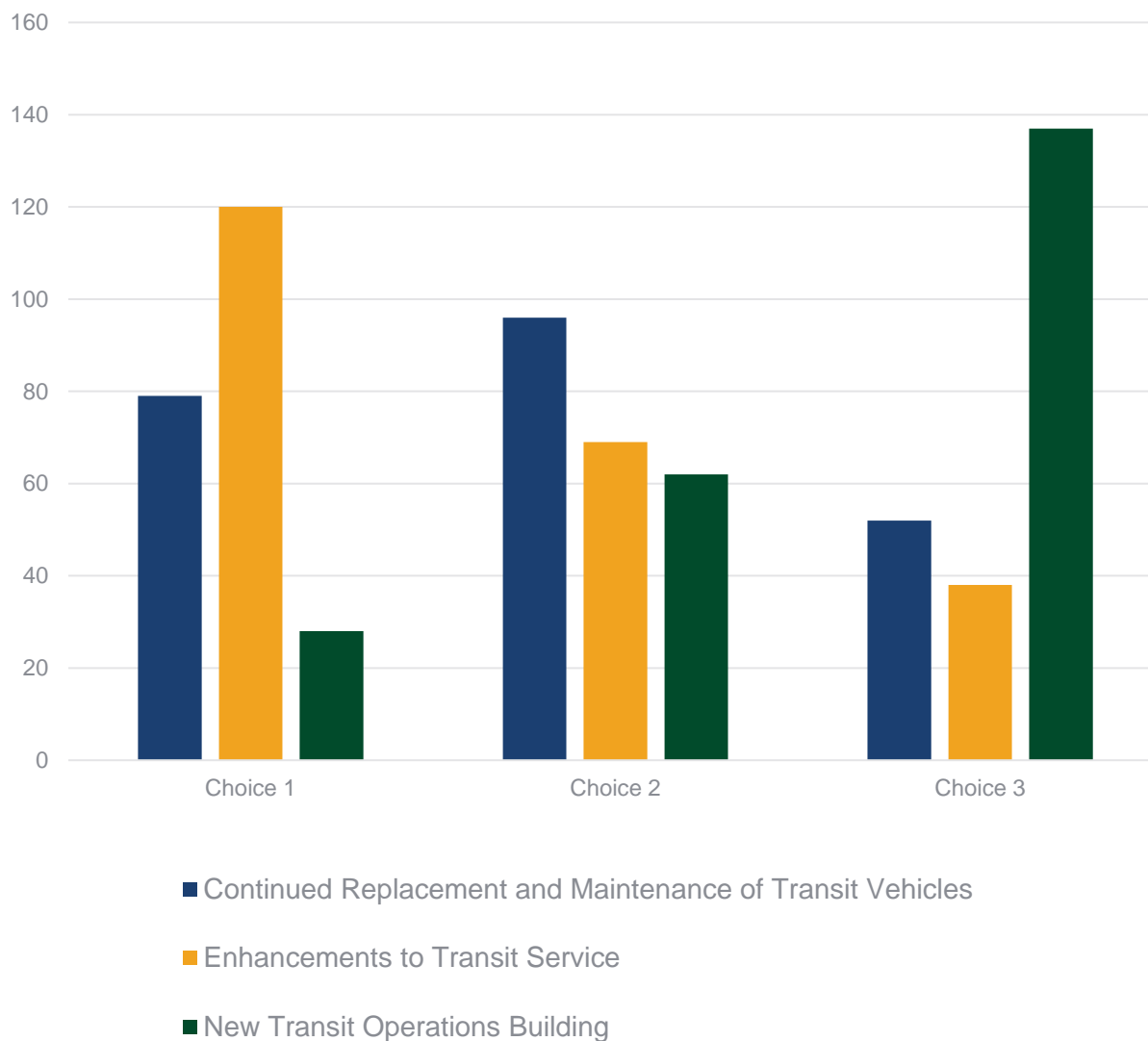
All bicycle and pedestrian projects were then analyzed using weighted scores, resulting in the following overall project ranking:

1. North Broadwell Avenue Trail
2. Shoemaker and Moore Creek Trails
3. US-281 South Trail
4. Stolley Park Trail
5. Riverway Trail Extension
6. Downtown Curb Extensions
7. Mormon Island Trail
8. Stuhr Road Trail
9. Oak Street Bicycle Boulevard



Transit Projects

GIAMPO received **227** transit ranking responses through the website. The public's first choice among the proposed transit projects was Enhancements to Transit Service, followed by Continued Replacement and Maintenance of Transit Vehicles and then a New Transit Operations Building.



Draft LRTP Feedback Meeting

The Grand Island Area Metropolitan Planning Organization (GIAMPO) and the City of Grand Island (City) hosted a joint public meeting on Thursday, November 12, 2020 at the Grand Island City Hall Community Meeting Room to present and receive public input on the 2045 Long Range Transportation Plan (LRTP) and the Broadwell Avenue & Union Pacific Railroad Crossing Planning and Environmental Linkages Study.

The 2045 LRTP portion of the public meeting presented details from the Draft LRTP, including a prioritized list of transportation projects that were developed based on anticipated funding, the results of technical analyses and community preferences of Grand Island area residents. Three people attended the in-person public meeting. In addition to the in-person public meeting, the City hosted a Facebook Live event at 4:30 p.m. the same day to promote the project and public meeting virtually due to the COVID-19 pandemic. 172 viewers watched the Facebook Live video.

Project materials, available in both English and Spanish, were made available for review and comment via the project website, GI2045.com, from November 12, 2020 through December 12, 2020.

No comments were received through the in-person public meeting or through the project website.

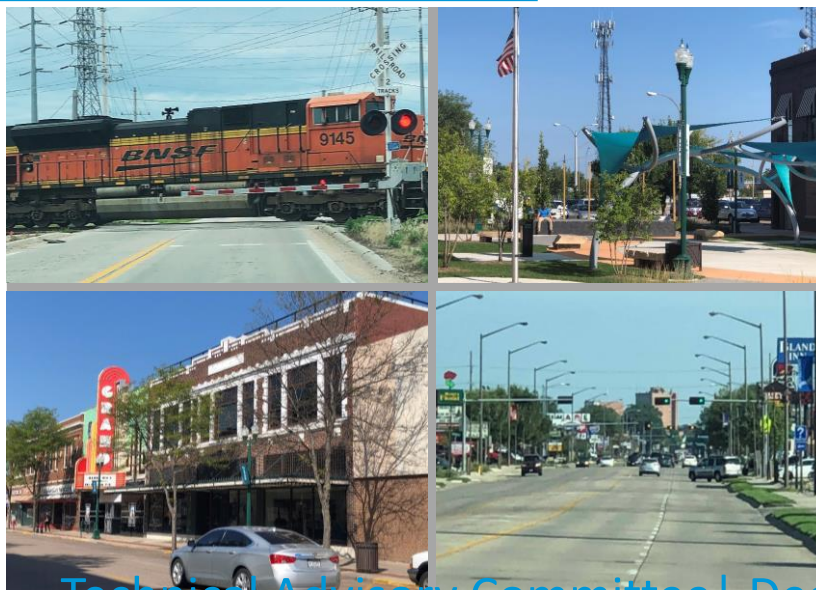


Technical Advisory Committee Meetings

Technical Advisory Committee Meeting December 9, 2019



2045 LONG RANGE TRANSPORTATION PLAN



Technical Advisory Committee | December 9, 2019

Agenda

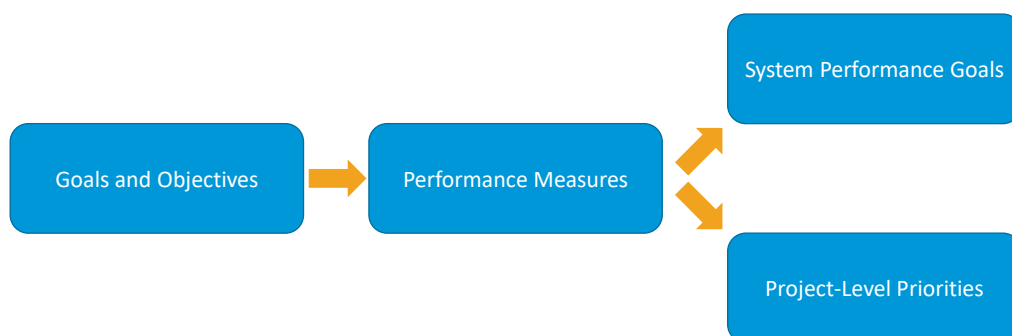
- Overview of the LRTP
- Public Engagement Overview
 - February 2020 Public Open House
- Existing System Assessment

What is an LRTP?

- MPOs must update every 5-years
- MPO Region's plan to accomplish transportation goals
- Includes all modes of travel:
 - Highway, Bicycle, Pedestrian, Transit, Freight
- Projects must be in LRTP to be included in Transportation Improvement Program (TIP)
- Must be fiscally-constrained
- Must promote regional performance measures and targets

Performance-Based LRTP

- Definition: Apply Performance Measures to the Decision-Making Process to Achieve Desired Outcomes



2045 LRTP Schedule



Overall Public Engagement Efforts

- Project Website
- Press Releases
- Meeting Advertisement
- Social Media
- Email Outreach
- Phone Calls to Strategic Organizations
- Three Public Open Houses
- Focus Group Meetings (February 4, 2020)

First Public Open House

- Open House with Input Activities

February 4, 2020

Grand Island Public Library

5:00 – 6:30 PM

- Promotional Effort will Start in January

- Focus Group Meetings Day of February 4

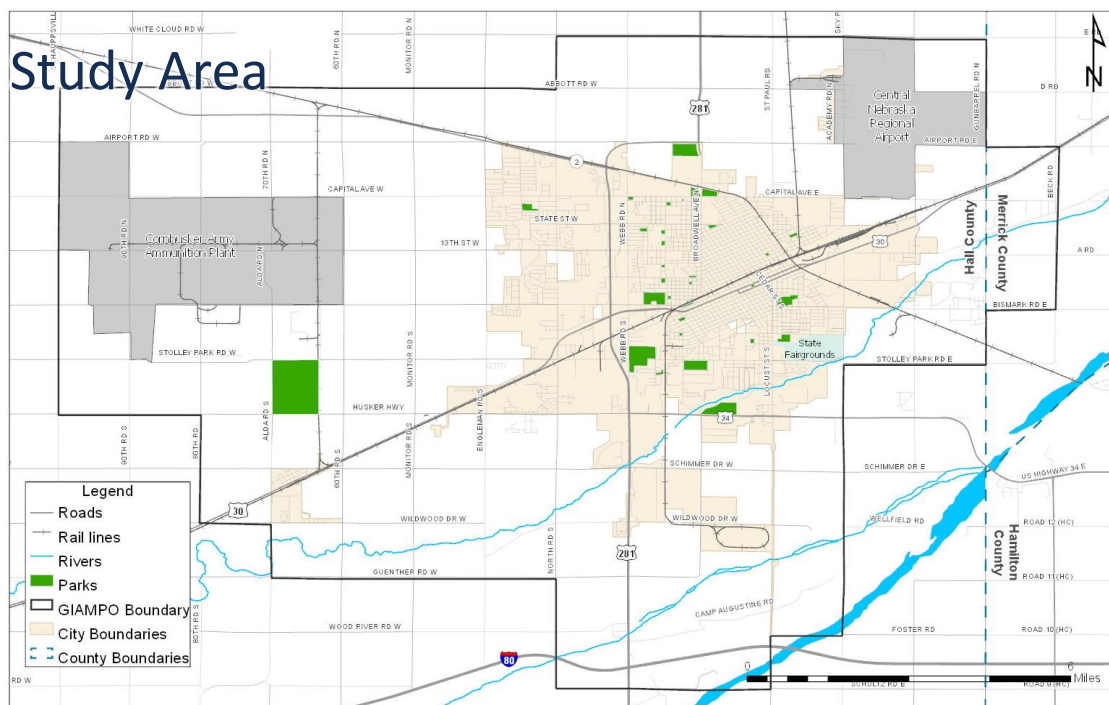
Focus Group Meetings

• Topic: Transportation Issues and Goals

Economic Group	Schools / Transportation Group		Agencies Group
Grand Island Convention & Visitors Bureau	Grow Grand Island - Livable Community	Centura Public Schools	Merrick County
Grand Island Area Chamber of Commerce	Multicultural Coalition	Wood River Public Schools	Hall County
Grand Island Economic Development Corporation	Nebraska Transit	Central Community College of Nebraska	City of Grand Island
Doniphan Economic Development Corporation	CNHD Walk/Bike Initiative	UNL Extension	Cairo
Wood River Economic Development Corporation	Grand Island Public Schools	Doane College	Wood River
Nebraska State Fair	Grand Island Northwest Public Schools	Grand Island Central Catholic School	Doniphan
Hornaday Manufacturing	Doniphan-Trumbull Public Schools	Heartland Lutheran Schools	Alda
Grand Island Express - Trucking and Shipping	Nebraska Public Transit (Mobility Manager)	FTA 5307/5310/5311 (MPO Transit Funding Committee)	
Sunrise Express	City of Grand Island - Police Department		
Devall Trucking, Inc.			
JBS S.A.			
Central Nebraska Transload			

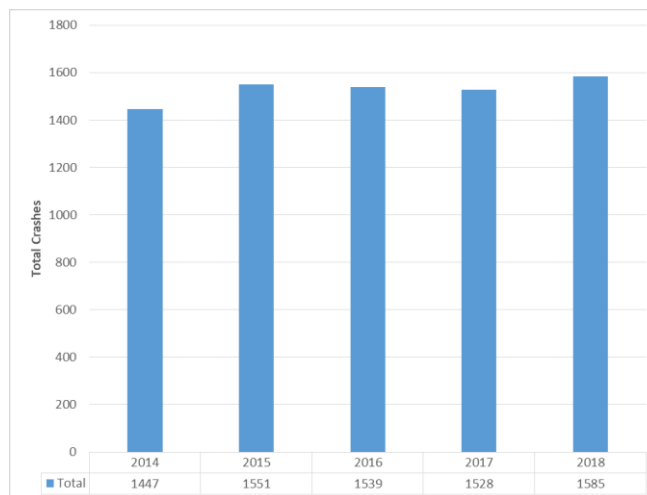
Draft Existing Conditions Results

- Draft Results Presented Today
- Document Will Be Provided in December
- Revisions Based on Comments
- Topics:
 - Crash / Safety
 - Traffic Operations
 - Travel Reliability
 - Pavement and Bridge Condition

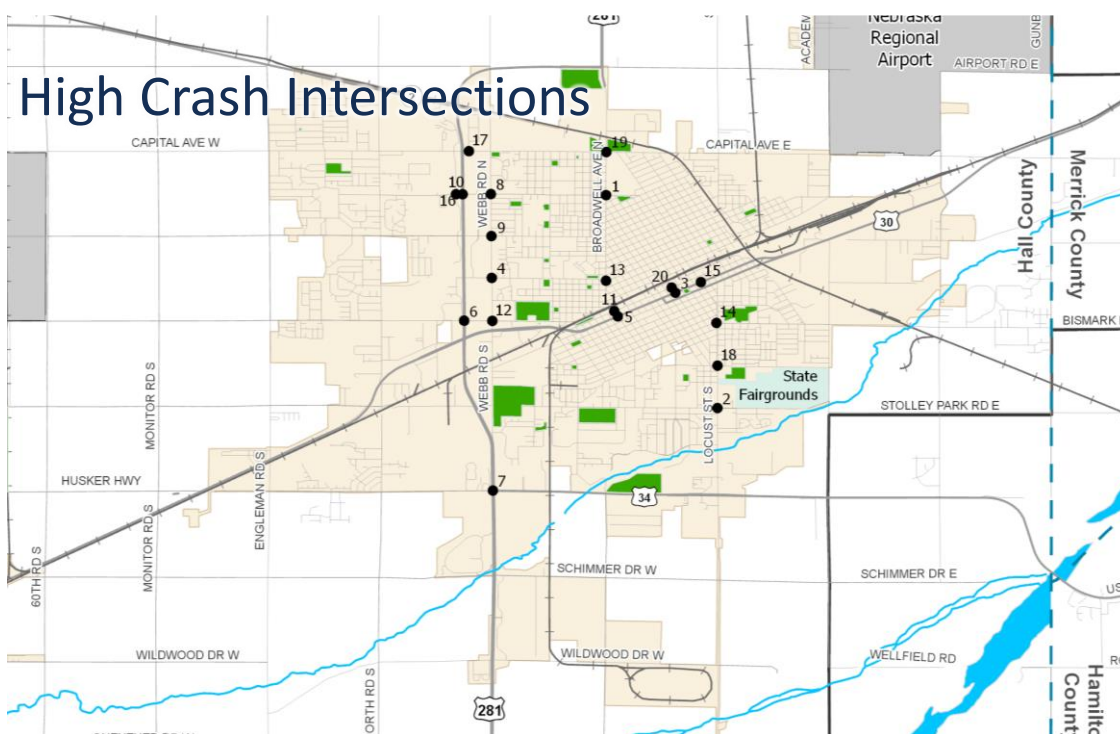
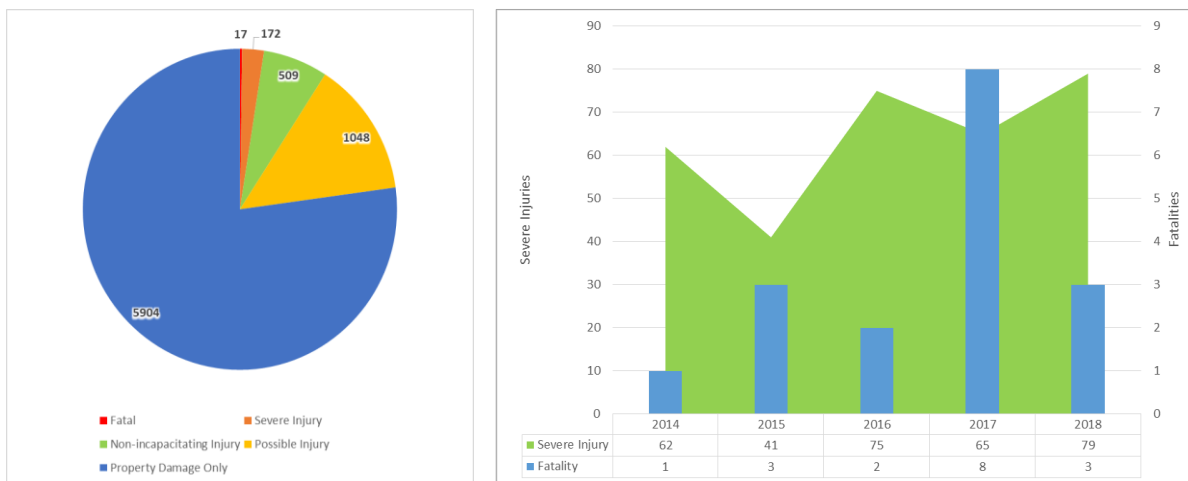


Crash Trends

- Steady Annual Trends for GIAMPO Area

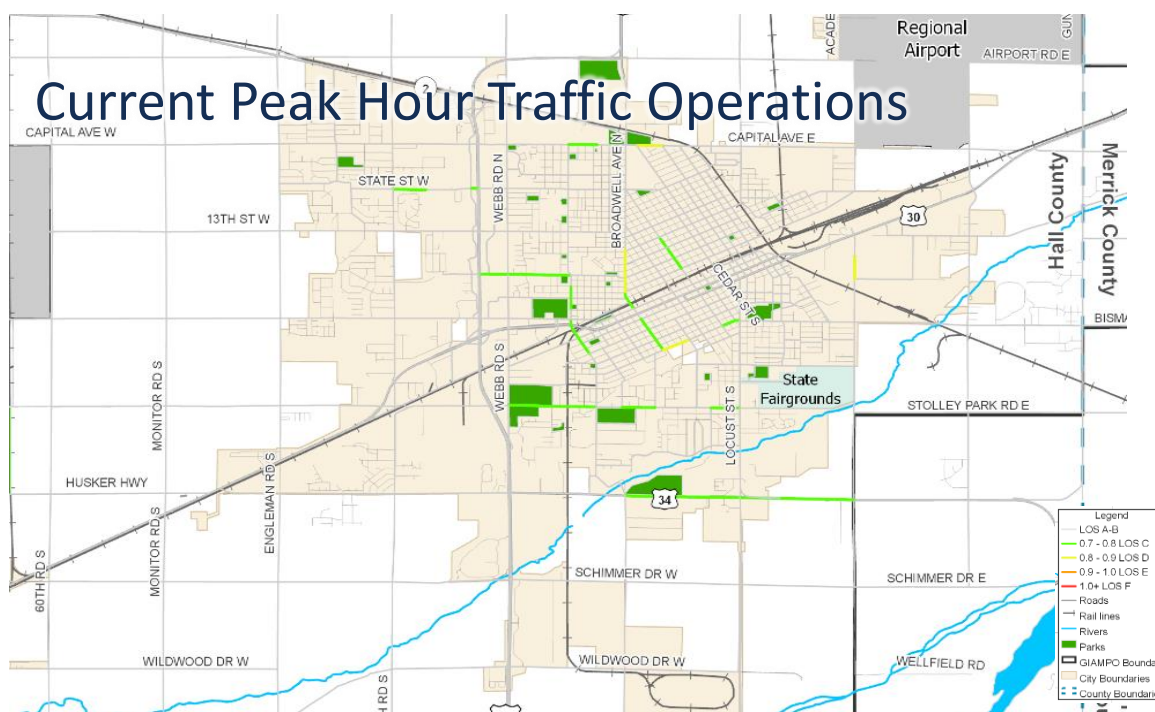


Crash Severity

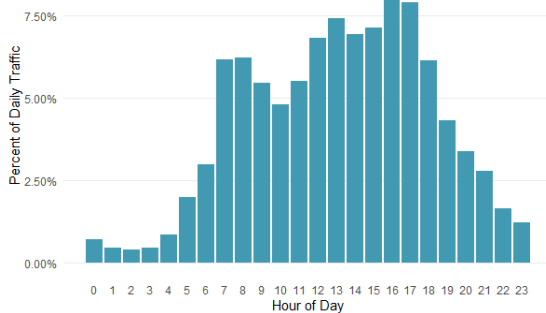


High Crash Intersections

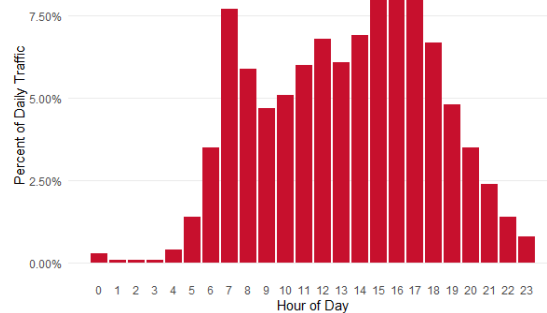
Rank	Intersection	2014	2015	2016	2017	2018	5-Year Crashes
1	State Street & Broadwell Avenue (5 Points)	13	22	14	14	15	78
2	Stolley Park Road & Locust Street	9	19	19	18	10	75
3	2nd Street & Eddy Street	12	16	10	17	18	73
4	Faidley Avenue & Webb Road	5	14	18	10	21	68
5	2nd Street & Broadwell Avenue	11	14	16	9	17	67
6	Old Potash Highway & Highway 281	0	1	38	3	22	64
7	Highway 34 & Highway 281	11	8	11	10	12	52
8	State Street & Webb Road	7	11	7	8	17	50
9	13th Street & Webb Road	8	15	10	8	9	50
10	State Street & Diers Avenue	7	10	10	11	11	49
11	3rd Street & Broadwell Avenue	5	9	13	12	10	49
12	Old Potash Highway & Webb Road	9	9	13	8	8	47
13	6th Street & Broadwell Avenue	7	11	11	7	11	47
14	Bismark Road & Locust Street	10	8	9	9	11	47
15	2nd Street & Walnut Street	7	11	8	11	7	44
16	State Street & Highway 281	1	1	16	1	22	41
17	Capital Avenue & Patrick Avenue	8	3	3	10	17	41
18	Fonner Park Road & Locust Street	6	4	13	6	11	40
19	Capital Avenue & Broadwell Avenue	7	3	10	8	9	37
20	3rd Street & Eddy Street	7	6	13	4	5	35



Traffic by Time of Day



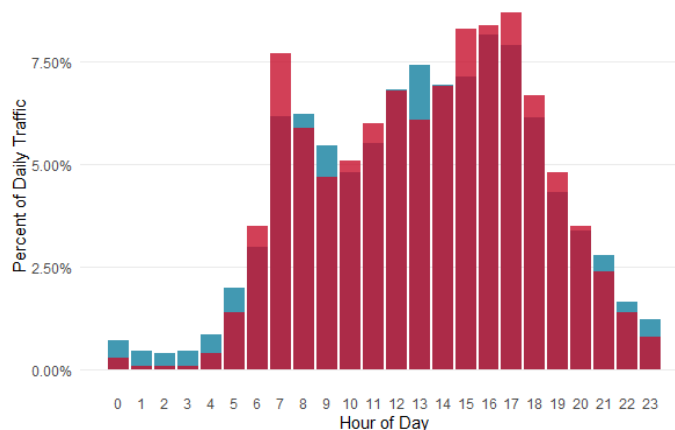
Grand Island Traffic Distribution
by Hour



National Average Traffic Distribution
by Hour

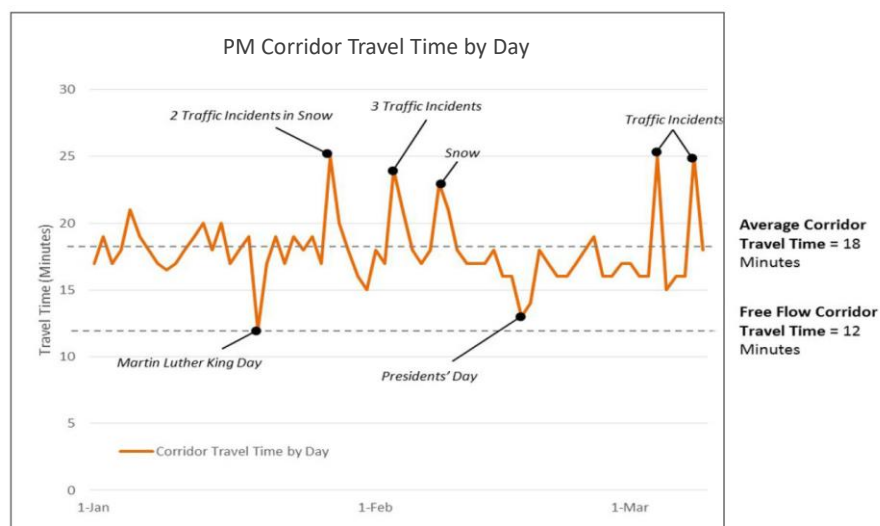
Traffic by Time of Day

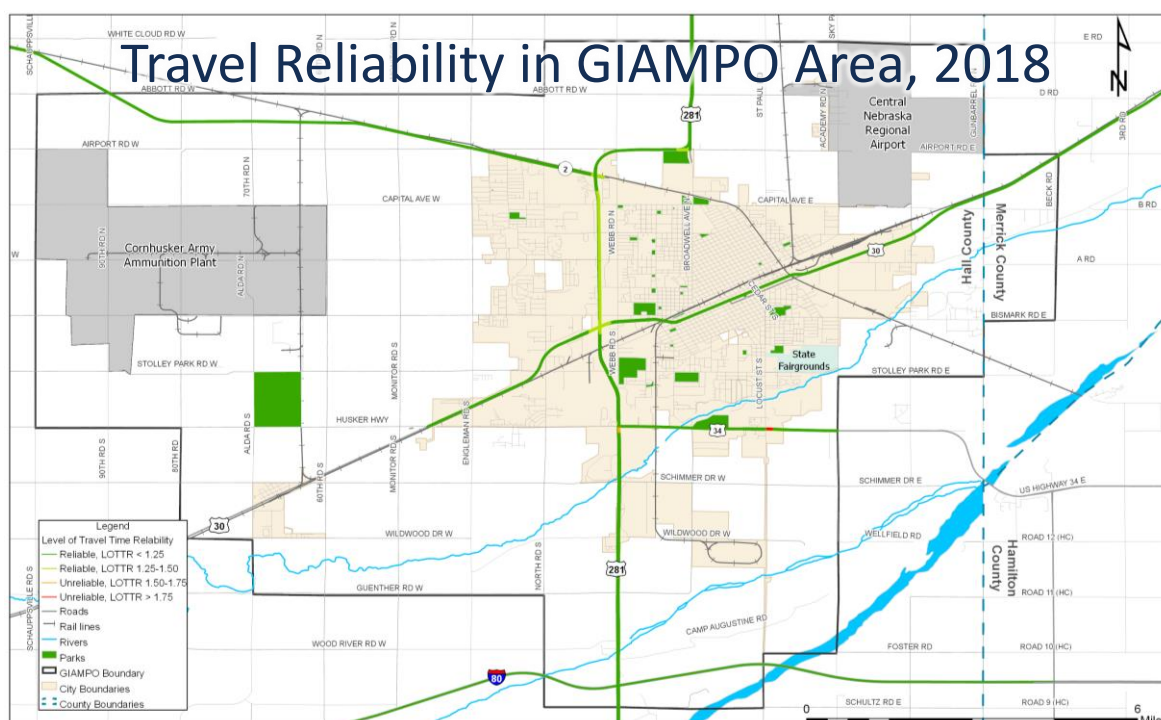
- Grand Island Has More:
 - Overnight Traffic
 - Late Morning Traffic
 - Noon Hour Traffic
- Grand Island Has Less:
 - AM Peak traffic
 - PM Peak traffic



Travel Reliability Illustrated

- How Consistent are Corridor Travel Times?



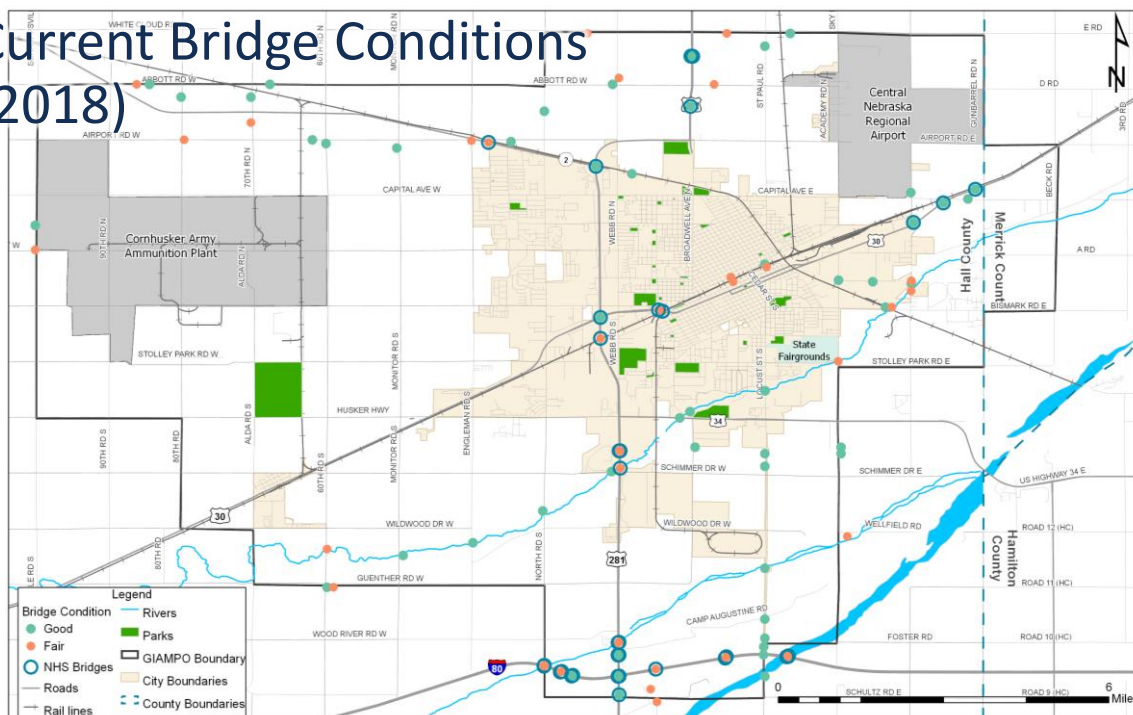


Bridge and Pavement

- Awaiting NDOT Pavement Condition Data
- Bridges are measured for National Highway System (NHS)
- Target is to have 95% of Bridges in Good or Fair condition
 - GIAMPO is at 100%

Bridge Rating	Total Deck Area Conditions
Good	36%
Fair	64%
Poor	0%

Current Bridge Conditions (2018)



Next Steps

- Provide Draft Existing Conditions Document
- February 4 Open House
- Finalize LRTP Goals and Objectives

Technical Advisory Committee Meeting February 10, 2020

Visioning and Issues Engagement Results GIAMPO TAC February 10, 2020



Agenda

- Summary of Focus Groups and Public Visioning Workshop
- Next Steps for Long Range Transportation Plan Update

Focus Group Meetings - February 4

- Focus Group 1
 - Transportation Providers / Emergency Responders / Schools / Special Interests
 - 9:30 to 10:30
 - 18 Attendees
- Focus Group 2
 - Economic Development / Large Employers
 - 11:00 to 12:00
 - 8 Attendees
- Focus Group 3
 - Elected Officials
 - 1:00 to 2:00
 - 5 Attendees



Public Visioning Workshop - February 4

- Grand Island Public Library
- 5:00 p.m. – 6:30 p.m.
- 35 Public Attendees
- News Media in Attendance
 - Local 4 News
 - Grand Island Independent



Public Open House - February 4

- Outreach / Promotion Efforts:
 - Press Release
 - Social Media
 - Email Notification
 - Spanish Language Outreach
 - Promotion at Other Meetings
 - Media Interviews
- Plan Information Provided
- Public Exercises:
 - Issues Mapping
 - Priorities / Goals Input



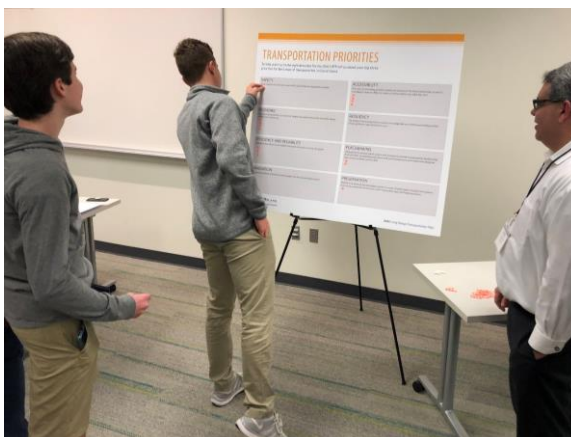
Exercise 1 - Issues Mapping

- Where Could Transportation Be Improved?
- What Are Good Transportation Examples You Want to See More Of?
- Issues Results still being summarized

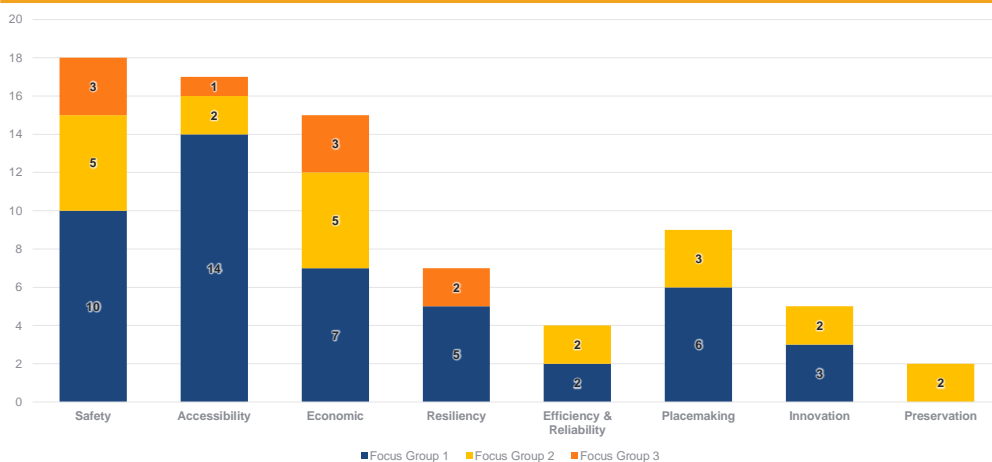


Exercise 2 - Priorities / Goals Ranking

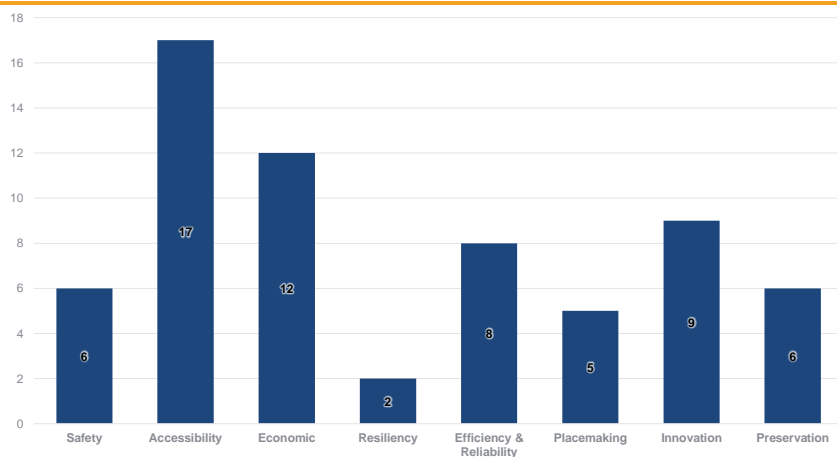
- Respondents Choose Top 3 Transportation Priorities
- Choices Were:
 - Safety
 - Accessibility
 - Economic
 - Resiliency
 - Efficiency and Reliability
 - Placemaking
 - Innovation
 - Preservation



Preliminary Priority Area Results Focus Groups



Preliminary Priority Area Results Open House Participants



Goals and Performance Measures



Next Steps

- Finalize LRTP Goals and Objectives
- Develop Performance Measures
- Develop Transportation Strategies and Alternatives

2045 LRTP Schedule



Thank You!

Questions?

Technical Advisory Committee Meeting August 10, 2020

L RTP Update GIAMPO TAC August 10, 2020



Agenda

- Future Projections:
 - Land Use Growth, 2020-2045
 - 2045 Traffic Conditions
- LRTP Project List
- Project Prioritization Overview
- Next Steps

Online Alternatives and Strategies Meeting

Meeting Objective	<i>Collect Public Input on Ideas for Roadway, Bicycle & Pedestrian, and Public Transit Projects and Strategies</i>
Meeting Dates	<i>June 1 through June 17, 2020</i>
Meeting Attendees	256
Meeting Comments	509

MPO Area Land Use Growth

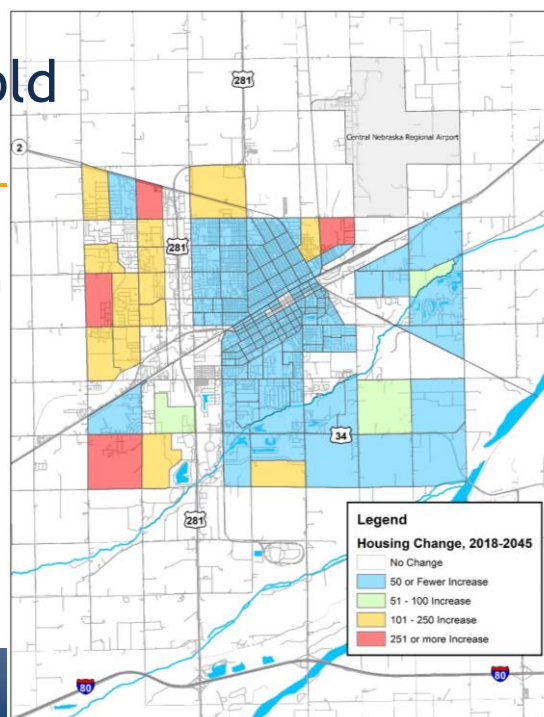
- Reviewed a Combination of Data Sources:
 - Historical Population Trends
 - Woods and Poole Economics Forecasts

MPO-Area Socio-Economic Projections

	2017	2045	Change
Population	58,756	72,772	+24%
Households	21,769	26,588	+22%
Employment	32,590	41,715	+28%
Retail	4,801	4,829	+1%
Services	14,752	21,562	+46%
Basic	12,011	14,050	+17%
Govt	1,026	1,274	+24%
Avg Household Size	2.70	2.74	
Population to Jobs Ratio	1.80	1.74	

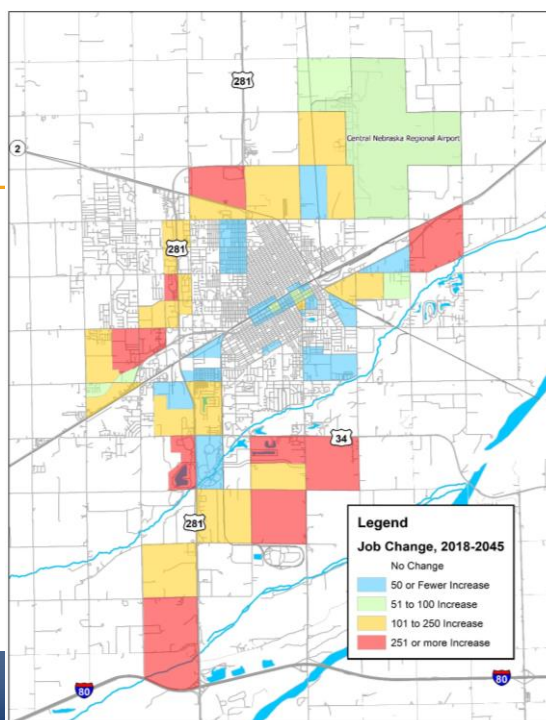
Anticipated Household Growth

- Worked with Planning / Engineering Staff for Allocation of Future Housing and Jobs



Anticipated Job Growth

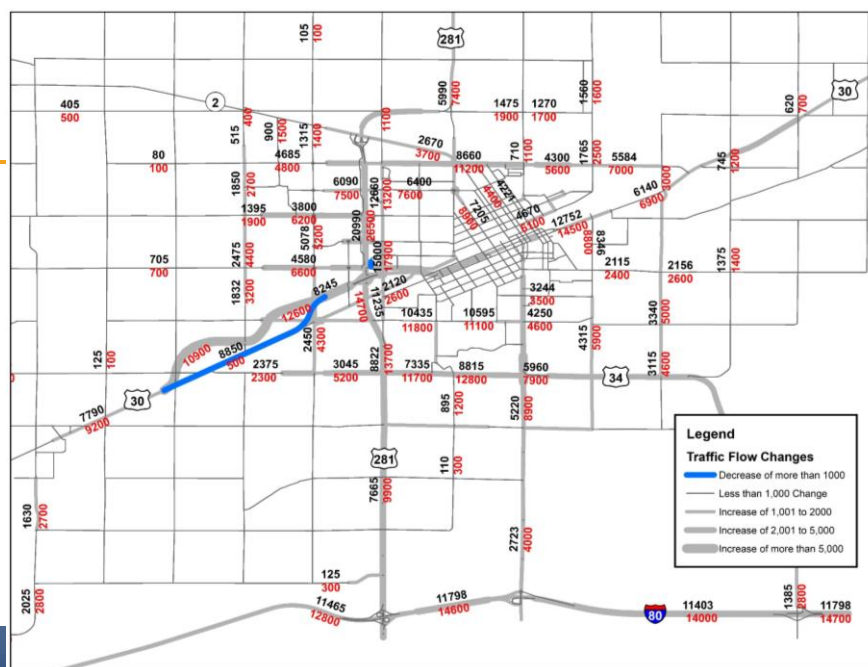
- Worked with Planning / Engineering Staff for Allocation of Future Housing and Jobs



CITY OF GRAND ISLAND
Grand Island Area Metropolitan Planning Organization

2045 Traffic Forecasts

- Baseline "Existing-plus-Committed" Roadway Network
- Future Operational Issues:
 - US 281 corridor between US 34 and Faidley (LOS D/E)
 - Capital Ave Broadwell to St Paul Rd (LOS D/E)
 - Broadwell Faidley to 3rd (LOS D)
 - Anna St between Broadwell and Adams (LOS D)



CITY OF GRAND ISLAND
Grand Island Area Metropolitan Planning Organization

CITY OF GRAND ISLAND

Grand Island Area Metropolitan Planning Organization

2045 LONG RANGE TRANSPORTATION PLAN

Project List Sources



**Future Traffic Operations
Results**



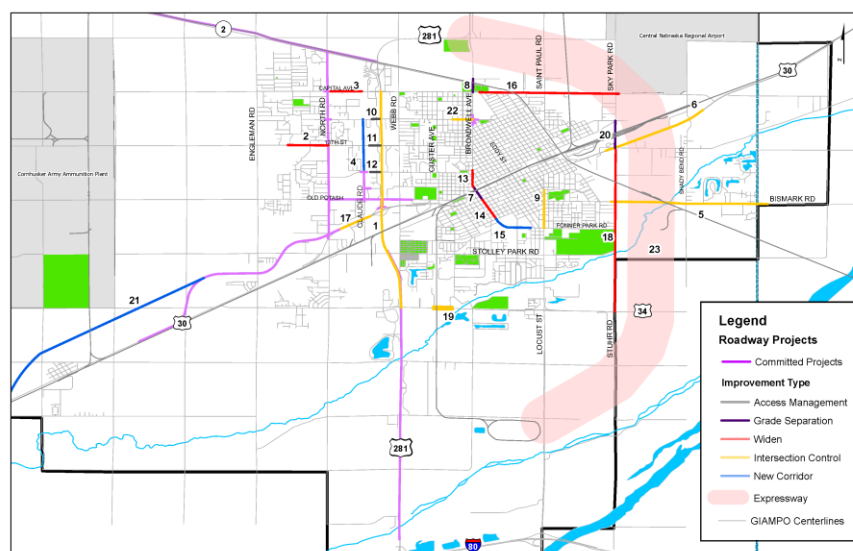
**Other Studies and 2040
L RTP**



**Online Public Meeting:
Project Ideas**

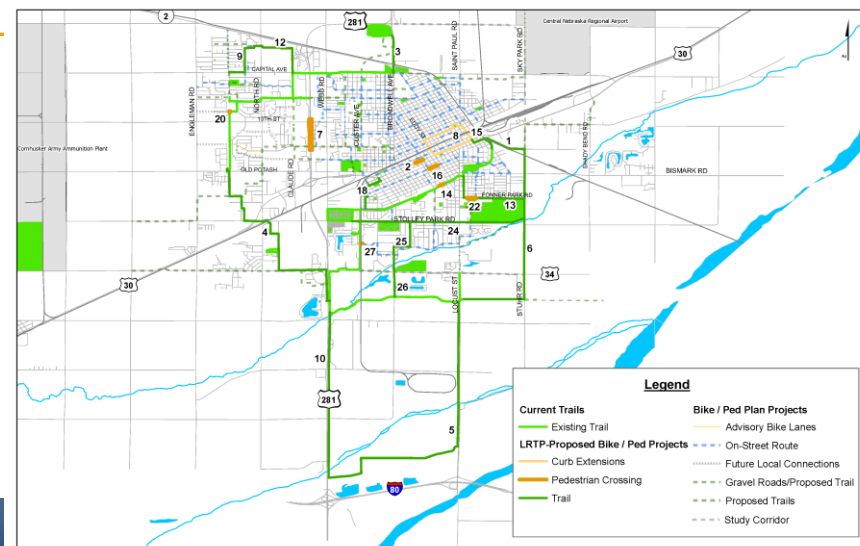
Preliminary Roadway Project List

- Details in Packet



Preliminary Bike & Pedestrian Project List

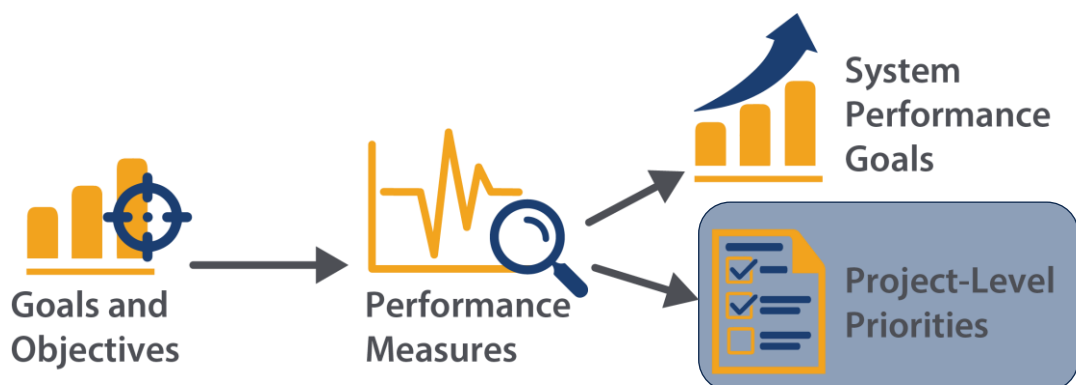
- Details in Packet






Preliminary Transit Projects

- New Transit Operations Building
- Consideration of Flex Route System
- Continue Replacement and Maintenance of Rolling Stock




Performance-Based Plan: Project Prioritization



Goals and Objectives

Goal Area		Objectives
	System Safety	<ul style="list-style-type: none"> • Reduce the incidence and rate of crashes • Reduce severe injury and fatal crashes • Reduce bicycle and pedestrian crashes • Maintain safety on transit vehicles
	Multi-modal Connectivity and Accessibility	<ul style="list-style-type: none"> • Provide improved connections to key destinations across the community • Reduce regional freight impediments • Increase the connectivity of the bicycle and pedestrian system • Continue to provide quality public transit services
	Economic Vitality	<ul style="list-style-type: none"> • Identify transportation strategies that support economic development projects • Identify transportation strategies that provide enhanced access to jobs for low income residents • Provide active transportation options that promote the health and well-being of residents • Provide access to tourist destinations • Identify how transportation can support affordable housing • Promote freight connectivity and access

Goals and Objectives

Goal Area	Objectives
 System Preservation	<ul style="list-style-type: none"> Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition
 Environment and System Resiliency	<ul style="list-style-type: none"> Promotes energy conservation, especially for non-renewable energy sources Transportation projects should limit impacts to the natural and build environment Invest in alternative and renewable fuel infrastructure when practical Identify strategies to make transportation infrastructure more resilient to natural and manmade events
 Traffic Operations and System Reliability	<ul style="list-style-type: none"> Limit the emergence of recurring congestion Improve travel reliability on arterial roadways Support high-levels of freight reliability on the state highway system Promote development outside of flood prone areas

Next Steps

- Prioritize Projects
- Develop Fiscally-Constrained Project List
- Draft Plan

2045 LRTP Schedule



Thank You!

Questions?

Technical Advisory Committee Meeting October 19, 2020

L RTP Update GIAMPO TAC October 19, 2020



Agenda

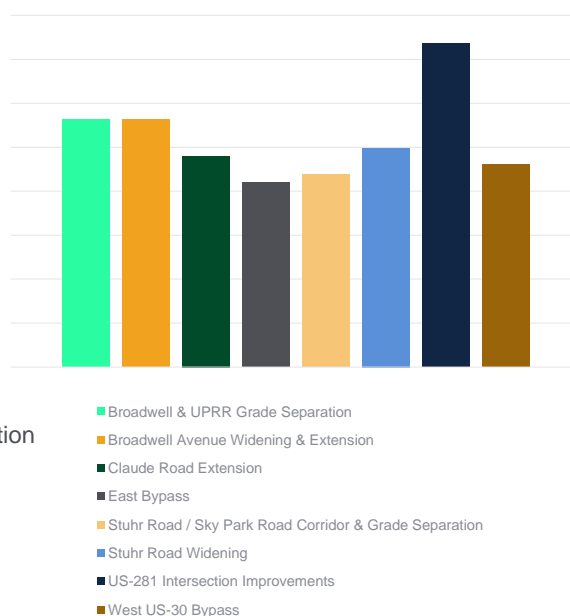
- Public Priorities Exercise Results
- Working Draft of Plan Projects
- Next Steps

Online Project Prioritization Exercise

Exercise Objective	<i>Get feedback from public on their top roadway, bicycle & pedestrian, and transit projects. Provide public education on transportation funding.</i>
Exercise Dates	September 14 – 30, 2020
Exercise Responses	669

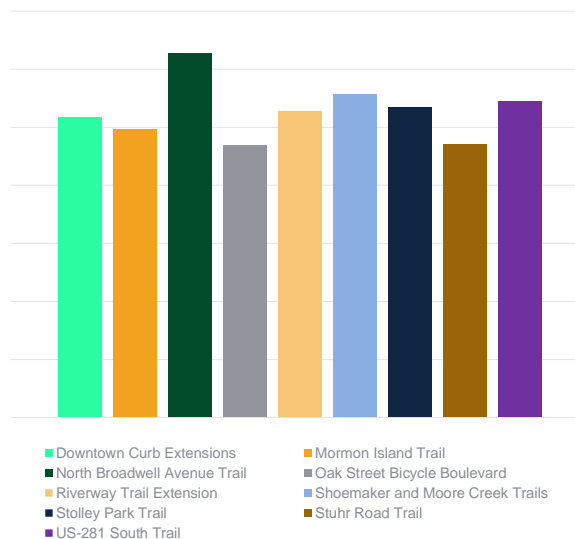
Public Roadway Ranking

1. US-281 Intersection Improvements
2. Tied:
 - * Broadwell & UPRR Grade Separation
 - * Broadwell Avenue Widening & Extension
3. Stuhr Road Widening
4. Claude Road Extension
5. West US-30 Bypass
6. Stuhr Road / Sky Park Road Corridor & Grade Separation
7. East Bypass



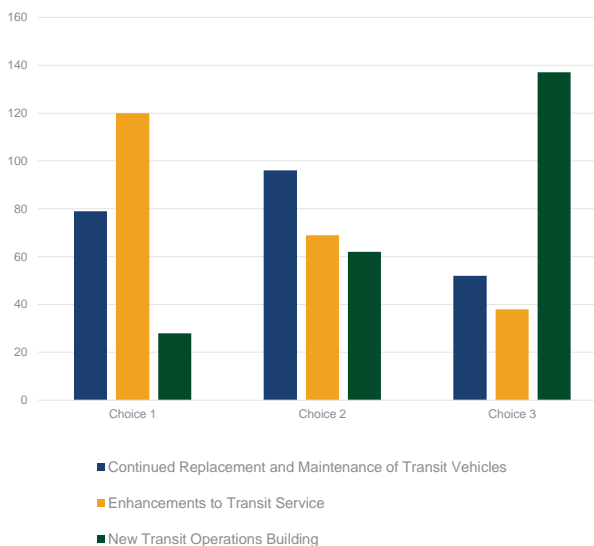
Public Bike and Pedestrian Ranking

1. North Broadwell Avenue Trail
2. Shoemaker and Moore Creek Trails
3. US-281 South Trail
4. Stolley Park Trail
5. Riverway Trail Extension
6. Downtown Curb Extensions
7. Mormon Island Trail
8. Stuhr Road Trail
9. Oak Street Bicycle Boulevard



Public Transit Ranking

1. Enhancements to Transit Service
2. Vehicle Replacement and Maintenance
3. New Transit Operations Building



Draft Plan Project List




- Is “Fiscally-Constrained”
 - Based on what we can reasonably afford through 2045
- Draft Projects Selected Through:
 - Goals and Objectives
 - Identified System Needs
 - Public Input
 - Costs / Revenue






Performance-Based Plan: Project Prioritization



Goals and Objectives

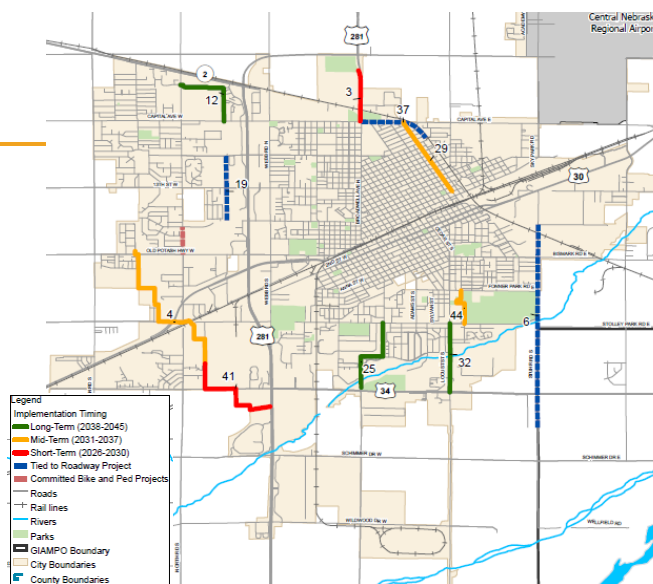
Goal Area	Objectives
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 Economic Vitality	<ul style="list-style-type: none"> • Identify transportation strategies that support economic development projects • Identify transportation strategies that provide enhanced access to jobs for low income residents • Provide active transportation options that promote the health and well-being of residents • Provide access to tourist destinations • Identify how transportation can support affordable housing • Promote freight connectivity and access

Goals and Objectives

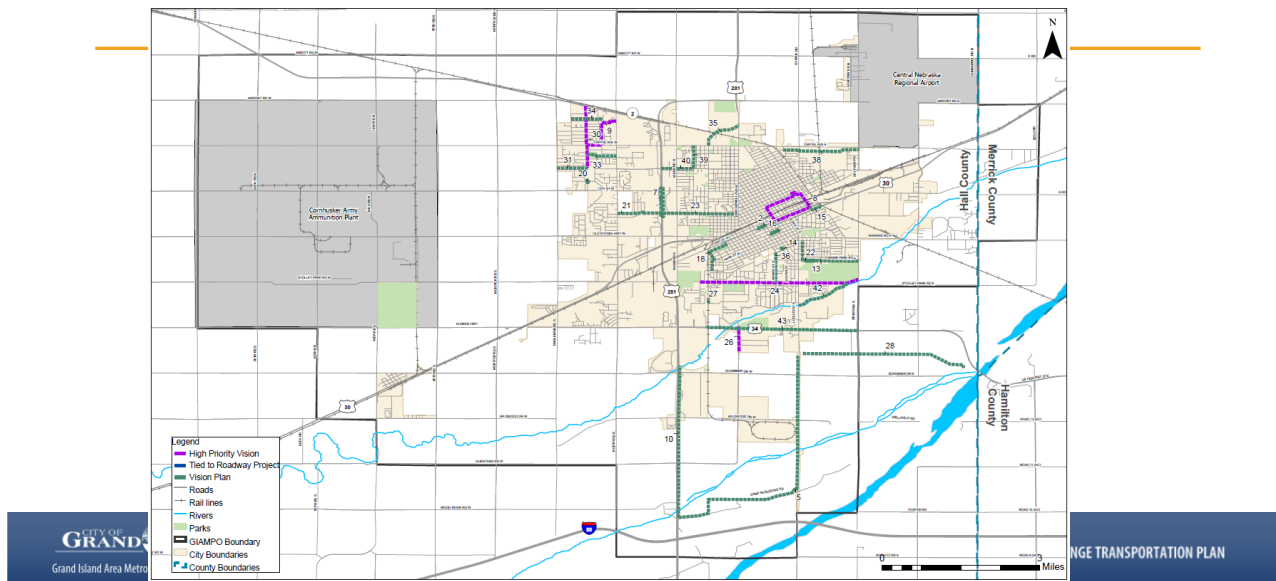
Goal Area	Objectives
 System Preservation	<ul style="list-style-type: none"> Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition
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 Traffic Operations and System Reliability	<ul style="list-style-type: none"> Limit the emergence of recurring congestion Improve travel reliability on arterial roadways Support high-levels of freight reliability on the state highway system Promote development outside of flood prone areas

Bicycle and Pedestrian Projects - Draft List

Time Frame	Project ID	Project Description
Short-Term (2026-2030)	3	Capital Ave Trail to Eagle Scout Park Connection
	41	Trail between Cedar Hills Park and the new medical center, Stuhr Trail and Riverway Trail.
Mid-Term (2031-2037)	4	Connection between Shoemaker Trail and Cedar Hills Park.
	44	State Fair Boulevard / Bellwood Drive Trails
	29	Oak Street Bike Boulevard
Long-Term (2038-2045)	12	NW High School to State Street Trail Connection
	25	Stolley Park to LE Ray Park Trail
	32	South Locust Street Trails

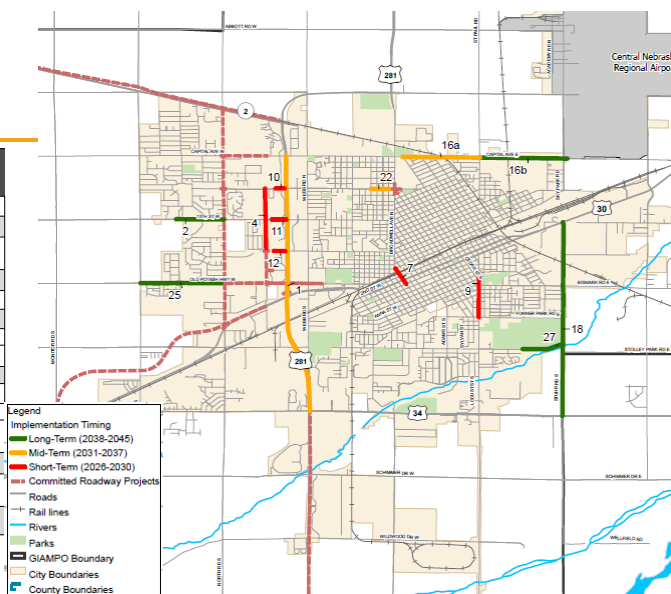


Bike and Pedestrian - Vision Plan

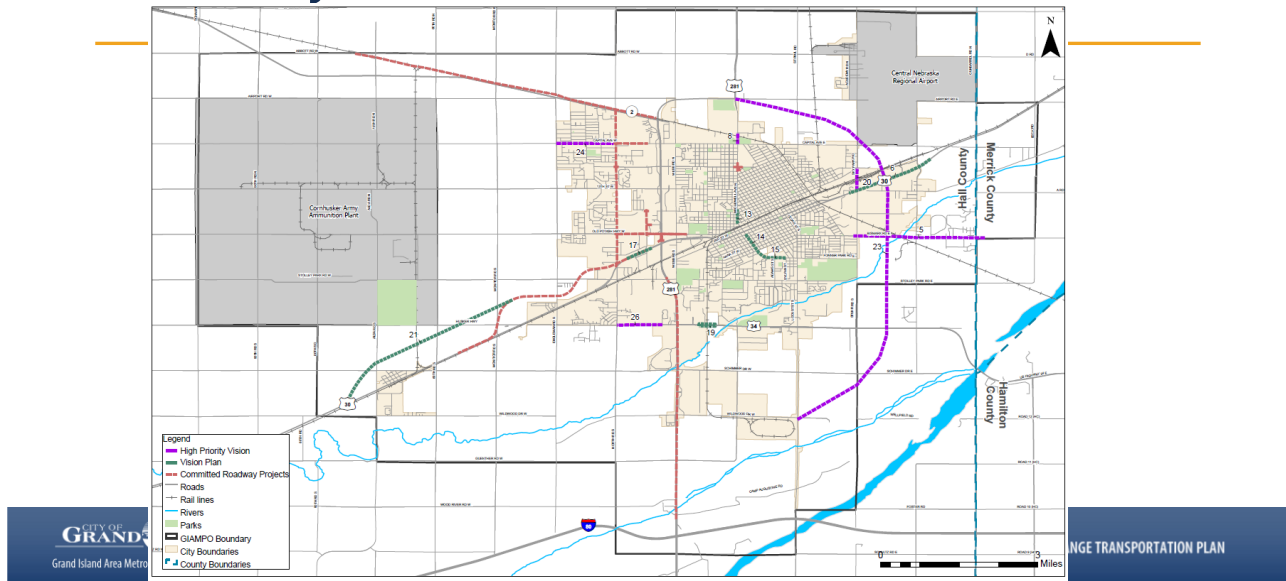


Roadway Projects - Draft List

Time Frame	Project ID	Project Description	Improvement Type
Short-Term (2026-2030)	4	Claude Rd, Faidley to State	New Corridor
	7	Broadwell Ave at UP railroad	Grade Separation
	9	Locust St, Walnut to Fonner Park	Reconstruction and Intersection Improvement
	10	State St west of US 281	Access Management
	11	13th St west of US 281	Access Management
	12	Faidley Ave west of US 281	Access Management
Mid-Term (2031-2037)	1	US 281, US 34 to Capital Ave	Intersection Improvements
	16a	Capital Ave, Broadwell to St Paul	Widen
	22	State St, Lafayette to Broadwell	Widen
Long-Term (2038-2045)	2	13th St, North Ave to Independence Ave	Widen
	16b	Capital Ave, St Paul to Sky Park	Widen
	18	Stuhr Road, Highway 30 to Highway 34	Widen
	25	Old Potash, Engelman to North	Widen
	27	Stolley Park Road widening to 3 lanes between Kingswood Dr and Stuhr Rd	Widen



Roadway - Vision Plan



Transit Projects - Draft List

- New Transit Facility
- Continued Funding of Transit Operations and Maintenance
- Updated Transit Development Plan
- Transit Service Enhancements



Next Steps

- Get Your Feedback on Project Lists
- November 12 Open House
- Develop Draft Plan Document - December

Thank You!

Questions?

Resource Agency Consultation

Resource Agency Letter

To whom it may concern:

The Grand Island Area Metropolitan Planning Organization (MPO) is currently updating its Long Range Transportation Plan (LRTP) to the year 2045. The MPO is the designated transportation planning body for the greater Grand Island, Nebraska metropolitan area, charged with carrying out the area's federally-required metropolitan transportation planning process. More information on the MPO is available at: www.grand-island.com/departments/public-works/metropolitan-planning-organization.

The MPO has worked with its constituent organizations, stakeholders and the public on updating the LRTP over the past several months, and is currently soliciting input on the range of potential projects and strategies for inclusion in the final plan. More information on the plan is available at www.gi2045.com. This input, along with technical analysis of these projects, will be used to develop a final planned list of multimodal projects that fit expected financial constraints for roadway, bicycle/pedestrian, public transit, and freight projects by the year 2045.

As a part of the LRTP update, the MPO is consulting with other agencies responsible for planning activities in the region that are affected by transportation, consistent with 23 CFR § 450.324(g). We are seeking your input on the list of potential projects. Descriptions and mapping of the projects currently being considered for inclusion in the plan are attached. We ask that your agency review the list of potential projects under consideration and provide feedback by ##, 2020.

Comments can be sent to Andres Gomez, MPO Manager at:

Mail:

Grand Island Area MPO
Attn: Andres Gomez
100 E 1st Street
Grand Island, NE 68801

E-Mail:

andyg@grand-island.com

Thank you in advance for your review and input. Feel free to reach out to me with any questions.

Agency Responses

Nebraska Department of Natural Resources

From: Bradley, Jesse <Jesse.Bradley@nebraska.gov>

Sent: Wednesday, September 23, 2020 9:59 AM

To: Andy Gomez <AndyG@grand-island.com>

Subject: RE: 2045 Long Range Transportation Plan - Resource Agency Consultation

This message was sent from outside the company. Please do not click links or open attachments unless you recognize the source of this email and know the content is safe. If you are unsure submit a helpdesk ticket at <https://helpdesk.grand-island.com>

Dear Andy:

Thank you for the opportunity to review and comment on the Grand Island Area Metropolitan Planning Organization's (MPO's) 2045 Long Range Transportation Plan. Based on my staff's review of the trail and roadway project maps provided in your September 11 email, we don't see those projects considered in the MPO's transportation plan would have significant impacts on our agency's (Department of Natural Resources) responsible areas of Surface Water Rights, Groundwater Wells, Dam Safety, Floodplain Management and Stream Gaging programs.

When those planned trails and roadway projects are being implemented, they should be developed in compliance with the local floodplain regulations and be permitted by your local Floodplain Administrator if they are within the regulatory floodplains. Their potential impacts to dams, surface water rights, stream gages and groundwater wells should also be identified and minimized.

If you need additional information from our agency in developing MPO's Long Range Transportation Plan, Please contact me.

Sincerely,

Jesse

From: [Tonjes, Kendall](#)
To: andyg@grand-island.com
Cc: [Wacker, Craig](#); [Williams, Jeremy](#); [Carbee, Jason](#)
Subject: RE: NDOT Letter on GIAMPO LRTP Funding Methodology
Date: Tuesday, January 12, 2021 10:09:39 AM

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Andy,

I agree with the methodology used with that caveat that all funds are allocated by NDOT through a competitive process and therefore cannot be guaranteed to be available as shown in the MPO TIP.

Kendall Tonjes
Highway Program Manager
Program Management Division
Nebraska Department of Transportation
402.730.4145

From: Carbee, Jason <Jason.Carbee@hdrinc.com>
Sent: Monday, January 11, 2021 2:16 PM
To: Tonjes, Kendall <Kendall.Tonjes@nebraska.gov>
Cc: andyg@grand-island.com; Wacker, Craig <craig.wacker@nebraska.gov>; Williams, Jeremy <Jeremy.Williams@hdrinc.com>
Subject: NDOT Letter on GIAMPO LRTP Funding Methodology

Kendall:

Craig, Andy, and I were on a call with Justin Luther from FHWA last week to discuss their comments on the draft Grand Island Metropolitan Transportation Plan. One of their comments was that they wanted to see a letter from NDOT staff supporting the methodology we used to project future HSIP and STBG-TA funds for GIAMPO. Attached is the documentation we intend to include in the Final Draft.

To refresh your memory, here is what NDOT and the GIAMPO team discussed for each of the funding areas when we spoke in February and later confirmed in September 2020:

- STBG-TA Funding:
 - Annually to First Class Cities - \$500,000 Statewide
 - Grand Island Portion of First Class Population - 10.9%
 - Annual Statewide Remaining TAP Funding - \$2,900,000 Statewide
 - GIAMPO Portion of Statewide Population - 3.1%
 - This gave us an estimated annual TAP funding of \$143,000 (in 2020\$) for GIAMPO.
- HSIP funding:
 - Annually to Local Jurisdictions - \$11,000,000 Statewide
 - GIAMPO Portion of Statewide Population - 3.1%

- This gave us an estimated annual HSIP funding of \$340,000 (in 2020\$) for GIAMPO.

Can you reply to this email and confirm that you believe this was the methodology NDOT agreed to for estimating reasonable future STBG-TA and HSIP revenues, understanding that these funding levels are not guaranteed? Thank you!

[Jason Carbee](#), AICP

Professional Associate

HDR

1917 S. 67th Street

Omaha, NE 68106-2973

D 402.399.1370 **M** 402.312.0260

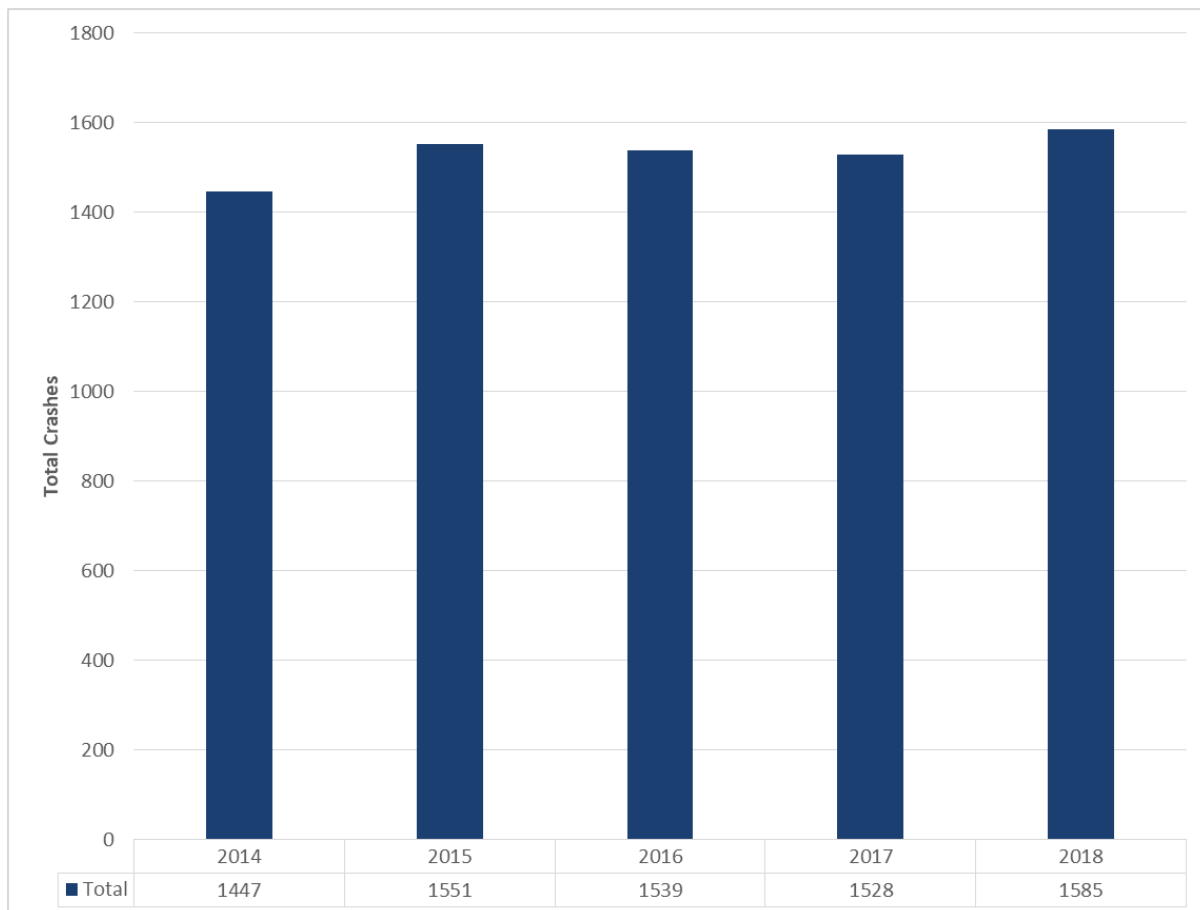
Jason.Carbee@hdrinc.com

hdrinc.com/follow-us

System Safety

This section provides a summary of the crash patterns and trends for the region. Crash data provided by Nebraska DOT for the years 2014-2018 were reviewed and analyzed for the LRTP, and some insights into regional safety issues are provided. The data reported in this section are only for the Metropolitan Planning Area (MPA) of the GIAMPO, which included 7,650 reported crashes over that five-year period. **Figure 1** shows the total number of reported crashes by year for the MPA.

Figure 1: Total Reported Crashes in GIAMPO Study Area, 2014-2018



Crash Severity

One of the key performance measures tracked by GIAMPO and NDOT are the number and rate of severe injury and fatal crashes. **Figure 2** shows the five-year breakdown of crashes by severity type. As shown:

- The majority of crashes were property damage only (PDO) at 77%, possible injury at 14%, or minor / non-incapacitating injury at 7% of all crashes.
- Severe injuries were involved in approximately 2% of all crashes.
- Fatalities were involved in approximately 0.2% of all crashes.

Figure 2: Distribution of Crash Severity, 2014-2018

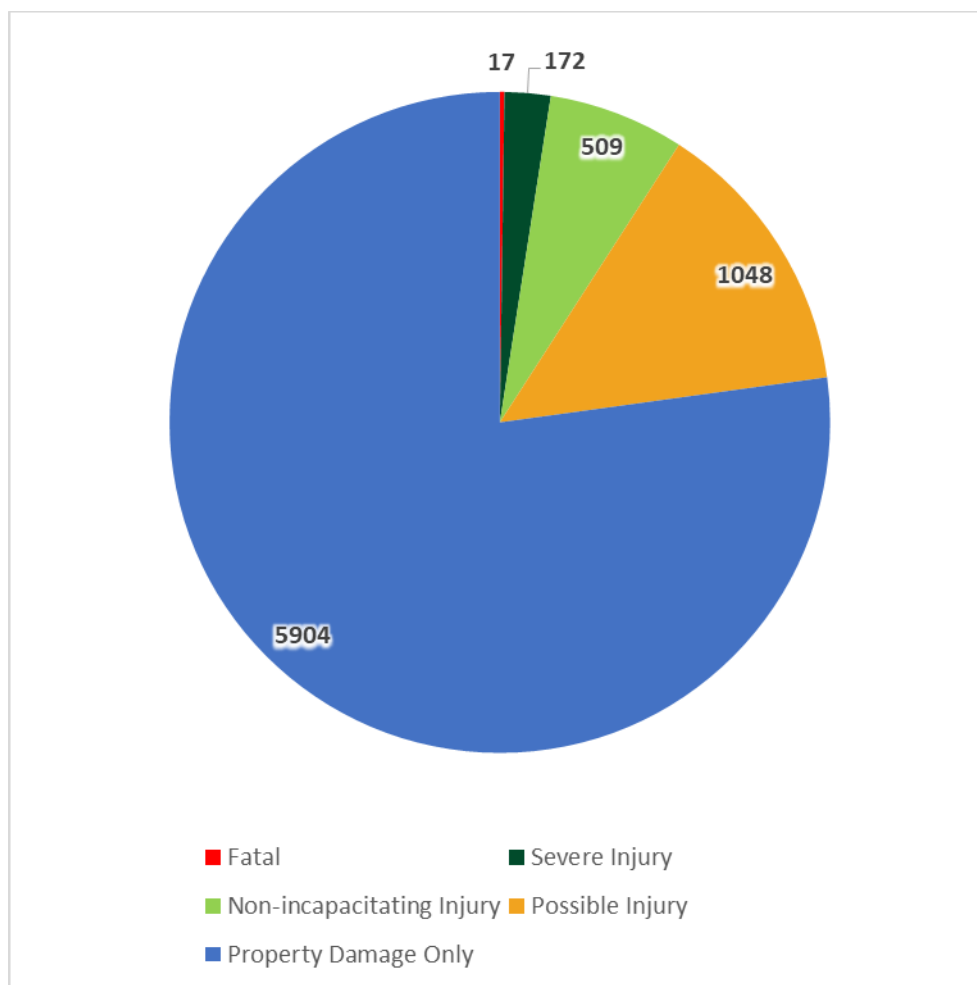
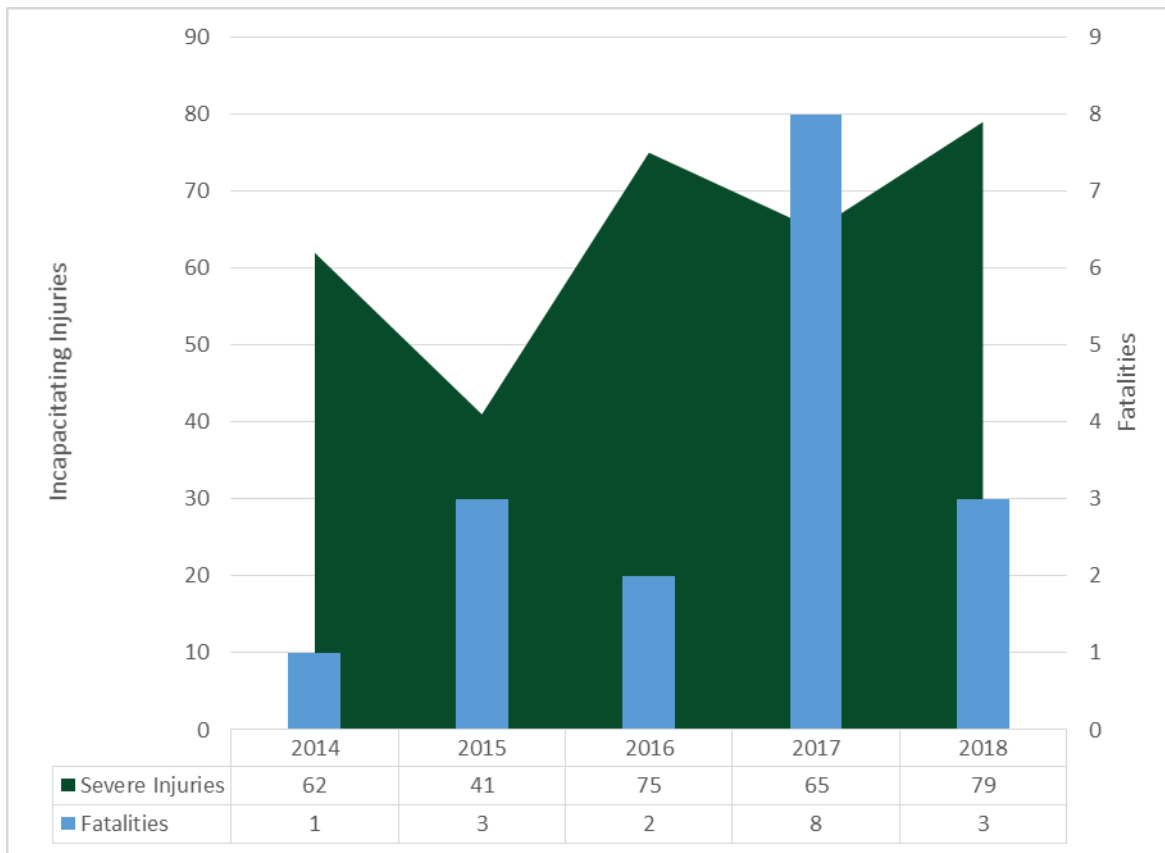


Figure 3 shows the number of severe injuries with the green curve and the left y-axis, and fatalities with the blue bars and right y-axis. As shown in **Figure 3**:

- The number of severe injuries has increased and decreased year-by-year, with a general 5-year trend of increases between 2014 and 2018.
- The number of fatalities has been between one (1) and three (3) most years, with a spike to eight (8) in 2017.
- Over the five-year period:
 - There have been 17 fatalities in crashes, or 3.4 per year.
 - There have been 322 severe injuries in crashes, or 64.4 per year.

Figure 3: Number of Severe Injury and Fatal Crashes by Year



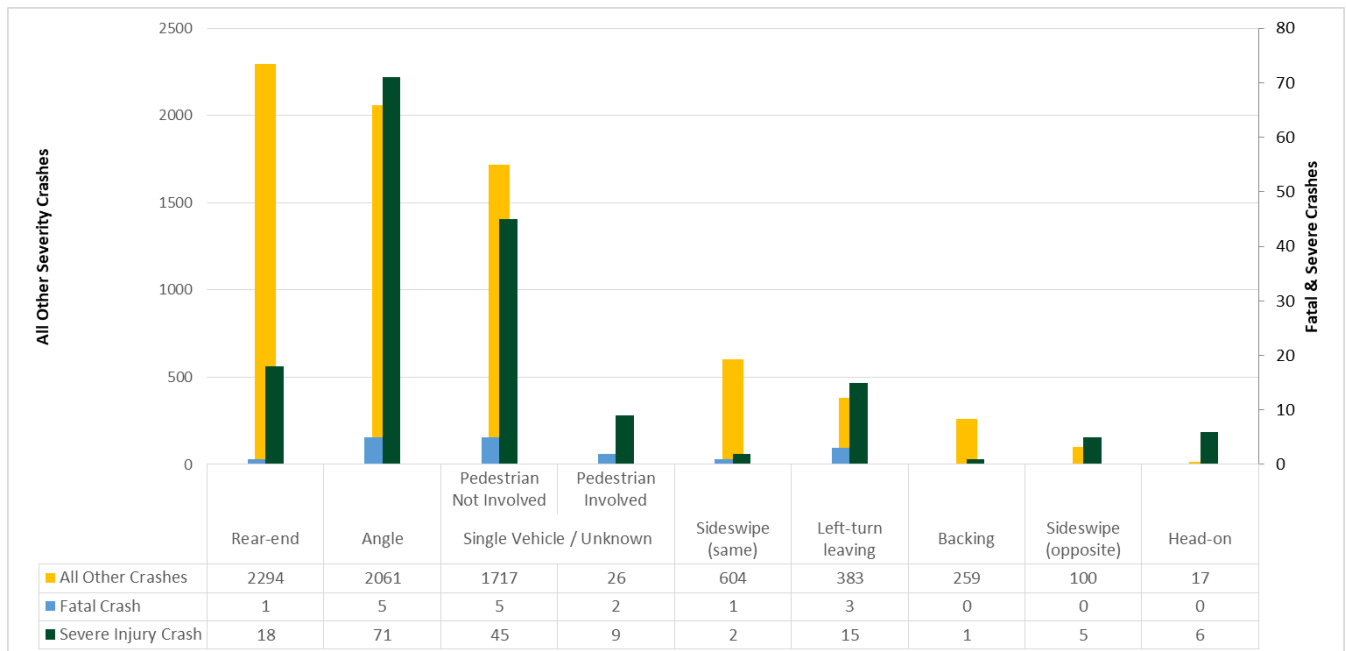
Manner of Crash

The manner of crash can provide information on what types of crashes are most prevalent in the region, which ones have the highest risk of severe injury or fatalities, and what issues might be contributing to crashes in the region. **Figure 4** shows a breakdown of the five-year crash types in the region, along with the number of severe injury, fatal, and other (minor injury or no injury) crashes for each crash type. As shown in **Figure 4**:

- The most frequent type of crashes are rear-end crashes.
- Angle crashes were the second most frequent crash type, and had the most severe injuries associated with them.
- Single-vehicle / unknown crashes exhibited the second highest amount of severe injuries even though they were only the third most common crash type.

Rear-end crashes tended to be less severe, with significantly fewer severe injury and fatal crashes compared to angle crashes and single-vehicle / unknown cause crashes.

Figure 4: Crash Severity by Crash Manner, 2014-2018

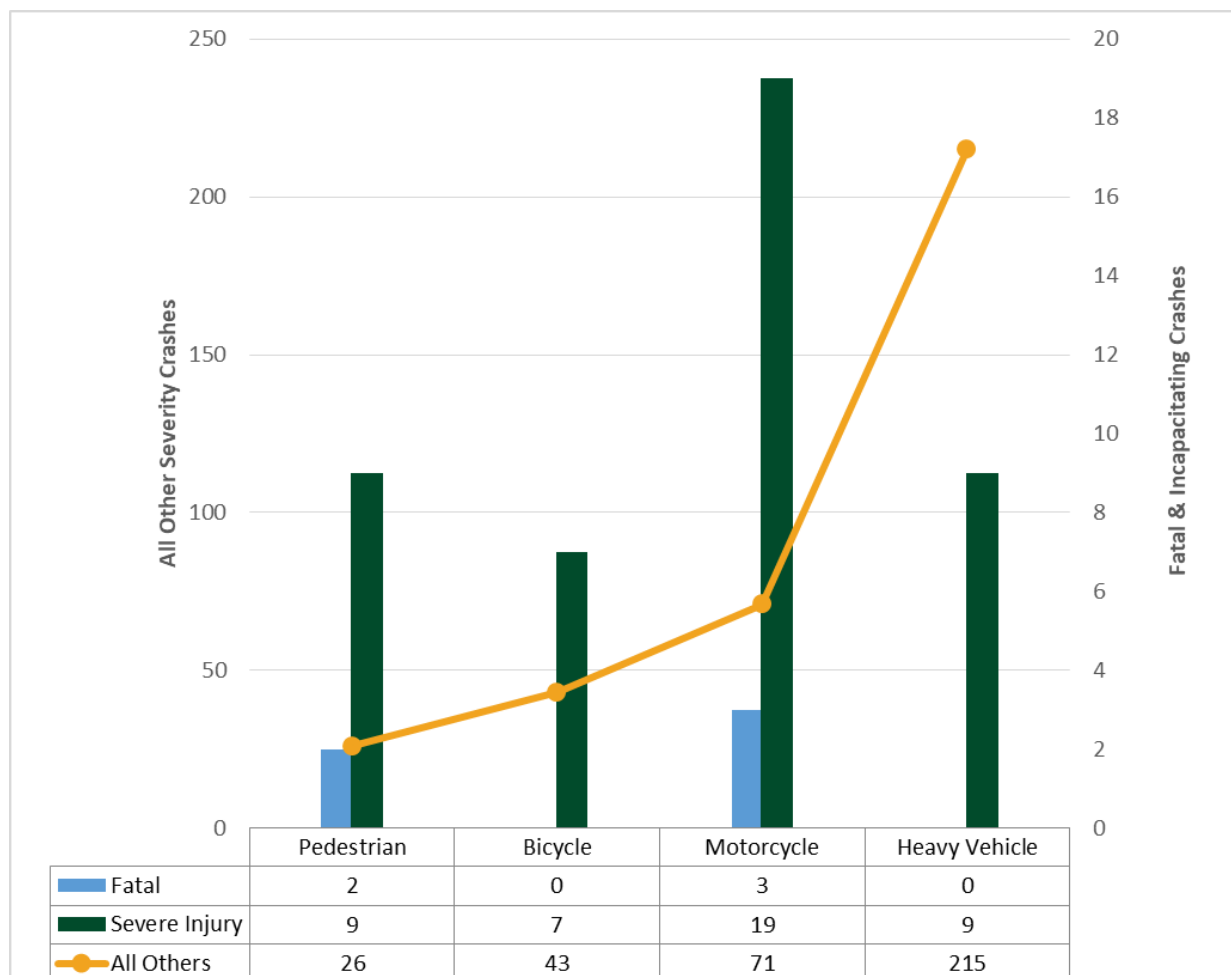


Crashes for Non-Automobile Modes

Another key performance measure tracked by GIAMPO and NDOT are bicycle and pedestrian crashes. It is also important to review other modal users and see if there are patterns in crash severity. **Figure 5** shows the number of severe injury crashes with the green bars and fatal injury crashes with the blue bars by mode. Severe and fatal crashes reference the right y-axis. All other severity (minor injury and no injury) are illustrated with the orange line and referenced by the left y-axis. As shown in **Figure 5**:

- Two (2) pedestrians and three (3) motorcyclists were killed during the five-year period.
- The rate of reported crashes being a severe injury or fatality is significantly higher for pedestrians, bicyclists, and motorcyclists than for heavy vehicle users (and automobile users).

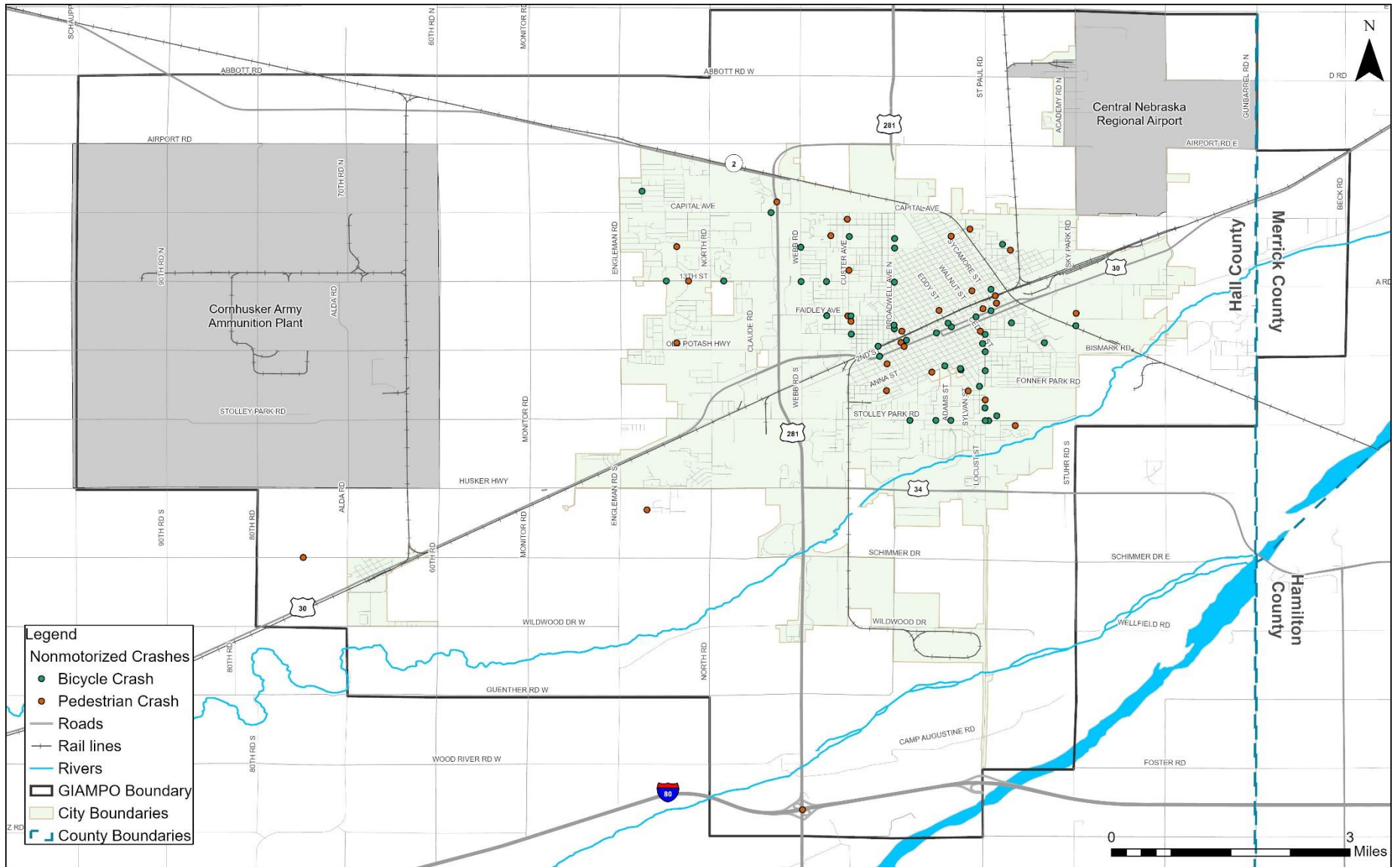
Figure 5: Crash Severity for Non-Automobile Modes, 2014-2018



During the 5-year period, 87 non-motorized crashes occurred within the GIAMPO boundary, of which 37 involved a pedestrian and 50 involved a bicyclist. 2 of the crashes resulted in fatal injuries while 16 resulted in incapacitating injuries. **Figure 6** displays the locations of all non-motorized crashes that occurred within the GIAMPO boundary between 2014 and 2018.

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Figure 6: Non-Motorized Crash Density within the GIAMPO Boundary, 2014-2018



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Alcohol Use in Crashes

The crash data provided information on whether alcohol use was involved in the crash. The data reflected that alcohol-involved crashes had significantly higher fatality and severe injury rates. The data reflect that:

- There were five (5) fatal crashes that involved alcohol. When compared to all reported crashes, alcohol was involved in 29% (5 of 17) of fatal crashes between 2014 and 2018.
- There were 15 incapacitating crashes that involved alcohol. When compared to all reported crashes, alcohol was involved in 9% (15 of 172) of severe injury crashes between 2014 and 2018.
- There were 381 “other injury status” crashes that involved alcohol. When compared to all reported crashes, alcohol was involved in 5% (381 of 7,461) of “other injury status” crashes between 2014 and 2018.

High Crash Locations

The 2014-2018 crash data were mapped by location to identify locations with the most frequent crashes. In urban areas, the most severe crashes typically occur at intersections, so effort was made to identify the intersections with the most frequent crashes. All crashes within 150 feet of an intersection were identified and associated with that adjacent intersection. Based on that analysis, the highest crash location intersections in the GIAMPO area are shown in **Table 1**.

Table 1: Highest Crash Location Intersections and Number of Crashes, 2014-2018

Rank	Intersection	2014	2015	2016	2017	2018	5-Year Crashes
1	State Street & Broadwell Avenue (5 Points)	13	22	14	14	15	78
2	Stolley Park Road & Locust Street	9	19	19	18	10	75
3	2nd Street & Eddy Street	12	16	10	17	18	73
4	Faidley Avenue & Webb Road	5	14	18	10	21	68
5	2nd Street & Broadwell Avenue	11	14	16	9	17	67
6	Old Potash Highway & Highway 281	0	1	38	3	22	64
7	Highway 34 & Highway 281	11	8	11	10	12	52
8	State Street & Webb Road	7	11	7	8	17	50
9	13th Street & Webb Road	8	15	10	8	9	50
10	State Street & Diers Avenue	7	10	10	11	11	49
11	3rd Street & Broadwell Avenue	5	9	13	12	10	49
12	Old Potash Highway & Webb Road	9	9	13	8	8	47
13	6th Street & Broadwell Avenue	7	11	11	7	11	47
14	Bismark Road & Locust Street	10	8	9	9	11	47
15	2nd Street & Walnut Street	7	11	8	11	7	44
16	State Street & Highway 281	1	1	16	1	22	41
17	Capital Avenue & Patrick Avenue	8	3	3	10	17	41
18	Fonner Park Road & Locust Street	6	4	13	6	11	40
19	Capital Avenue & Broadwell Avenue	7	3	10	8	9	37
20	3rd Street & Eddy Street	7	6	13	4	5	35

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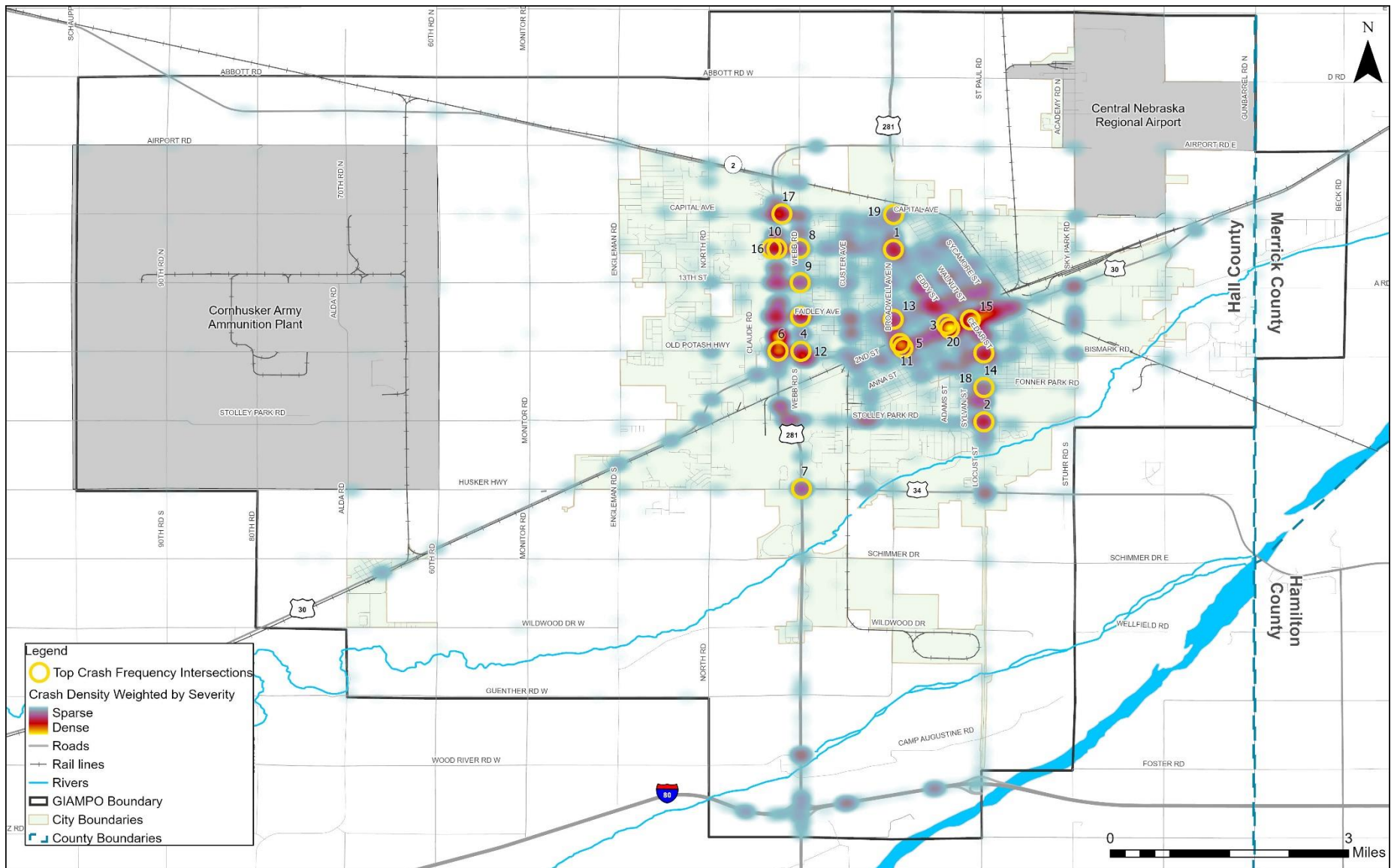
As shown in **Table 1**, some intersections had significant swings in recorded crashes from year to year. For instance:

- The intersection of Old Potash and Highway 281 had 38 crashes in 2016 and 22 crashes in 2018, but only four crashes total in the other three years.
- The intersection of State Street and Highway 281 had 16 crashes in 2016 and 22 crashes in 2018, but only three crashes total in the other three years.

There was a reconstruction project in the Highway 281 corridor in 2018, which could potentially have had an influence on crash patterns. The top 20 intersections are mapped in **Figure 7**, labeled with their rank in the GIAMPO area.

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Figure 7: Highest Crash Intersections, 2014-2018



Vehicle-Train Crashes

The 2014-2018 crash data reports the number of automobile and train crashes that occurred within the GIAMPO region over the 5-year period. To gain a better understanding of the frequency and spatial distribution of these collisions, all car and train crashes were mapped and the manner of crash was analyzed. **Figure 8** shows the locations of these incidents.

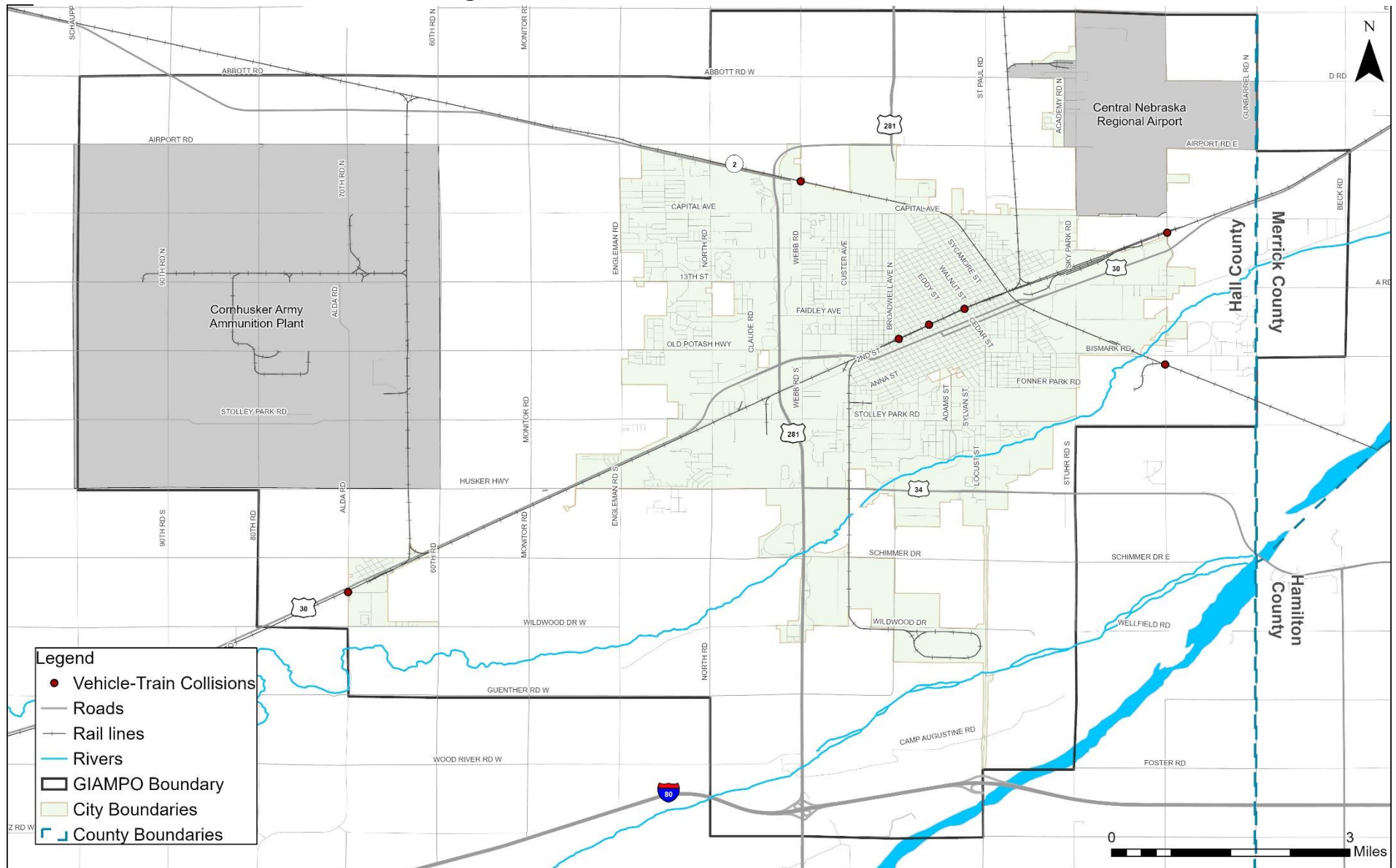
Seven (7) car and train crashes occurred between 2014 and 2018, with five (5) of these incidents recorded as “train hit vehicle” and two (2) recorded as “vehicle hit train.” The severity of all seven crashes were Property Damage Only, indicating that there were no injuries as a result of these collisions. **Table 2** presents the number of car and train crashes by year in the GIAMPO region.

Table 2: Vehicle-Train Crashes by Year for the GIAMPO Region

Crash Manner	2014	2015	2016	2017	2018
Vehicle Hit Train	-	-	1	-	1
Train Hit Vehicle	-	-	2	1	2

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Figure 8: Vehicle-Train Crash Locations, 2014-2018



Traffic Operations

The flow of travel on the street and roadway system was evaluated. Traffic operations was reviewed from two different perspectives:

- Peak period travel conditions
- Travel reliability
- Freight system reliability

Peak Period Travel Conditions

The traffic operations analysis focused on evaluating congestion levels during typical peak period conditions. A planning-level methodology based on the Highway Capacity Manual methodology was used, incorporating available traffic count data from the City of Grand Island and NDOT to estimate traffic operations with a volume-to-capacity (V/C) analysis. The traffic data were collected between the years 2017 and 2018, as well as state and city traffic flow maps developed by the Nebraska DOT.¹ Daily traffic volumes are the most complete data source for the GIAMPO system. However, during the majority of the day there are no traffic operational issues related to congestion. The most congested periods occur only during the peak hours of travel. Thus, the daily traffic data volumes were evaluated by applying capacities that reflected volume threshold that represented peak period capacity issues.

Several sources of roadway capacities were evaluated for potential inclusion in the peak period traffic operations analysis. Capacity data from the 2014 GIAMPO travel model were reviewed, but overall seemed somewhat high for representing peak period congested conditions in the Grand Island area. The Florida Department of Transportation (FDOT) Quality Level of Service was also evaluated, as it provides a flexible planning methodology rooted in the HCM. After some review of draft results with different methodologies with local staff, a set of capacities based on the FDOT Quality Level of Service tables were used. **Table 3** presents the capacity thresholds for Level of Service (LOS) F and the corresponding functional classes. Special adjustments were made in the Old Potash Highway and North Road corridors on the west side of Grand Island to account for peak period delay experienced due to stop sign intersection control.

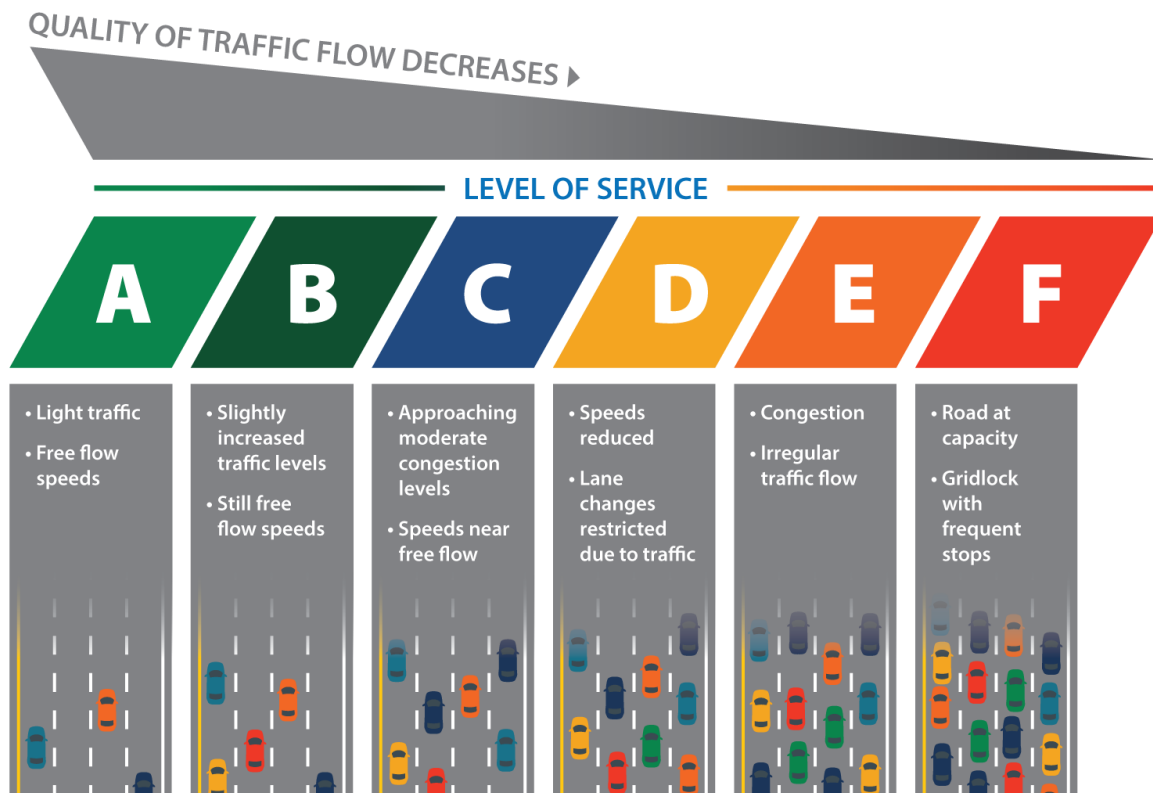
Table 3: Daily Volume Threshold for Peak Period LOS E/F Grand Island Area MPO Roads

Facility Type		2-Lane No Turn Lanes	2-Lane with Turn Lanes / 3-Lane	4-Lane No Turn Lanes	4-Lane Divided / 5-lane
Freeway		N/A		80,000	
Principal Arterial	Rural High Speed	20,000		39,800	
	Urban / Urban Fringe	14,200	17,700	27,000	33,800
	Minor Arterial	11,400	14,200	21,600	27,000
Collector		9,000	11,200	14,000	21,800

¹ Nebraska DOT Map Library, <https://dot.nebraska.gov/travel/map-library/>

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We use LOS as a way to take the quantitative analysis of traffic flow and congestion and apply descriptive letter grades to the quality of that flow. A graphical description of LOS is presented below, which includes descriptions of each letter grade. Typically in communities like the Grand Island area, LOS E and LOS F are traffic operations that system users might consider “unacceptable”.



To estimate LOS for a segment, V/C ratios were calculated for all segments with counts and the following LOS ranges were applied:

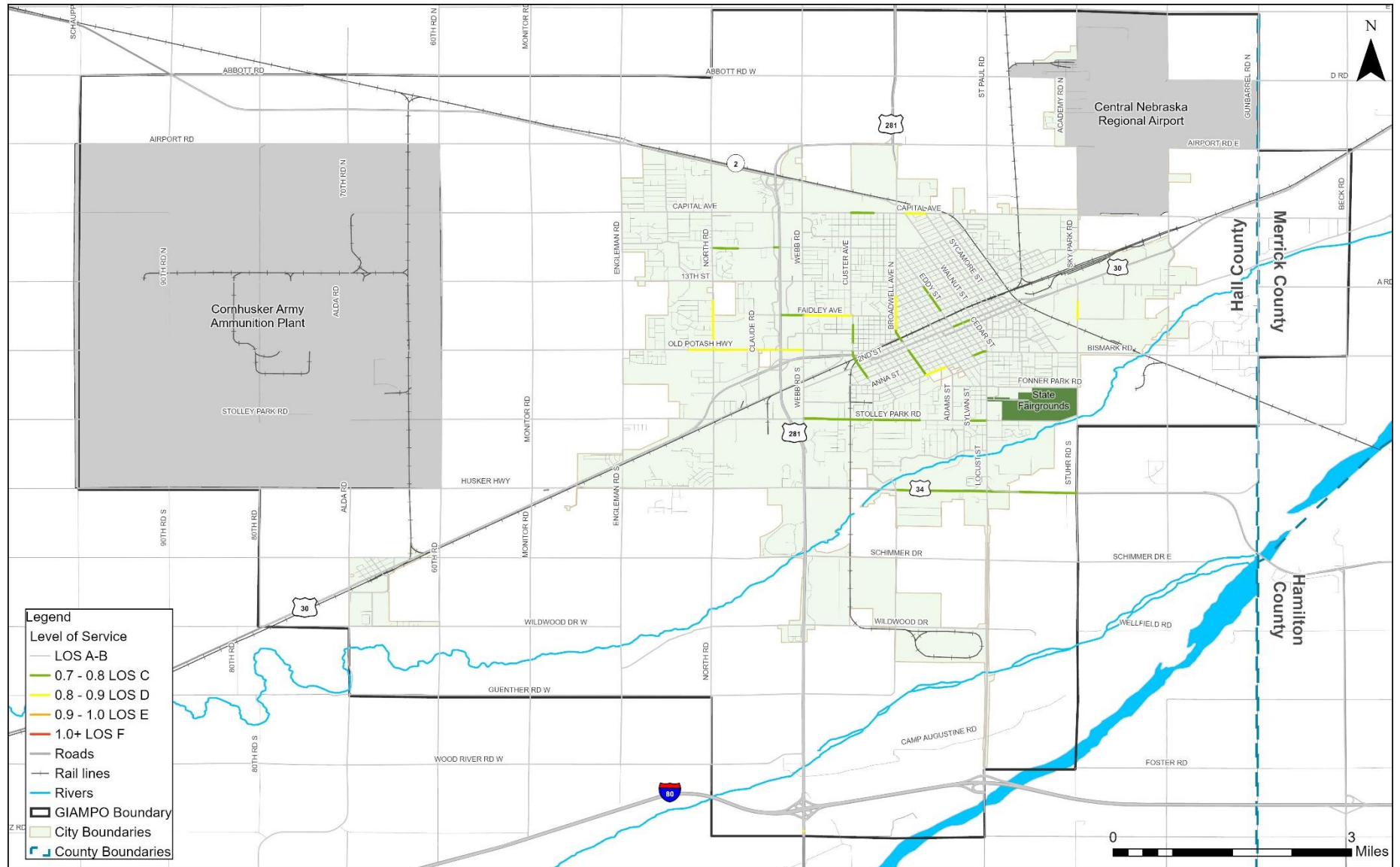
- LOS F: V/C greater than or equal to 1.0
- LOS E: V/C between 0.9 and 0.99
- LOS D: V/C between 0.80 and 0.89
- LOS C or better: V/C less than 0.80.

The resulting analysis indicates limited peak period congestion in Grand Island. The majority of the roads in within the GIAMPO boundary are experiencing a LOS A or B (V/C ratio less than or equal to 0.7), with a few corridors experiencing LOS C or D.

Figure 9 illustrates the results of the V/C analysis of current peak period traffic conditions.

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Figure 9: Estimated Peak Period Traffic Operations



Travel Reliability

Traditional transportation plans and studies have traditionally focused on addressing traffic operations issues related to recurring, peak period congestion. More recently, metropolitan, State, and Federal performance measures have placed additional emphasis on travel reliability. State DOTs and MPOs are now charged with monitoring system reliability and meeting requirements for reporting reliability conditions.

The FHWA defines travel reliability as “the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.”² The specific performance measures for travel reliability that shall be reported by state DOTs and MPOs are:

- Percentage of person-miles traveled on the Interstate that are reliable
- Percentage of person-miles traveled on the non-Interstate National Highway System (NHS) that are reliable

Level of Travel Time Reliability (LOTTR) is the current metric that is used for reporting system travel reliability. This metric is defined as the ratio of 80th percentile travel times to the “normal”, or 50th percentile travel time for Interstate and non-Interstate NHS segments. Travel times are reported in 15-minute intervals throughout an entire year, and four analysis periods are calculated: Morning Weekday, Midday Weekday, Afternoon Weekday, and Weekends. Should a segment have a LOTTR of 1.50 or higher for any of the four analysis periods, that segment is considered unreliable.

LOTTRs for the Grand Island Area MPO use data sourced from the National Performance Management Research Dataset (NPMRDS), which is provided by the FHWA.

The travel reliability analysis shows that several small segments of the non-Interstate NHS within the Grand Island MPO area are unreliable. These segments are adjacent to the intersections of:

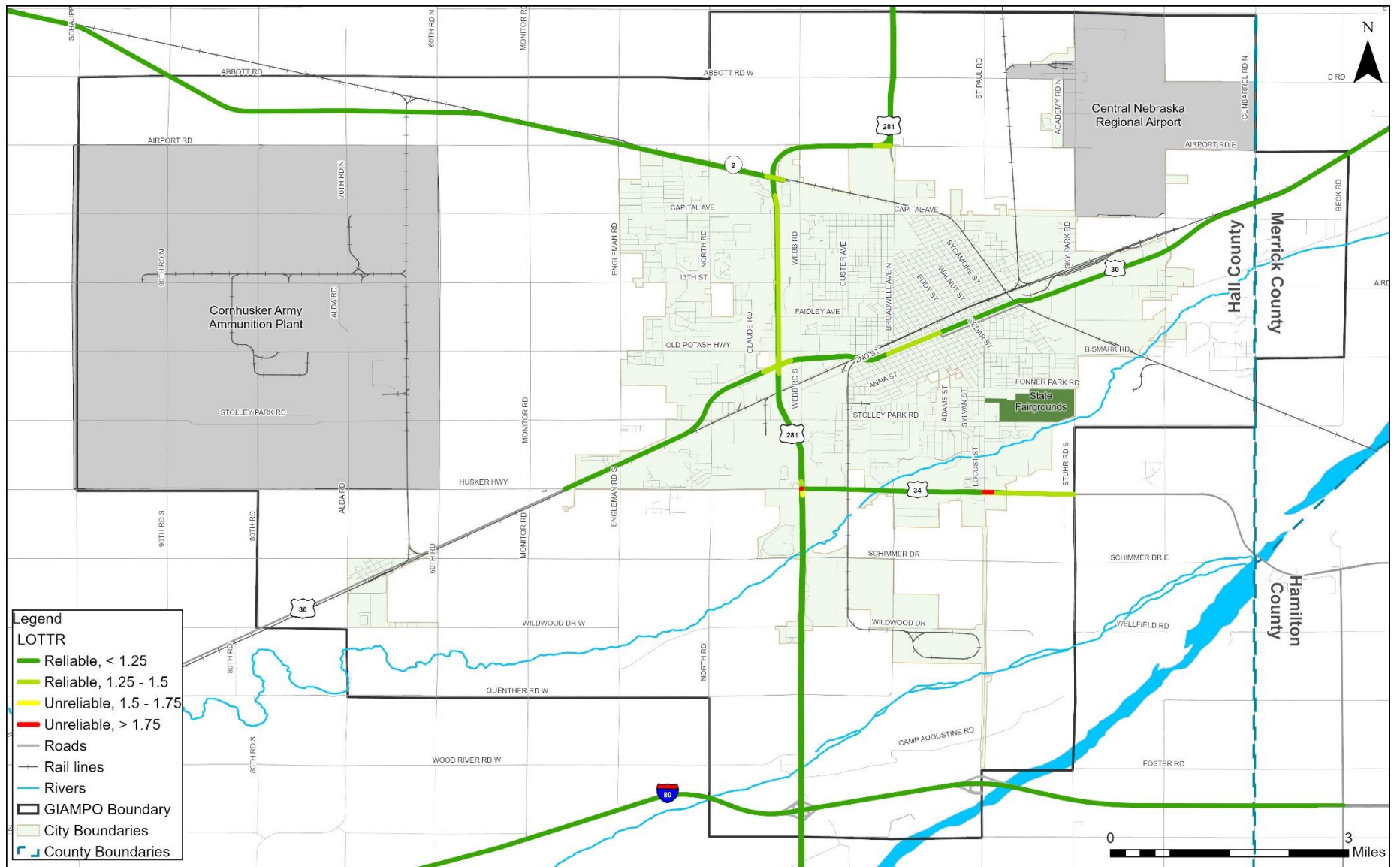
- US Highway 281 and US Highway 34.
- US Highway 34 and Locust Street.

Figure 10 illustrates the LOTTR for the reliability results for each segment’s worst period in 2018 for both the Interstate and non-Interstate NHS within the Grand Island Area MPO boundary.

² Federal Highway Administration,
https://ops.fhwa.dot.gov/perf_measurement/reliability_measures/index.htm

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Figure 10: Level of Travel Time Reliability (LOTTTR) for the Grand Island Area MPO, 2018



Freight Reliability

An additional Federal performance measure related to travel reliability is related to freight movement on the Interstate system. Truck Travel Time Reliability (TTTR) looks at how reliable corridors are for truck travel and is similar to passenger LOTTR in that it is the computation of a ratio assessing longer travel times (95th percentile) for highway freight vehicles to a normal travel time (50th percentile). These travel times are compared across 15-minute intervals throughout the year. However, five analysis periods are utilized for TTTR: Morning Weekday, Midday Weekday, Afternoon Weekday, Overnight, and Weekends. The data for Freight Reliability also come from the NPMRDS.

The Policy Board for the Grand Island Area MPO has established a target for assessing TTTR that supports the PM3 targets set forth by the Nebraska DOT in the year 2018.³ The target identified was 1.10, meaning that any Interstate segment who's TTTR exceeds 1.10 for any of the five analysis periods is considered unreliable.

The resulting TTTR analysis for the Interstate system in the Grand Island Area MPO shows that much of I-80 is unreliable for freight traffic. **Figure 11** details where and the degree to which these segments of Interstate 80 (I-80) are unreliable. It should be noted that during this reporting period, there was construction on I-80 for several months which likely made these segments less reliable for freight travel than typical.

Reliability Performance Measures

The system travel reliability (LOTTR) and freight reliability (TTTR) statistics reported by are shown below in **Table 4**. The reliability targets are presented in **Table 4** as percentage of total miles traveled on the Interstate and non-Interstate that are reliable for passenger vehicles, whereas the freight reliability target is presented in terms of the target TTTR. Note that the value shown in **Table 4** for GIAMPO performance is for the worst period recorded.

Table 4: Nebraska Statewide and GIAMPO Passenger and Freight Reliability Targets and Results, 2018

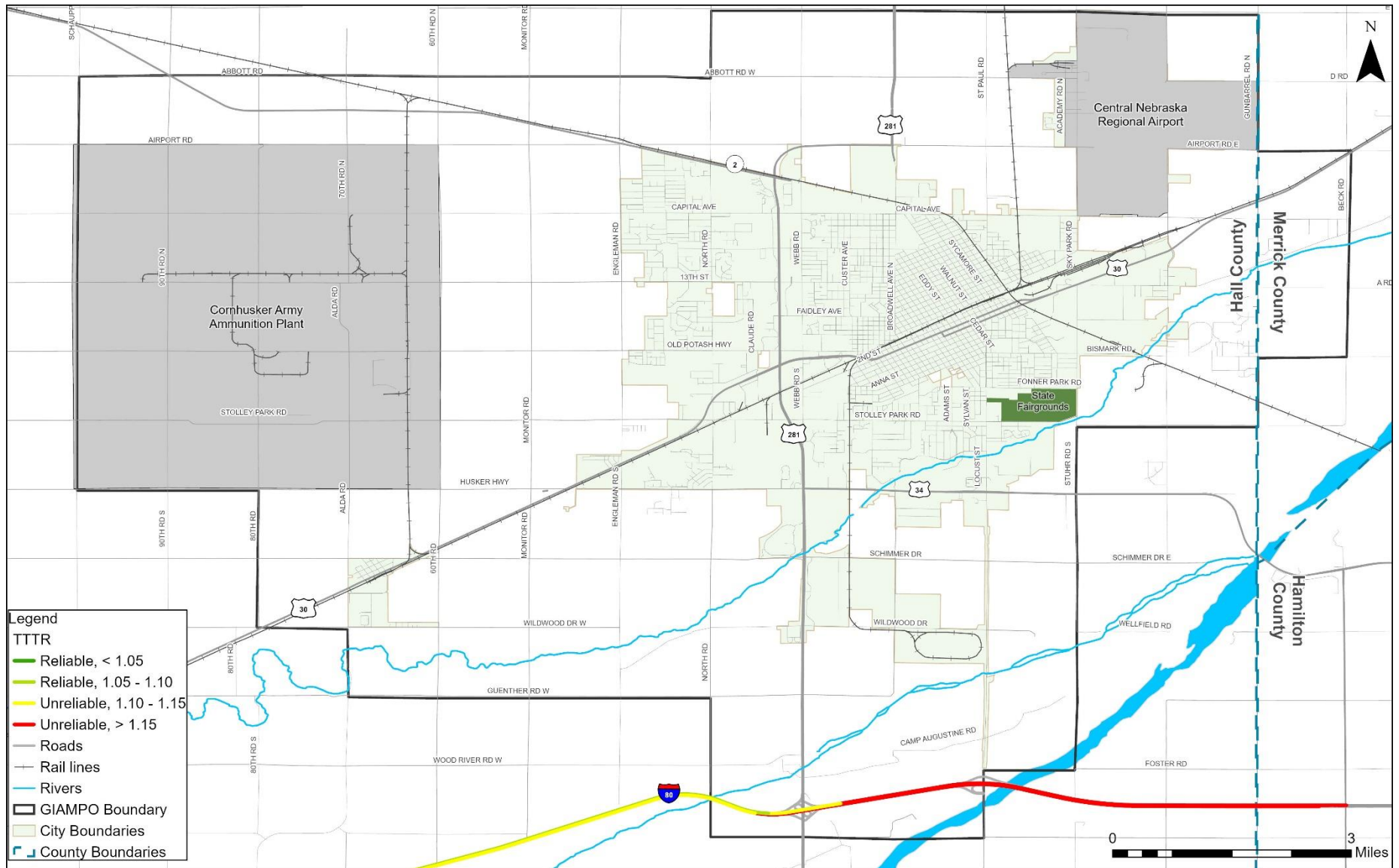
Passenger Interstate Reliability		Passenger Non-Interstate NHS Reliability		Freight Reliability	
Target	Performance	Target	Performance	Target	Performance
100%	100%	100%	99.7%	1.10	1.15

Sources: Nebraska DOT Operating Manual for MPO Transportation Planning, NPMRDS, HDR

³ GIAMPO Policy Board, 2018, https://agendamanagement.blob.core.windows.net/agenda-1000-public/meeting/132907/20180828-80_4.pdf

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Figure 11: Truck Travel Time Reliability (TTTR) for the Interstate System within the Grand Island Area MPO Boundary



Bridge Conditions

Federal Performance Measures for Bridges

The Federal reporting requirements for transportation performance measures as a part of Fixing America's Surface Transportation (FAST) Act require State DOTs and Metropolitan Planning Organizations to report the conditions of bridges within their jurisdictions. Bridge conditions are assessed based on National Bridge Inventory (NBI) ratings that are recorded annually. The Federal performance measures related to bridge conditions are:

- The percentage of NHS bridges (by deck area) in good condition.
- The percentage of NHS bridges (by deck area) in poor condition

The NBI ratings classification range from 0 (Failed Condition) to 9 (Excellent Condition) and apply to the deck, superstructure, substructure, and culvert (if applicable) for each bridge on the NHS. For the purpose of performance measure reporting, bridges in Good condition maintain a deck, superstructure, substructure, and culvert (if applicable) with a rating of a 7 or higher. Should any of these physical features of an NHS bridge have a rating of 5 or 6, the bridge is considered in Fair condition. Ratings of 4 or below for the deck, superstructure, substructure, or culvert (if applicable) indicate that the bridge is in Poor condition.

Grand Island Area Bridges

There are 99 bridges within the Grand Island MPO area, and 35 of these structures are located on the NHS. The conditions of these bridges, as well as all 99 bridges within the MPO boundary, are presented in **Table 5**.

Table 5: NBI Ratings of Bridges within the Grand Island MPO Boundary

Bridge Ratings	NHS Bridges	All Bridges (NHS and Non-NHS)
Good	16	58
Fair	19	41
Poor	0	0

As shown in **Table 5** there are:

- 16 NHS bridges in good condition
- 19 NHS bridges in fair condition
- No NHS bridges in poor condition

Over half of all bridges in the MPO boundary are rated as being in Good condition, while the remainder have a Fair rating.

The NHS bridges were further analyzed to calculate the condition of bridges by deck area (in square meters), which were also based on NBI data. **Table 6** presents the total deck area of NHS bridges within the MPO by condition rating.

Table 6: Ratings of Grand Island NHS Bridges by Deck Area

Bridge Rating	NHS Bridge Deck Area	% of Total Deck Area*
Good	14,692.42	36%
Fair	25,993.49	64%
Poor	-	
Total	40,685.91	

* Deck area is reported in square meters

For Grand Island area bridges on the NHS, 36% of the total deck area is rated in Good condition while the remaining 64% is rated in Fair condition. **Figure 12** shows the condition of all bridges in the MPO study area.

Bridge Performance Measures

Nebraska DOT has requested that MPOs support state targets through the following two efforts:

- Keep at least 95% State-Owned Bridges in Good or Fair Condition
- Keep less than 10% state system of total deck area on NHS classified as Structurally Deficient

As noted, no bridges are in poor condition in the GIAMPO area and are thus supporting the State performance measure targets.

Pavement Conditions

Pavement conditions for the NHS were analyzed based on 2019 data obtained from the NDOT. Pavement ratings were determined based on a series of indicators such as pavement rutting, faulting, and cracking and then organized into the following categories:

- **Good:** Pavement exhibiting minimal rutting, faulting, and/or cracking.
- **Fair:** Pavement has some rutting, faulting, and/or cracking.
- **Poor:** Pavement has significant rutting, faulting, and/or cracking.

Of the 101 miles analyzed, almost 75% is rated in Good condition. The next largest proportion of NHS pavement is rated as being in Fair condition while approximately 0.5% is considered to be in Poor condition.

GIAMPO 2045 Long-Range Transportation Plan
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Table 7 summarizes the ratings for all 101 miles.

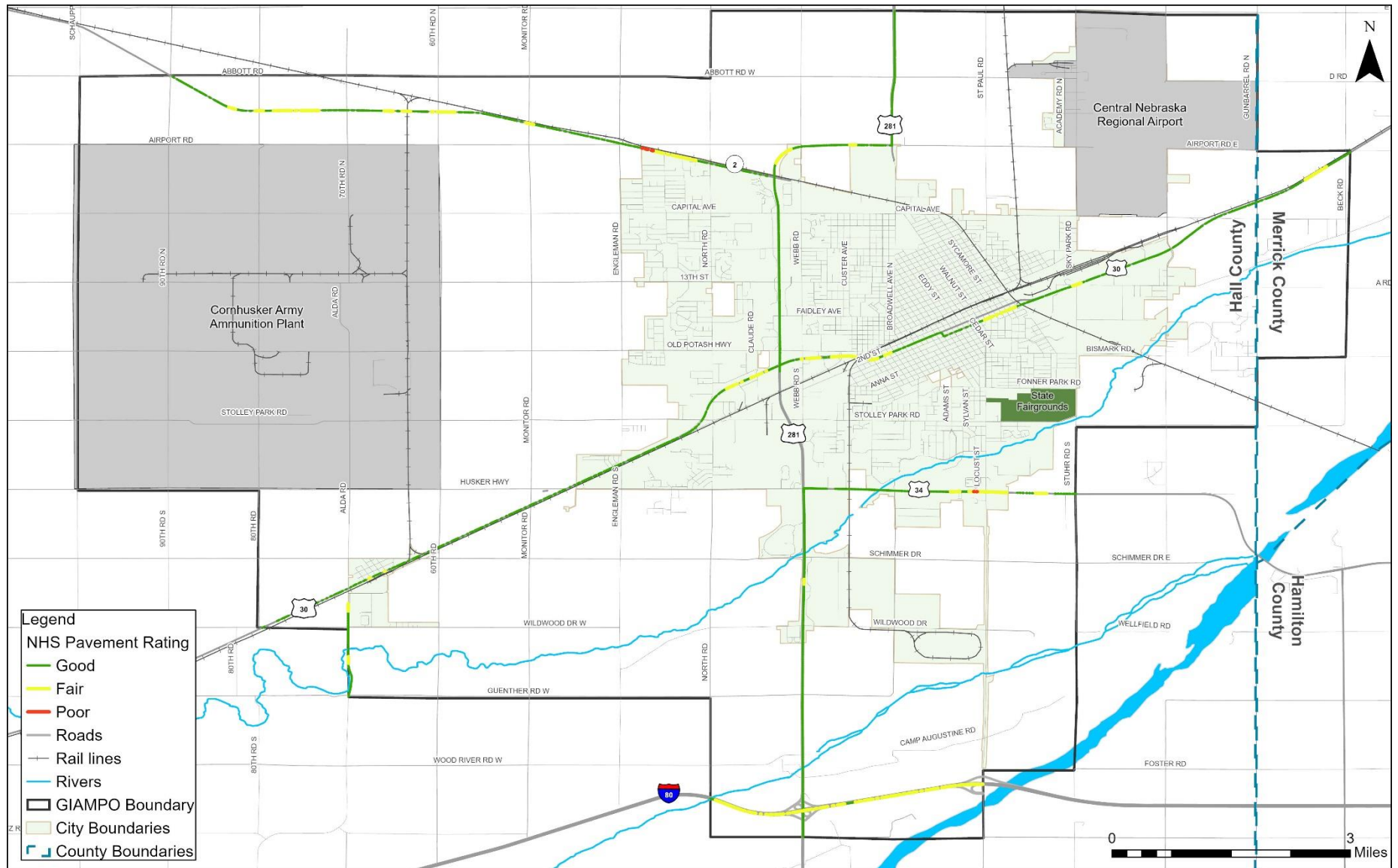
Table 7: Summary of Pavement Ratings for NHS Roads

Pavement Condition	Length (miles)	System Miles Percentage
Good	78.5	77.4%
Fair	22.5	22.2%
Poor	0.5	0.5%
Total	101.4	

Source: Nebraska Department of Transportation

The condition of pavement in the MPO study is shown in **Figure 13**.

Figure 13: Pavement Conditions within the Grand Island Area MPO Boundary



Existing Bicycle and Pedestrian System

Many opportunities to walk and bike exist within the Grand Island Area MPO region due to the variety of bicycle and pedestrian infrastructure that has been developed. These facilities range from recreational trails to on-street bicycle routes, offering an option for all levels of users. This section of the report describes the existing bicycle and pedestrian facilities within GIAMPO as well as the current opportunities and gaps of the system.

Walking and Biking in Grand Island

According to commuting data sourced from the ACS 2017 5-Year Estimates, 1.2% of workers in the City of Grand Island walk to work while 0.7% use a bicycle as their main means of commuting. Compared to the state of Nebraska, for which these figures are 2.7% of commuters walk and 0.4% of commuters bike, workers in Grand Island walk to work at relatively lower rates while they bike to work at relatively higher rates. **Table 8** presents a comparison of non-private vehicle commuting habits for the City of Grand Island, the state of Nebraska, and the United States.

Table 8: Non-Private Vehicle Means to Work

Means to Work	City of Grand Island	Hall County, NE	State of Nebraska	United States
Bicycle	0.7%	0.6%	0.4%	0.6%
Walk	1.2%	1.2%	2.7%	2.7%
Public transit	0.7%	0.9%	0.7%	5.1%
Taxi, motorcycle, or other means	1.1%	1.0%	0.9%	1.2%

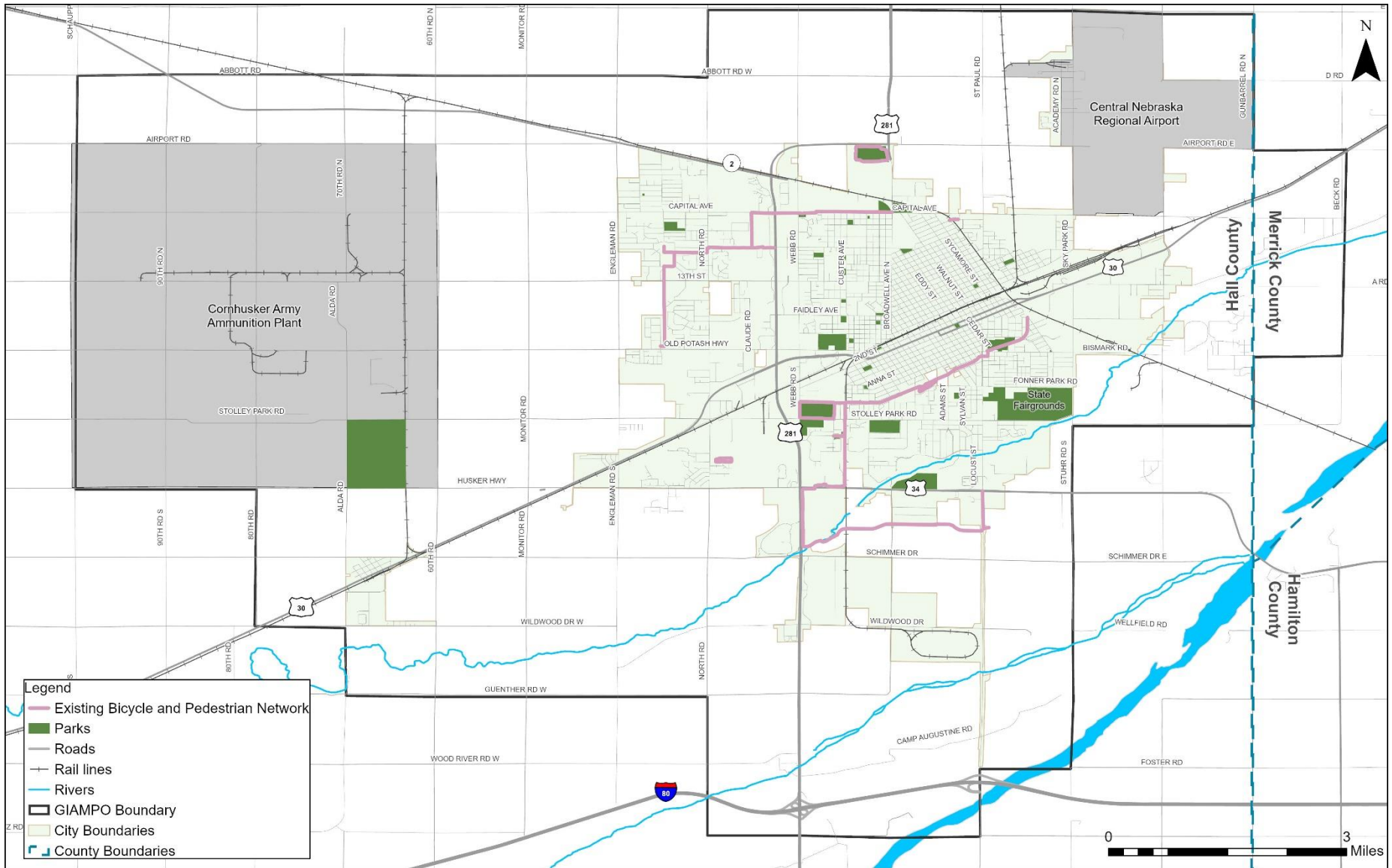
Source: American Community Survey, 2017 5-Year Estimates

The desire of GIAMPO residents to walk and bike has been formalized with the adoption of the *Bicycle and Pedestrian Master Plan* in 2018. This Plan articulated seven goals for the active transportation network as well as provided a series of measures and evaluation metrics to help guide the implementation of the plan. The seven goals presented in the Plan are⁴:

1. Increase the number of people who use walking and biking for transportation as well as recreation.
2. Improve bicycle and pedestrian access to key community destinations.
3. Remove or improve barriers that discourage people from walking or biking for transportation or recreation.
4. Improve access to the city's trail system by providing connecting links from the neighborhoods to trails.
5. Use walking and bicycling as part of an effort to make the Grand Island area healthier for the community, and the individual.
6. Increase safety on the road for motorists, bicyclists, and pedestrians.
7. Capitalize on the development benefits of a destination-based bicycle transportation system.

⁴ Grand Island Metropolitan Area Bicycle and Pedestrian Master Plan, 2018. <https://www.grand-island.com/departments/public-works/metropolitan-planning-organization/bike-ped-master-plan>

Figure 14: GIAMPO Bicycle and Pedestrian Facilities



Bicycle and Pedestrian System Opportunities

Several opportunities to expand and improve upon the current bicycle and pedestrian system within the GIAMPO region were articulated in the 2018 Bicycle and Pedestrian Plan. These opportunities include:

- **Coverage of existing bicycle and pedestrian system:** The robust park system of the GIAMPO area is connected by an expansive trail system and is supported by the numerous on-street bicycle and pedestrian facilities
- **Current and future land use:** The concentration of commercial land uses in central Grand Island is supportive of active transportation users as these areas provide a number of destinations for walking and bicycling. Future land use plans call for a greater dissemination of mixed use zones, which bolster the number of employment and retail destinations available for walking and bicycling while increasing residential density.
- **Existing gridded street pattern:** A substantial portion of the GIAMPO roads are in a gridded pattern. This grid pattern is an asset which allows for a contiguous bicycle and walking network that disperses vehicle traffic and allows users several routes for reaching their destination and to minimize travel time.

Bicycle and Pedestrian System Challenges

While the bicycle and pedestrian system of the GIAMPO region has several opportunities available to expand and improve it, there exist several challenges that can be burdensome for active transportation users and dis-incentivize bicycling and walking. These system challenges are mainly physical barriers identified in the 2018 Bicycle and Pedestrian Master Plan:

- **US 281:** A 4-lane highway transecting the western side of the City of Grand Island. Due to high traffic volumes and vehicle speeds, this roadway can prove daunting to even the most experienced bicyclists while a lack of sidewalks and other pedestrian facilities discourages walking.
- **Arterial streets:** In addition to US 281, several arterial streets within the GIAMPO area pose a challenge with high traffic volumes and posted speeds that discourage bicycle and pedestrian use.
- **Union Pacific Mainline:** This busy rail line carries upwards of 100 trains per day across three tracks, posing a significant barrier for active transportation users attempting to traverse downtown Grand Island.
- **BNSF Mainline:** Similar to the Union Pacific Mainline, this high-volume track carrying approximately 50 trains per day poses a physical barrier to bicycling and walking in the eastern part of the GIAMPO area.
- **Gaps in street continuity:** Several areas within the GIAMPO region have land use and development patterns that have resulted in continuity breaks in the roadway network, disrupting travel paths for bicyclists and pedestrians. These street continuity breaks also often lead to higher vehicular traffic volumes when more traffic volumes are focused onto fewer through streets.

Transit System

Transit is a critical component of any multi-modal transportation system as this mode of transportation provides an effective option for individuals who do not have access to a vehicle or for those who wish to use an alternative mode for completing commuting, shopping, or recreational trips.

This section presents the existing transit system within the GIAMPO region, summarizes the recently completed *Regional Transit Needs Assessment and Feasibility Study*, and provides a comparison of transit system operating statistics for GIAMPO area transit with several peer transit agencies identified in the *Transit Needs Assessment and Feasibility Study*, based on the most recent data from the FTA's National Transit Database (NTD).

Transit System Background

Public transit for the City of Grand Island and Hall County is provided by the Central Ride Agency of Nebraska (CRANE), which is operated as a demand-response service open to the public. In addition to serving the City of Grand Island and Hall County, CRANE provides service to residents of Alda, Wood River, Cairo, and Doniphan.⁵

CRANE operates Monday through Friday from 6:00 AM to 5:00 PM, and charges \$2.00 per boarding. Since CRANE is a demand-response service, users must schedule their rides at a minimum of 24 hours in advance.

According to the NTD agency profile for CRANE, the total area served by this organization is 546 square miles. The number of vehicles operated at maximum service is 11, and the average age of the fleet vehicles is 5.2 years.

In addition to CRANE, public transit service within the portion of the GIAMPO region that falls within Merrick County is served by Central City Mini Bus out of Central City, NE. Central City Mini Bus is similar to CRANE in that it is a demand response service available to the public with a 24-hour advance reservation. Central City Mini Bus charges a flat, round-trip rate of \$10 for service to the City of Grand Island. For rides to destinations within Central City, the cost of a one-way trip is \$0.50.

Regional Transit Needs Assessment and Feasibility Study Goals

The *Regional Transit Needs Assessment and Feasibility Study* describes the existing transit system of GIAMPO as well as a series of analyses that estimate future demand for transit, evaluate employment and commuter trends, assess current transit needs, and outlines the public engagement strategies followed in developing the study.

1. Several goals and objectives were developed for the study with the aim of guiding the development of a five-year plan to expand transit service in a fiscally-constrained manner. The goals and objectives proposed by the study are:⁶
 - Efficiently provide mobility options to area residents*
 - a. *Improve mobility by increasing knowledge of available services to area residents and access to public transit*
 - b. *Provide affordable, efficient public transportation options for those with limited access to transportation*

⁵ City of Grand Island Public Works, Transit. <https://www.grand-island.com/departments/public-works/transit>

⁶ GIAMPO Regional Transit Needs Assessment and Feasibility Study, 2017. <https://www.grand-island.com/departments/public-works/metropolitan-planning-organization/transit-study/-fsiteid-1>

- c. *Explore options for governing structures to assist in supporting future public transportation services*
- 2. *Enhance economic activity by improving access to employment for area residents*
 - a. *Support economic development, vitality, and competitiveness by efficiently enhancing access to existing employment centers*
 - b. *Improve access to jobs for underemployed or low-income area residents*
 - c. *Examine opportunities to provide public transportation to second- and third-shift employees at area employment centers*
- 3. *Coordinate with local organizations for public transportation options, while being good stewards of the public dollar*
 - a. *Identify partnership opportunities with local businesses, community organizations, and area partners*
 - b. *Develop financially achievable transit alternatives to provide service to area residents who need it the most*
 - c. *Examine non-traditional solutions to provide after-hours transportation options for low-income employees at area employment centers*

Peer Transit Agency Operating Statistics

The FTA maintains the National Transit Database, which is the system used to record the financial, operational, and asset condition of transit systems across the United States. In the Transit Needs Assessment and Feasibility Study, six transit agencies that share similar characteristics in terms of service area and operations were identified as “peer agencies” and compared to CRANE across several different metrics. For the purpose of this existing conditions assessment, the most recent 5-year data from the NTD was compiled and presented in **Table 9**.

Table 9: Comparison of CRANE Operations with Peer Transit Agencies

Measure	2013	2014	2015	2016	2017
Grand Island, NE					
Demand Response Trips	32,521	32,492	36,394	37,767	38,413
Revenue Hours	14,413	13,626	14,590	14,635	15,648
Revenue Miles	172,820	170,940	170,497	182,218	205,544
Operating Expense	\$ 484,434	\$ 517,098	\$ 528,108	\$ 531,667	\$ 667,780
Demand Response Revenue	\$ 125,347	\$ 128,943	\$ 137,709	\$ 131,185	\$ 105,765
Enid, OK					
Demand Response Trips	No data	41,281	41,385	40,026	50,019
Revenue Hours		14,936	15,893	16,624	18,685
Revenue Miles		210,918	209,341	213,111	254,722
Operating Expense		\$ 579,989	\$ 588,569	\$ 520,313	\$ 631,684
Demand Response Revenue		\$ 42,267	\$ 41,732	\$ 52,868	\$ 84,435
Idaho Falls, ID					
Demand Response Trips	59,111	20,310	53,429	46,884	43,170
Revenue Hours	23,081	21,026	29,699	30,290	29,930
Revenue Miles	244,199	515,679	436,421	404,548	364,407
Operating Expense	\$ 1,334,955	\$ 936,295	\$ 1,097,469	\$ 1,068,572	\$ 1,624,560
Demand Response Revenue	\$ 55,962	\$ 33,163	\$ 39,092	\$ 27,077	\$ 19,017
Casper, WY					
Demand Response Trips	53,638	52,202	52,723	47,927	46,523
Revenue Hours	18,954	18,833	19,294	19,448	17,062
Revenue Miles	219,169	215,582	223,610	223,577	214,740
Operating Expense	\$ 977,859	\$ 958,523	\$ 1,072,968	\$ 1,100,834	\$ 1,038,963
Demand Response Revenue	\$ 82,351	\$ 63,768	\$ 64,542	\$ 56,455	\$ 57,101
North Platte, NE					
Demand Response Trips	No data	72,883	76,289	78,439	70,486
Revenue Hours		13,499	14,183	13,739	13,494
Revenue Miles		154,551	153,656	152,014	154,712
Operating Expense		\$ 614,767	\$ 634,603	\$ 639,785	\$ 656,658
Demand Response Revenue		\$ 96,184	\$ 103,130	\$ 107,410	\$ 108,592
Helena, MT					
Demand Response Trips	No data	52,590	18,476	18,815	13,684
Revenue Hours		6,034	2,856	2,785	2,442
Revenue Miles		73,632	36,287	23,844	25,072
Operating Expense		\$ 1,127,524	\$ 190,719	\$ 148,825	\$ 161,608
Demand Response Revenue		\$ 74,275	\$ 57,770	\$ 8,552	\$ 6,159

Source: FTA National Transit Database

Other Regional Connections

The availability of alternate transportation modes allows for individuals to travel without relying on a private automobile, and the efficiency of these alternate modes is contingent upon their ability to effectively connect with regional destinations. For the GIAMPO area, the existing regional connections include commercial air services, intercity bus service, and passenger rail service.

Commercial Air Service

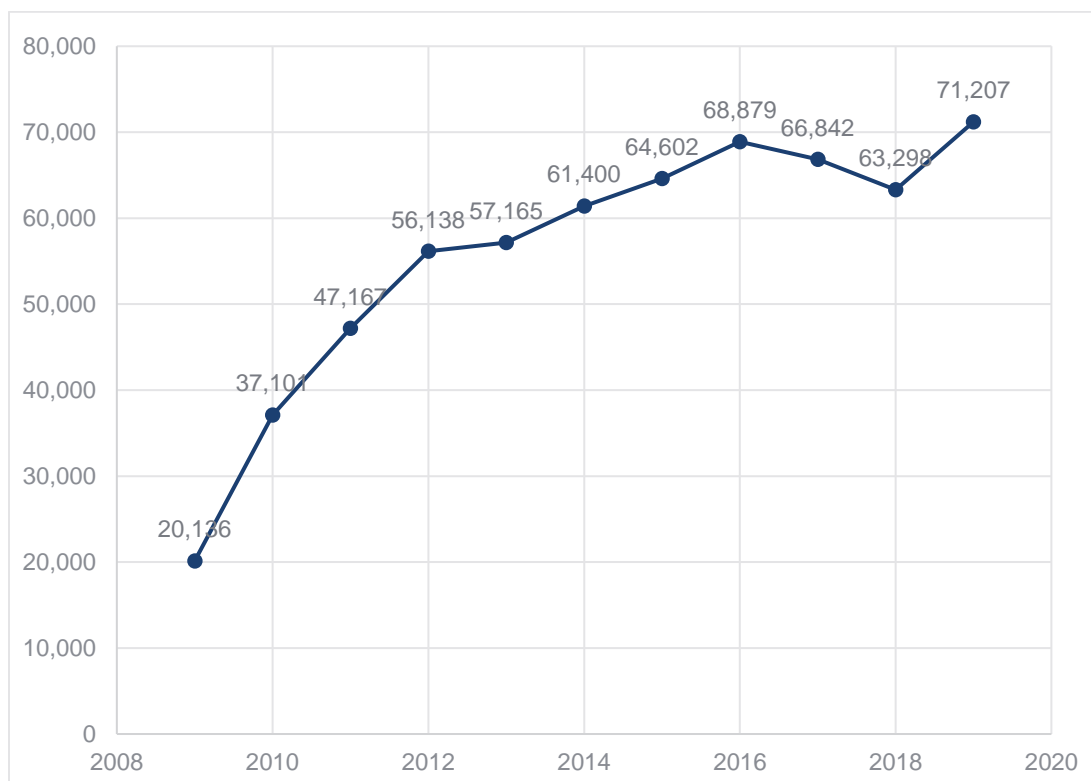
The Central Nebraska Regional Airport offers commercial air service within the GIAMPO area. Two airlines currently operate commercial service at the Central Nebraska Regional Airport:

- Allegiant Air currently offers non-stop flights to the Phoenix-Mesa Gateway Airport and the McCarran International Airport in Las Vegas.
- American Eagle offers non-stop service to the Dallas-Fort Worth Airport.

In addition to Allegiant Air and American Eagle, flights to Wendover, Utah and Laughlin, Nevada can be chartered throughout the year.

Since the year 2009, the number of annual enplanements has increased from 20,136 to 63,298 in 2018. During this ten-year period, annual enplanements peaked at 68,879 in 2016 then saw slight declines in both 2017 and 2018. **Figure 15** presents the annual enplanement figures from the Federal Aviation Administration for the ten-year period of 2009-2018.

Figure 15: Annual Enplanements for the Central Nebraska Regional Airport, 2009-2019



Source: Federal Aviation Administration, Air Carrier Activity Information System⁷

Intercity Bus Service

Several intercity bus service options exist in the GIAMPO region.

- Greyhound Bus offers intercity bus services to a variety of locations across the U.S. Travelers are picked up and dropped off at the Greyhound Bus Depot located just south of downtown Grand Island, near the junction of NE Highway 2 and U.S Highway 34.
- Arrow Stage Lines offers charter bus rental services and has a facility in northern Grand Island, near the Central Nebraska Regional Airport.
- The Navigator Airport Express offers 6 airport shuttle trips per week and serves the Nebraska communities of Kearney, Grand Island, Hastings, York, Lincoln, and Omaha.

In addition to these intercity bus services currently offered, a Grand Island-Kearney-Hastings Intercity Bus Study is currently being completed. This study will produce an intercity bus operational analysis, identify potential park and ride locations, determine the sustainability of an intercity bus service, and develop a marketing plan. The anticipated date of completion for the study is March of 2020.⁸

⁷ 2019 Enplanement data was sourced from the Grand Island Independent, Jan. 7, 2020 https://www.theindependent.com/news/local/central-nebraska-regional-airport-sets-passenger-record-in/article_2eb58eaa-319d-11ea-980c-5717d3da75d9.html.

⁸ Nebraska Department of Transportation, <https://nebraskatransit.com/index.php/mobility-management/mobility-management-active-projects/grand-island-kearney-hastings-intercity-bus-study/>

Passenger Rail Service

Passenger rail service is currently not offered in the GIAMPO area. The nearest passenger rail facility is the Amtrak station located 25 miles south of the City of Grand Island, in the City of Hastings.

Additional Mobility Providers

Alternate mobility options for travelers in the GIAMPO region includes the ridehailing services Uber, which began operating in the City of Grand Island in 2016, and Lyft, which launched shortly after Uber. These services allow individuals who own a vehicle to match with and provide users low-cost rides via a smart phone app.

In addition to the ridehailing services operating in the GIAMPO region, there are several traditional taxi services operating throughout the region, serving the GIAMPO area along with the communities of Hastings, York, and Kearney. Ridesharing and carsharing services, such as Zipcar and Getaround, that allow members to rent their personal automobiles are not currently available in the GIAMPO region. For individuals who wish to rent a personal vehicle, traditional car rental agencies, such as Enterprise and Budget, serve the City of Grand Island and surrounding communities.

Introduction

Trade has historically been, and will continue to be, an integral part of the Nebraska and Grand Island area economy. As the original transcontinental railroad developed westward in the mid-1860's, Grand Island developed as a change point for Union Pacific Railroad engines and crews. During the late nineteenth century, the city emerged as a hub for rail traffic and connected to rail lines throughout the American west, cementing Grand Island as a center for regional rail freight activity.

Today, the GIAMPO area continues its role as a major multimodal freight center served by highway, rail, air, and pipeline freight carriers. Notable modal freight facilities include:

- Federal and state highway system facilities including Interstate 80, US Highways 30, 34, and 281, and Nebraska Highway 2.
- Air freight services via the Central Nebraska Regional Airport.
- Rail freight services via two mainline rail routes: Union Pacific (UP) and Burlington Northern-Santa Fe (BNSF).
- Natural gas pipeline operated by Tallgrass Interstate Gas Transmission.

As noted in NDOT's 2017 *Nebraska State Freight Plan*, rail currently carries the most freight in terms of tonnage and value. The Plan noted that the shipping of coal eastward from the Powder River basin in Wyoming is a large contributor to these totals, but that coal production is expected to decrease over the next 30 years, while highway trucks and pipelines are predicted to increase their modal shares by nearly 10%. The 2015 freight tonnage by mode is shown in **Figure 1**, and the 2015 freight value by mode is shown in **Figure 2**.

Figure 1: Nebraska Freight Tonnage by Mode

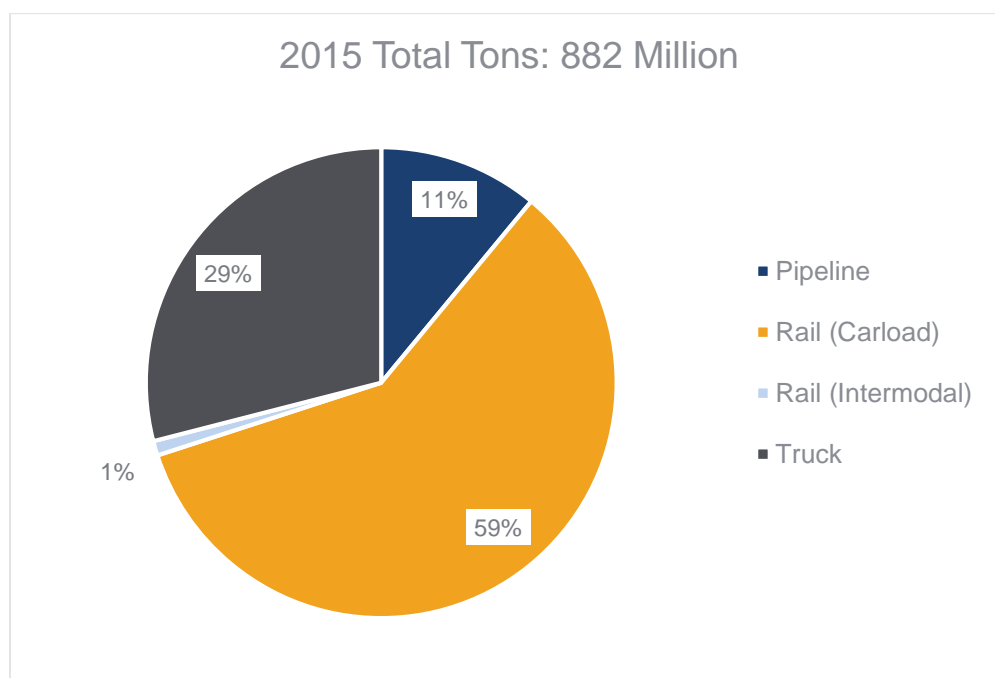
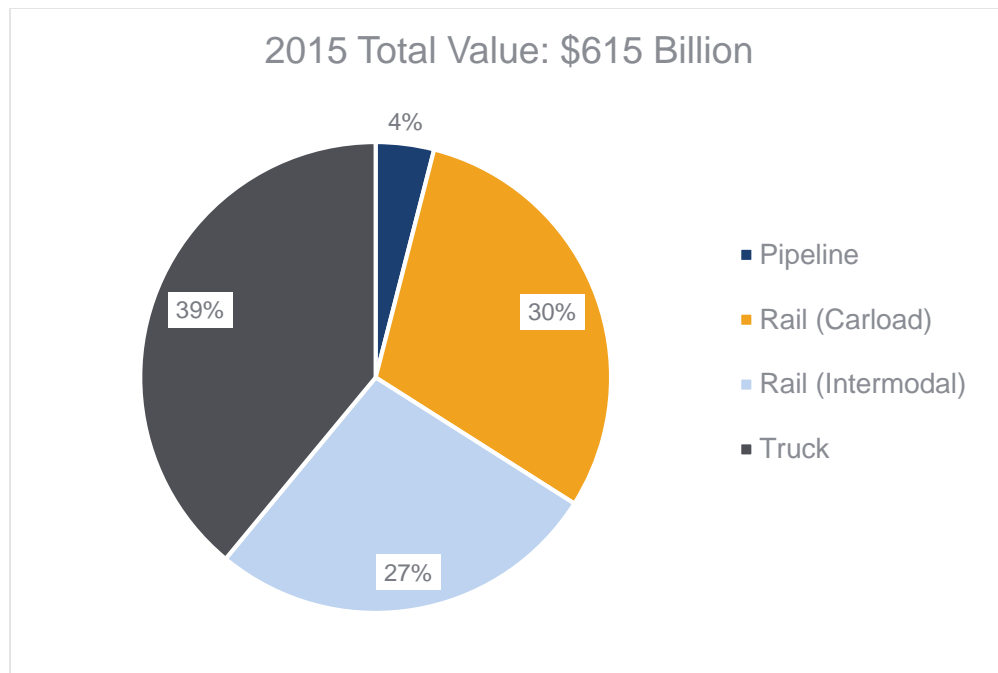


Figure 2: Nebraska Value Tonnage by Mode



Source: Nebraska State Freight Plan

Statewide Freight System Vision and Goals

The *Nebraska State Freight Plan* establishes a vision and accompanying goals for the state freight system. These goals are presented with the intent of guiding short-and long-term investments and public decision-making while articulating actions and policies that the state and local jurisdictions, such as GIAMPO, can pursue in support of the goals. The vision of the plan is “to support and grow Nebraska’s freight system in efficient and innovative ways to promote the State’s economic growth and competitiveness.” To realize this vision, the following goals were developed:

- Increase Nebraska’s economic competitiveness.
- Identify innovative ways to better move freight and people safely within and across the State.
- Identify opportunities for the State to work more collaboratively and in better partnership with private business.
- Strengthen efforts of Nebraska state agencies to work together towards achieving the State’s goals.

Highway Freight

Regional Freight Movements

Highway freight facilities within the GIAMPO area include Interstate 80, U.S. Highway 30, U.S. Highway 34, U.S. Highway 281, and Nebraska Highway 2. Additionally, a number of non-Highway roads in the City of Grand Island are utilized by trucks, including Locust Street, 1st Street, 2nd Street, Eddy Street, and Broadwell Avenue. **Figure 3** illustrates the current highway freight network in the GIAMPO region.

To gain an understanding of current and forecasted freight demands on our roadway system, the Federal Highway Administration maintains the Freight Analysis Framework (FAF) database. This database combines data from a number of public and industry sources to develop a composite picture of freight movements in states and large metropolitan areas across all modes of transportation.¹ Drawing from this extensive database, an analysis of the estimated growth in tonnage and value of Hall County commodities, as well as daily truck traffic and tonnage flows on GIAMPO's regional freight system, was conducted. The results of this assessment indicated four general trends for the MPO area:

- Total tonnage of Hall County commodities shipped is expected to increase 21% by 2045.
- The total value of these commodities is forecasted to increase 42% by 2045, totaling \$20.6 billion.
- Average annual daily truck traffic (AADTT) is estimated to increase substantially throughout the region, and is displayed in **Figure 4** from 2012.
- During this same period, commodity tonnage moving through the GIAMPO region is expected to increase by 57%. **Figure 5** presents commodity flows from the FAF base year of 2012.

Freight interactions involving Hall County were analyzed to evaluate the growth in tonnage and value of commodities shipped into, out of, and within Hall County in 2015 and 2045. The FAF data indicates that a total of 21,113 tons of commodities traveled on the Hall County's freight network in 2015, with 10,194 tons of commodities traveling into Hall County (inbound) and 10,119 tons traveling from Hall County (outbound). The remaining 800 tons originated and were shipped within the county; these commodities are categorized as "internal" by the FAF database.

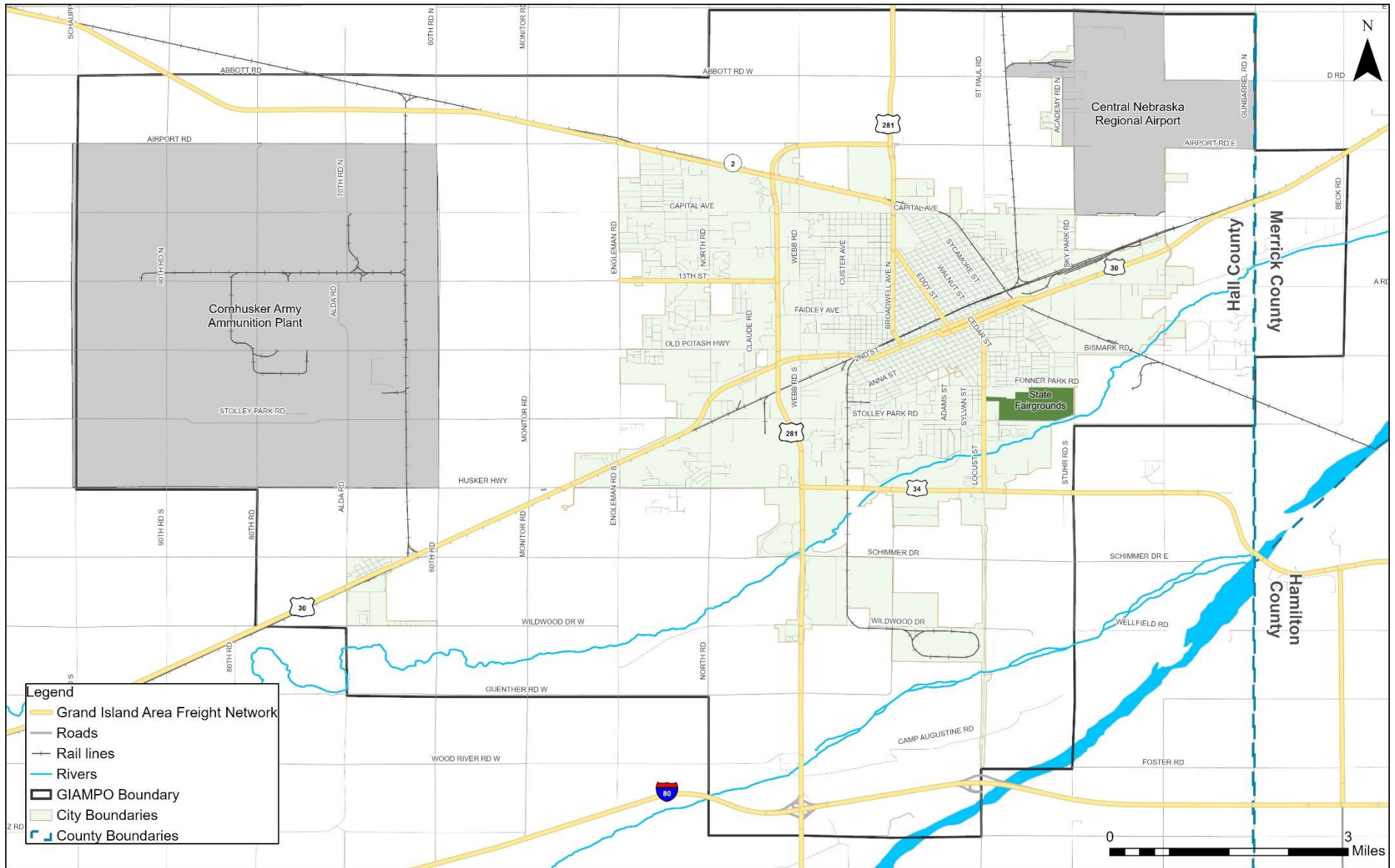
The FAF forecasts predict total tonnage to increase 21% by 2045 to a total of 25,525 tons of commodities. The amount of inbound commodities is forecasted to increase to a level of 12,330 tons while outbound commodities are expected to rise to 12,276 tons. Tonnage of commodities that originate and are shipped to destinations within Hall County are forecasted to increase to 919 tons.

Hall County commodities totaled \$14,521 billion in 2015. Approximately half of this value was categorized as outbound from Hall County while \$6,502 billion worth of commodities were considered shipped into the county. Hall County commodities that were shipped internally valued \$372 million in 2015.

¹ Federal Highway Administration Freight Analysis Framework, <https://faf.ornl.gov/fafweb/>

GIAMPO 2045 Long-Range Transportation Plan
Appendix C: GIAMPO Freight System

Figure 3: GIAMPO Freight Network



This map illustrates the daily truck traffic volume on roads in the Omaha, Nebraska area. The roads are color-coded based on the number of daily trucks: light brown for less than 500, medium brown for 501 to 1,000, dark brown for 1,001 to 1,500, and black for 1,501 to 2,000. Roads with more than 2,000 daily trucks are shown in a thick black line. The map includes major highways such as I-80, I-280, and US-30, as well as local roads like Webster Rd, Capital Ave, and Stollery Park Rd. The map also shows the location of the Central Nebraska Regional Airport and the Cornhusker Army Ammunition Plant. A legend in the bottom left corner defines the symbols for roads, rail lines, rivers, city boundaries, and county boundaries. A scale bar in the bottom right corner indicates a distance of 0 to 3 miles.

Legend

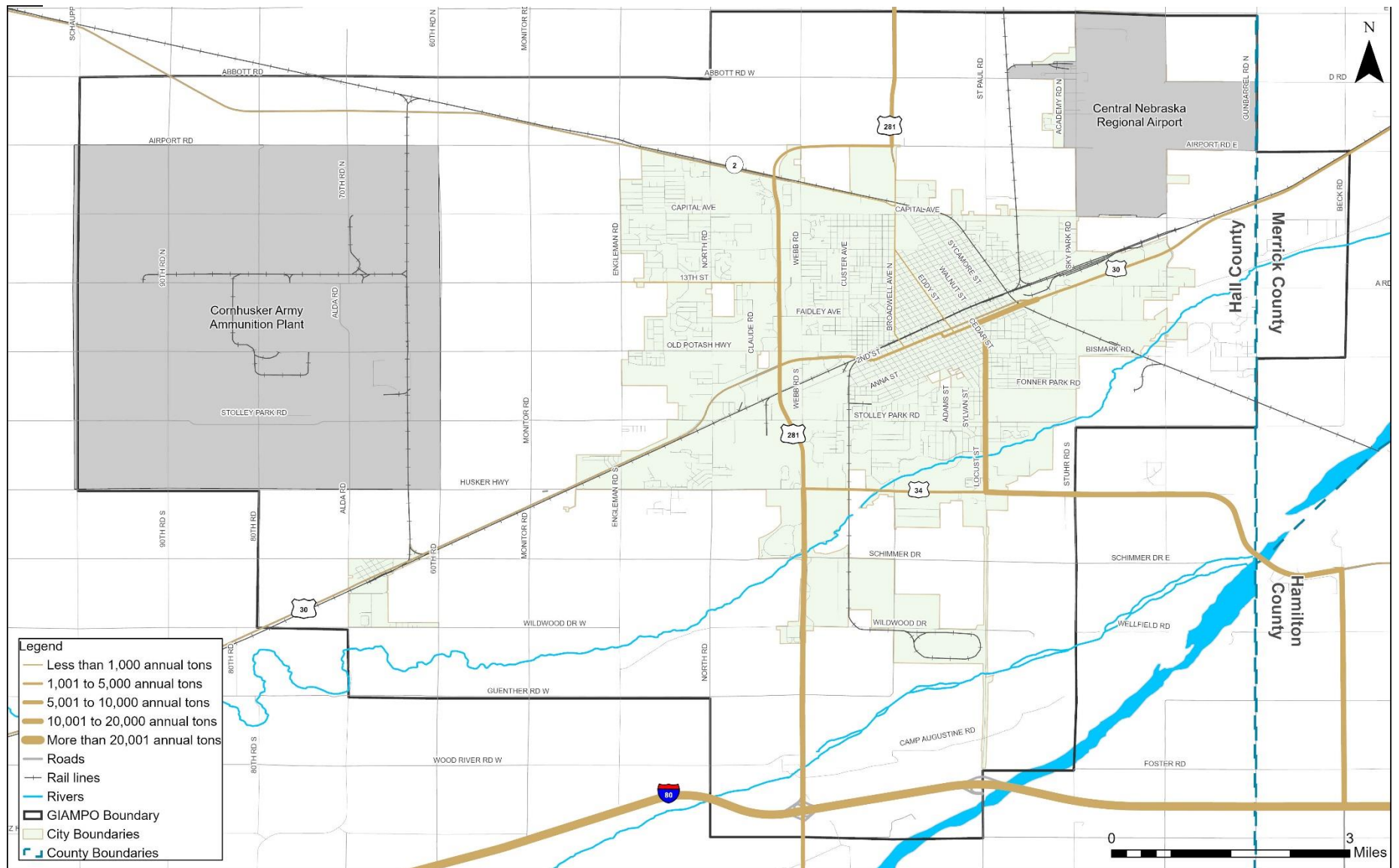
- Less than 500 daily trucks
- 501 to 1,000 daily trucks
- 1,001 to 1,500 daily trucks
- 1,501 to 2,000 daily trucks
- More than 2,001 daily trucks
- Roads
- Rail lines
- Rivers
- GIAMPO Boundary
- City Boundaries
- County Boundaries

Map Labels:

- Highways:** 281, 30, 34, 80
- Roads:** Abbott Rd, Airport Rd, Alda Rd, Engleman Rd, Monitor Rd, North Rd, Stollery Park Rd, Webster Rd, Capital Ave, Custer Ave, Fairley Ave, Old Potash Hwy, Claude Rd, Broadwell Ave N, Eddy St, Sycamore St, Walnut St, Adams St, Sylvan St, Locust St, Schimmer Dr, Wildwood Dr, Camp Augustine Rd, Foster Rd, Wellfield Rd, Wood River Rd W, Guenther Rd W, Wildwood Dr W, Husker Hwy, 60th Rd, 66th Rd, 70th Rd N, 70th Rd S, 80th Rd, 80th Rd S, 90th Rd S, 90th Rd N, St Paul Rd, Academy Rd, Beck Rd, D Rd, Z Rd
- Locations:** Cornhusker Army Ammunition Plant, Central Nebraska Regional Airport
- Counties:** Hall County, Merrick County, Hamilton County

Scale: 0 to 3 Miles

Figure 5: Estimated Commodity Flows for the Year 2045, GIAMPO Planning Area



GIAMPO 2045 Long-Range Transportation Plan
Appendix C: GIAMPO Freight System

The forecasted value of commodities for the year 2045 is \$20,688 billion, increasing 42% from the 2015 level. Of this total, outbound commodities are expected to account for just over half at a value of \$11,292 billion. Inbound commodities' valuation is predicted to be \$8,913 while commodities shipped internally are forecasted to increase by roughly \$100 million, to a 2045 level of \$484 million. **Table 1** summarizes the findings of the county freight interactions.

Table 1: Forecasted Total Tonnage and Value of Hall County Commodities, 2015-2045

Forecast Metric	Inbound Commodities	Internal Commodities	Outbound Commodities	Total	% Change
2015 Tons	10,194	800	10,119	21,113	
2045 Tons	12,330	919	12,276	25,525	20.90%
2015 Value	\$6,502	\$372	\$7,647	\$14,521	
2045 Value	\$8,913	\$484	\$11,292	\$20,688	42.47%

Source: Federal Highway Administration, Freight Analysis Framework

Further review of the FAF data identified Hall County's top trading partners within the State of Nebraska as well as the highest value commodities that are shipped into and out of the county. In 2015, Hall County's top trading partner in terms of value of commodities shipped was Lancaster County; the total value of commodities shipped from Lancaster to Hall was \$267.71 million, while Hall County shipped \$421.21 million worth of commodities to Lancaster County. The number two top trading partner for Hall County for both inbound and outbound commodities in 2015 was Douglas County, of which the City of Omaha is the county seat. The value of Douglas County commodities inbound to Hall County was valued at \$258.56 million, while commodities shipped out of Hall County with a destination in Douglas totaled \$351.61 million. **Table 2** shows the top 5 highest value trading partners for Hall County in 2015.

Table 2: Hall County Top 5 Highest Value Trading Partners within the State of Nebraska, 2015.

Rank	Highest Value Trading Partners 2015-Inbound		Highest Value Trading Partners 2015-Outbound	
1	Lancaster	\$267.71	Lancaster	\$421.21
2	Douglas	\$258.56	Douglas	\$351.61
3	Dakota	\$236.37	Dakota	\$310.79
4	Buffalo	\$204.76	Buffalo	\$203.99
5	Dawson	\$183.93	Dawson	\$198.47

Source: Federal Highway Administration, Freight Analysis Framework

The highest value of commodities shipped into Hall County in 2015 were cereal grains (\$1.3 billion), live animals/fish (\$1.1 billion), and motorized vehicles (\$633 million). For outbound commodities, the top three commodities shipped out of Hall County by value were: meat/seafood (\$2.4 billion), cereal grains (\$1.2 billion), and live animals/fish (\$928 million). **Table 3** presents the top 5 highest value commodities shipped into and out of Hall County in 2015.

Table 3: Top 5 Highest Value Commodities Shipped Into and Out of Hall County, 2015.

Rank	Highest Value Commodities 2015-Inbound		Highest Value Commodities 2015-Outbound	
1	Cereal grains	\$1,321.32	Meat/seafood	\$2,411.52
2	Live animals/fish	\$1,093.15	Cereal grains	\$1,194.37
3	Motorized vehicles	\$633.94	Live animals/fish	\$928.46
4	Machinery	\$524.33	Machinery	\$758.94
5	Other ag prods.	\$428.98	Other ag prods.	\$535.10

Source: Federal Highway Administration, Freight Analysis Framework

The states that had the highest tonnage of commodities and value of commodities shipped to them from Hall County are identified in **Figure 6**. As the figure illustrates, Kansas, Iowa and Illinois were top trade states in terms of the total outbound tonnage shipped from Hall County as well as the highest value of outbound commodities in 2015. South Dakota and Colorado were also identified as top trading partners in terms of total tonnage of commodities shipped while Texas and Wisconsin received a significant amount of high value commodities from Hall County.

Grand Island Area Freight Movements

A corridor-level analysis was also conducted for the major NHS freight routes contained within the boundary of the GIAMPO planning area. **Table 4** presents the resulting projections for growth in daily truck traffic for these corridors through the plan horizon.

Table 4: Projected Growth in Daily Truck Traffic on Interstate and NHS Routes

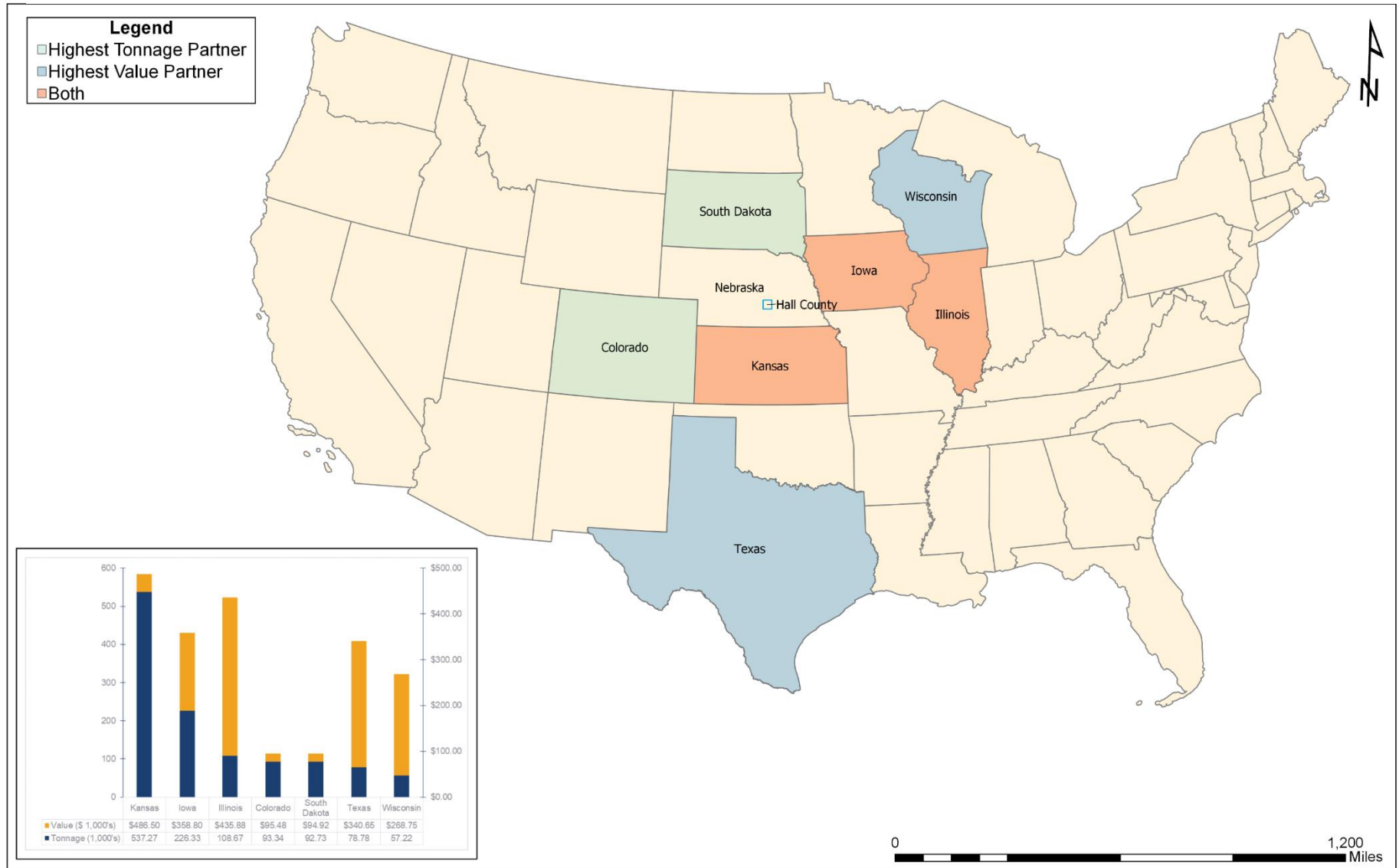
Highway Facility	2012 AADTT	2045 AADTT	% Change
Interstate 80	7,775	26,200	236%
US Highway 281/34	1,750	3,952	122%
US Highway 30	994	1,731	74%
Nebraska Highway 2	315	835	161%

Source: Federal Highway Administration, Freight Analysis Framework

GIAMPO 2045 Long-Range Transportation Plan
Appendix C: GIAMPO Freight System

These large increases in truck volumes during the plan horizon can lead to the potential for significant impacts on the highway facilities that support truck travel in the GIAMPO area. The needs for public expenditures on roadway maintenance and the potential for highway capital improvements could increase, while the operations and reliability of the highway system for both trucks and passenger vehicles could decrease. These trends will need to be evaluated and considered during plan development.

Figure 6: Top 5 States for Hall County Outbound Trade—Highest Tonnage and Highest Value of Commodities, 2015.



Air Freight

The Central Nebraska Regional Airport (KGRI) is the major aviation facility in the GIAMPO area. This facility is owned by the Hall County Airport Authority and maintains four runways that service an average of 69 aircraft per day. In terms of operations, the Central Nebraska Regional Airport has 35 aircraft based at the field. At the airport, 41% of operations are associated with transient general aviation, 26% are local general aviation, 26% commercial aviation, and the remaining 7% are for military aviation purposes.² A discussion of commercial air service at the Central Nebraska Regional Airport is provided later in this document.

While the Central Nebraska Regional Airport mainly serves non-freight needs, a 2016 study conducted by the University of Nebraska estimated that this facility receives approximately 1,144 tons in total annual operations each year, making it number two behind Omaha's Eppley Airfield in terms of air cargo operations in the State.³

Rail Freight

Rail freight plays a significant role in the local economy of the GIAMPO region. There are three railroads operating in the region:

- Union Pacific has a main line route traveling through Grand Island.
- Burlington Northern Santa Fe has a main line route traveling through Grand Island.
- Nebraska Central Railroad Company, owned by Rio Grande Pacific Railroad, also operates a rail line that connects with UP in the northern part of the City of Grand Island.

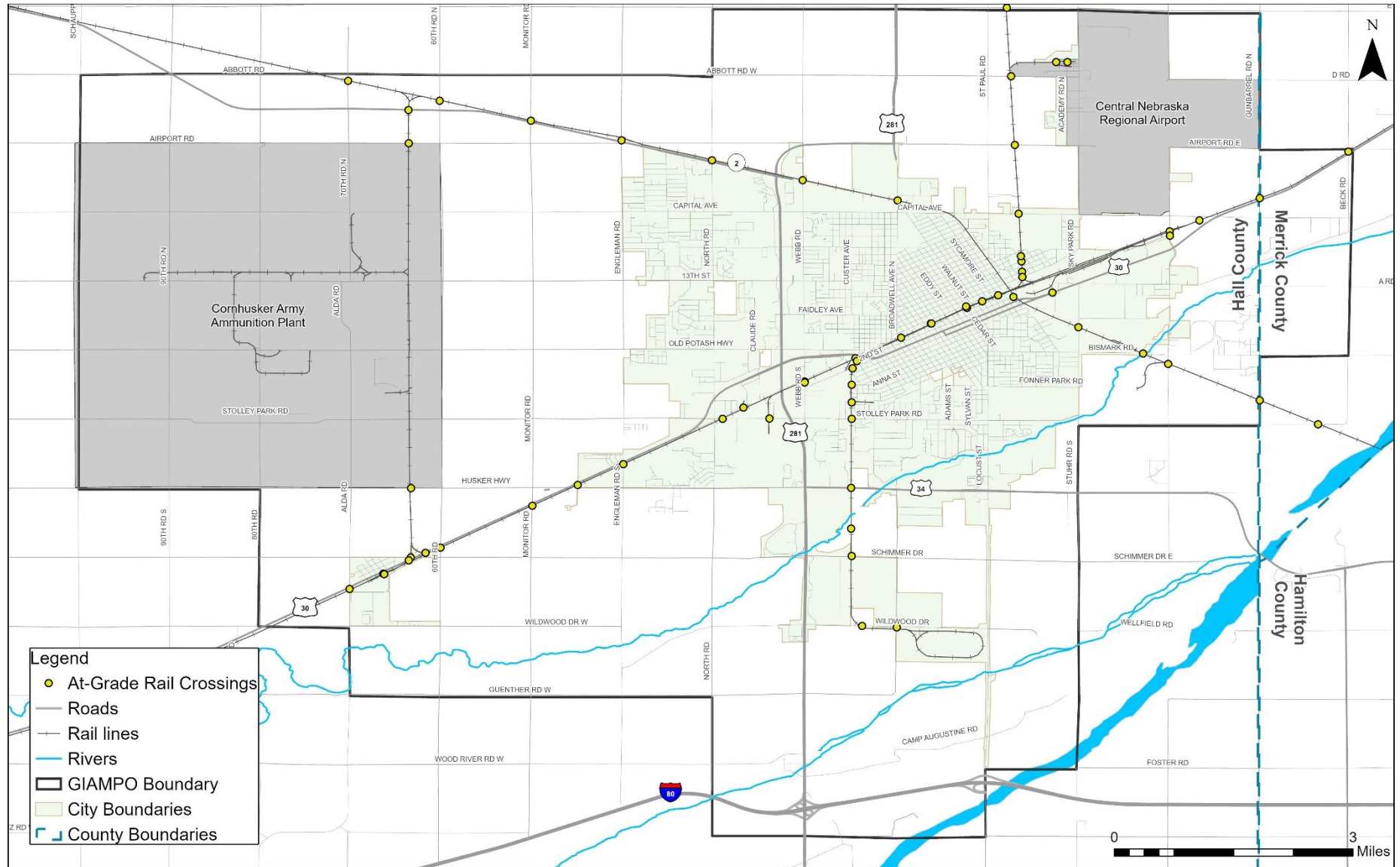
In addition to the rail lines found within the GIAMPO boundary, there are a number of rail facilities and crossings throughout the GIAMPO area, including "The Diamond", where Burlington Northern-Santa Fe track passes over a Union Pacific main line and serves as a notable tourist attraction for railroad enthusiasts.⁴ The Federal Railroad Administration's Highway-Rail Crossing Inventory indicates that there are 87 rail crossings within the GIAMPO boundary, and 65 of these crossings are at-grade and public. The rail crossings are illustrated in **Figure 7**.

² Central Nebraska Regional Airport FAA Information, <https://www.airnav.com/airport/KGRI>.

³ Nebraska State Freight Plan, 2017. <https://dot.nebraska.gov/media/10761/nebraska-freight-plan.pdf>.

⁴ Grand Island Tourism, <https://visitgrandisland.com/visitors/attractions/railroad.html#targetText=Grand%20Island's%20hotspot%20is%20known,along%20the%20original%20transcontinental%20mainline>.

Figure 7: Locations of At-Grade Public Railroad Crossings

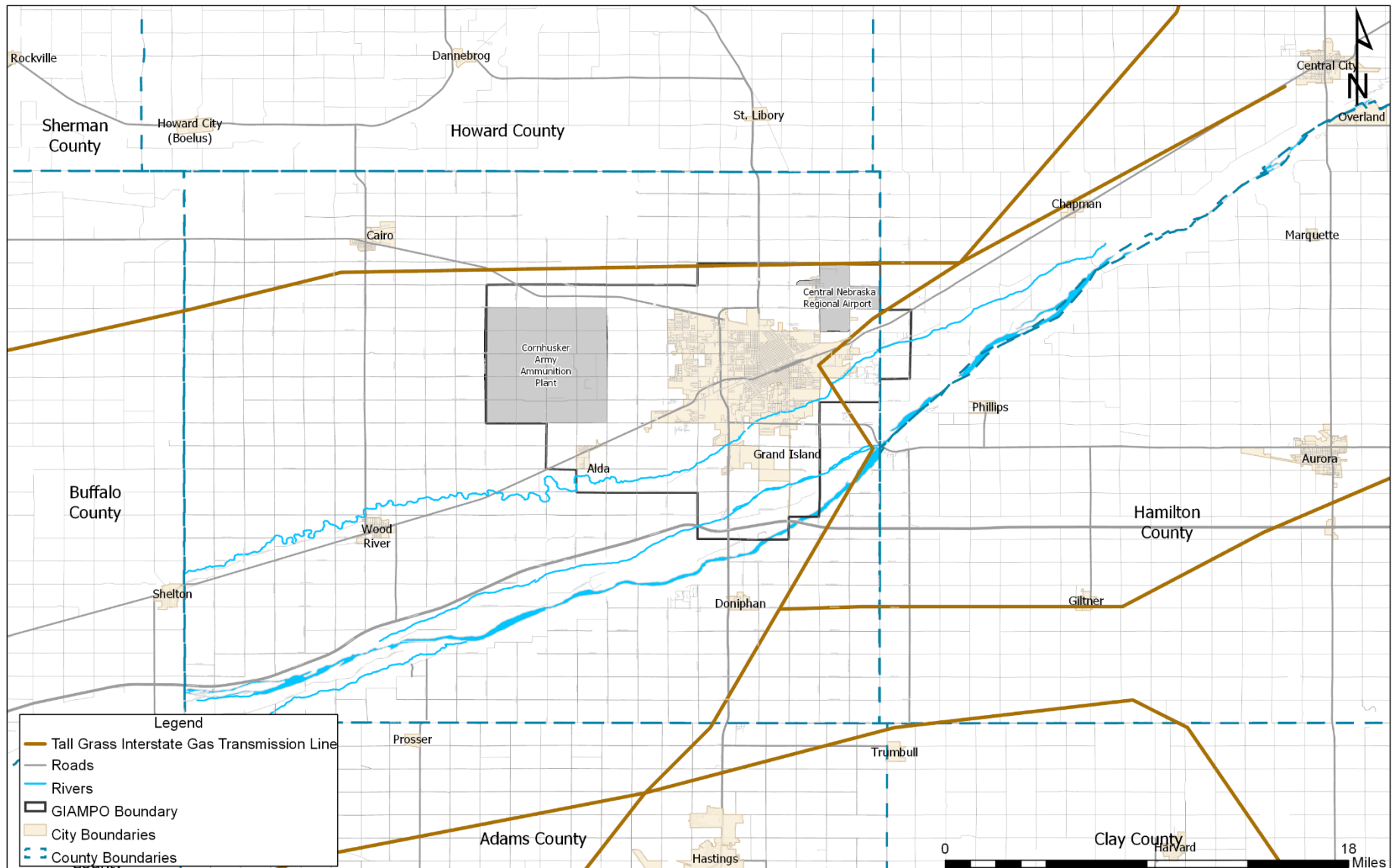


Pipelines

Freight movements via pipeline accounted for 11% of total freight movement by weight in Nebraska during the year 2015. This important freight mode is utilized mainly for the transmission of energy products, such as petroleum, natural gas, crude oil, and hydrocarbon gas liquids.

Within the GIAMPO planning area, a natural gas pipeline operated by Tallgrass Interstate Gas Transmission is the only pipeline currently in operation. The pipeline is located in the northern and eastern part of the MPO area and carries natural gas products through the City of Grand Island east to Cheyenne, Wyoming and south into the State of Kansas. **Figure 8** illustrates the location of this pipeline in the GIAMPO region.

Figure 8: Location of the Tallgrass Interstate Transmission Pipeline





Grand Island Area Metropolitan Planning Organization

2045 Travel Demand Model Validation Report

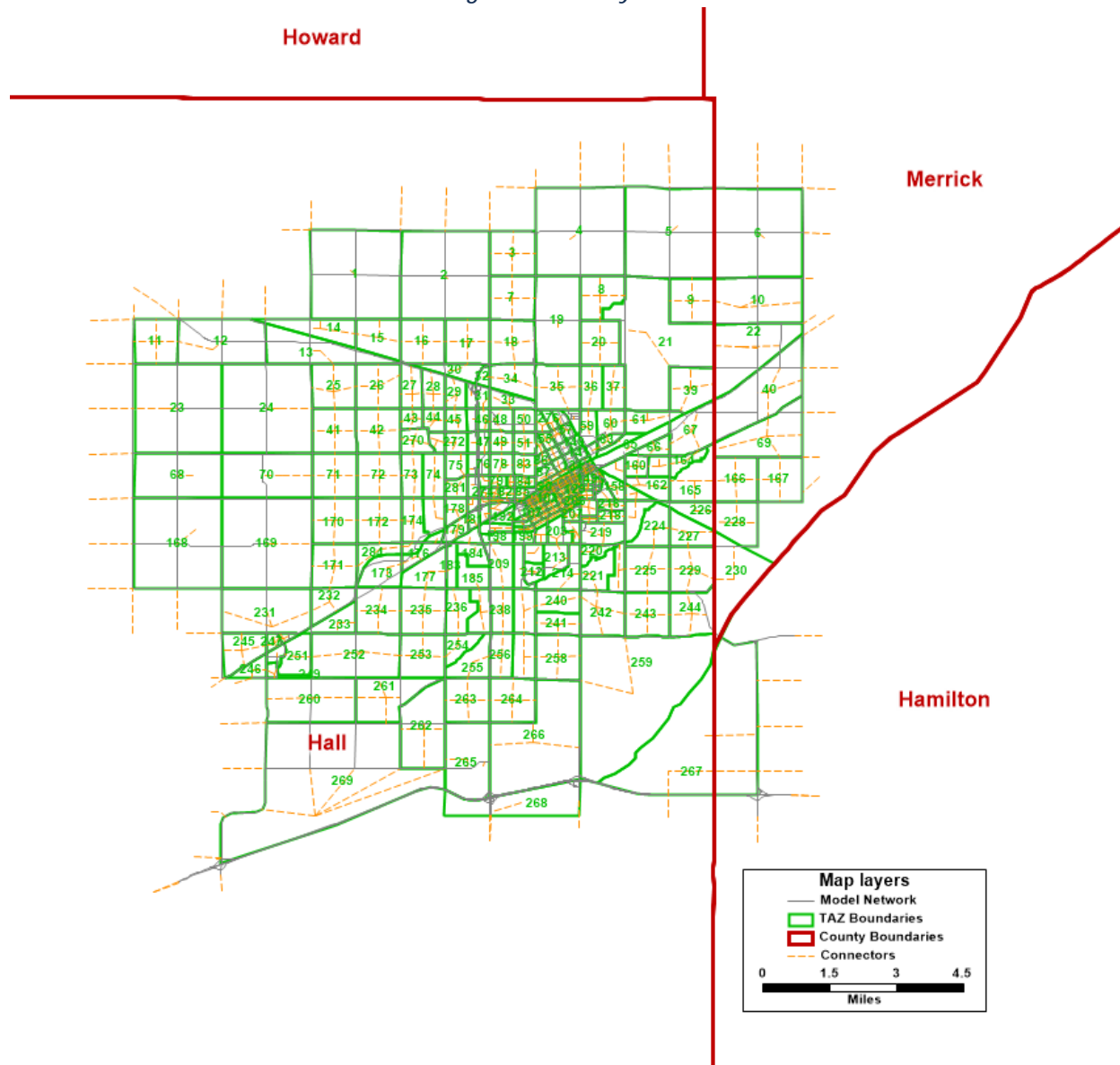
Introduction

This document provides a summary of the 2017 base Grand Island Metropolitan Planning Organization (GIAMPO) Travel Demand Model (TDM). A TDM is an important tool for transportation planning. The TDM estimates and distributes the area's trips across its transportation network. The modeling process attempts to replicate existing traffic levels and forecast future traffic volumes based on anticipated population and employment growth. One of the primary purposes of the TDM is to support the development of the MPO's Long-Range Transportation Plan (LRTP). The model can be used to identify potential future deficiencies in the road network, and used to estimate the impacts of various scenarios such as adding new roads, changing the capacity of existing roads, or removing roads from the network.

Data Updates

Current or base year traffic conditions are calibrated to year 2017 data. Using a single year of data to build and calibrate the base model allows the model to attempt to replicate known traffic conditions. The major categories of inputs to the TDM are the transportation network and the locations of households and employment (termed "socioeconomic" data). Next, projections of future year socioeconomic and road network information is placed in the model to predict traffic conditions in the future. The GIAMPO TDM is built to forecast traffic conditions to a 2045 horizon year. A map of the model area is shown in **Figure 1**.

Figure 1 - Study Area



Network Updates

The base year road network was updated from its previous 2015 base year to match 2017 year roadway alignments and attributes. Major updates were made to speed values, which were outdated or omitted in the 2015 model. Turn lane information was updated as well, using aerial photographs. Capacities were revised based on a capacity analysis and understanding of time-of-day travel patterns as part of the 2045 Long-Range Transportation Plan update.

AADT values for 2017 were provided by GIAMPO (ADT_2017 field). These values represent not only actual count locations, but also interpolated values in between count locations. In order to calibrate the model to only locations where traffic counts actually occurred, thus avoiding using the same count multiple times in validation statistics, which can unreasonably skew results, the

ValCount field was produced. ADT_2017 values were compared with Nebraska DOT (NDOT) count point locations. ValCounts were filled in wherever the two datasets overlapped.

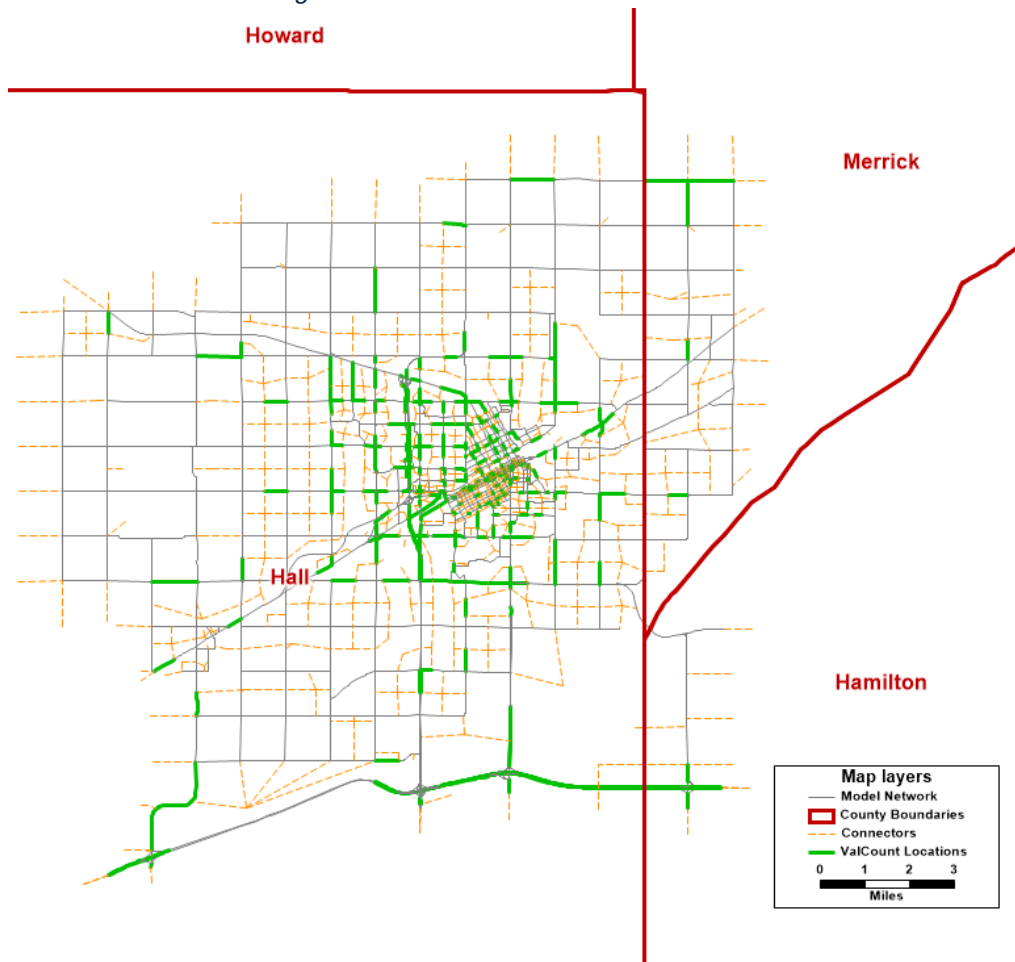
Additionally, where there was not overlap, an ADT_2017 value from the middle of a corridor was used as the ValCount location, while matching count values up and downstream on the corridor were excluded. **Figure 2** shows the locations of ValCounts on the road network. A summary of the primary network inputs are listed in **Table 1**.

Table 1 - Road Network Input Fields

Field	Description
STREET	Street name
ID	Unique ID of link
Dir*	Link direction of flow
	0 = two-way
	1 = one-way in AB direction
	-1 = one-way in BA direction
Length	Link length in miles
FacType*	Facility type
	1 = Interstate
	2 = Expressway
	3 = Principal Arterial
	4 = Minor Arterial
	5 = Collector
	8 = Ramp
	9 = Gravel
	10 = Centroid Connector
Speed*	Free-flow travel speed
Spd_Adj*	Calibration-adjusted speed
AB_Lane* / BA_Lane*	Number of through lanes in AB or BA direction
LT_Lane*	Number of left or center turn lanes
RT_Lane*	Number of right turn lanes
Year*	Year roadway is opened (set to 2017 for all existing roads)
RRDelay*	Railroad crossing delay
ProjNum*	Project ID number for joining with project.bin
ADT_2017	2017 synthetic count
ValCount	2017 Actual count locations used for validation statistics

*Fields with a 1 or 2 after the field name represent possible changes to the future network, as coordinated by the Projects.bin file

Figure 2 - Validation Count Locations



When the model is run, the input network is copied over to the scenario output folder. A master network approach has been incorporated into the GIAMPO model so that all existing, committed, and planned or other “illustrative” scenario network projects are included in one master network. Attributes are coded that allow certain projects to be “turned on” or “turned off”, depending on the scenario being run. Attributes are updated if they have future year attributes and meet certain criteria in the Projects.bin input file. **Table 2** summarizes the attributes in the Projects.bin file. Attributes will be updated on the network if the project number has a year less than or equal to the year listed in the column representing the network set that is being run (Committed, Planned, or Illustrative). It is not necessary to repeat years in each column, because if a project meets criteria for an earlier network set then it is assumed to meet criteria for a later network set. For example, committed projects will be included in Planned and Illustrative model runs, and planned projects will be included in Illustrative model runs.

The output road network has several new fields added to it during the model runtime. **Table 3** summarizes the fields.

Table 2 - Future Road Project Fields

Field	
ProjNum	Project ID number. This number matches the numbers in the road network ProjNum1 or ProjNum2 field.
Description	Short description of the project
Committed	Expected opening year of committed road projects
Planned	Expected opening year of fiscally-constrained road projects
Illustrative	Potential opening year of illustrative road projects

Table 3 - Output Road Network Fields

Field	Description
AB_TT / BA_TT	Free-flow travel time
ABFTLNTL / BAFTLNTL	Capacity lookup value using the formula: FacType*100 + [AB or BA]_Lanes*10 + LT_Lane
AB_HRCAP / BA_HRCAP	Hourly directional lane capacity
ALPHA	BPR volume delay function alpha coefficient
BETA	BPR volume delay function beta coefficient
AB_AMCAP / BA_AMCAP	AM time period directional lane capacity
AB_MDCAP / BA_MDCAP	Mid-day time period directional lane capacity
AB_PMCAP / BA_PMCAP	PM time period directional lane capacity
AB_OPCAP / BA_OPCAP	Off-peak time period directional lane capacity
AB_VMT / BA_VMT	Daily directional vehicle miles traveled (VMT)
TOT_VMT	Daily total vehicle miles traveled (VMT)
AB_VHT / BA_VHT	Daily directional vehicle hours traveled (VHT)
TOT_VHT	Daily total vehicle hours traveled (VHT)
AB_FLOW_TRK / BA_FLOW_TRK	Daily directional model-estimated truck volume
TOT_FLOW_TRK	Daily total model-estimated truck volume
AB_FLOW_AUTO / BA_FLOW_AUTO	Daily directional model-estimated auto volume
TOT_FLOW_AUTO	Daily total model-estimated auto volume
AB_FLOW / BA_FLOW	Daily directional model-estimated volume
TOT_FLOW	Daily total model-estimated volume
TTI	Travel Time Index (ratio of congested travel time to free-flow travel time)
PTI	Planning Time Index (ratio of 95 th percentile travel time to free-flow travel time)
TTI_VMT	Vehicle Miles Traveled (VMT) of roadways with a Travel Time Index < 1.33. These roads are considered reliable, which is used in the reliability rating calculation.
RATIO	Adjusted model-estimated volume using NCHRP 255 Ratio Method for adjusting volumes based on base year model error.
DIFF	Adjusted model-estimated volume using NCHRP 255 Difference Method for adjusting volumes based on base year model error.
ADJ_FLOW	Adjusted model-estimated volume using NCHRP 255 process for adjusting volumes based on base year model error.

Traffic Analysis Zones (TAZ) Updates

The model area is divided up into a number of Traffic Analysis Zones (TAZs). TAZs are geographical areas that represent groups of homes and employment locations with somewhat similar trip making behavior. The TAZ is used as the unit in which the model generates and distributes trips. The GIAMPO TDM has 340 TAZs, which are shown in **Figure 3**. The TAZ structure has three more TAZs than the 2015 base model.

Socioeconomic data were updated to the year 2017 values. Household data came from 2010 US Census data and updated to year 2017 by reviewing local building permit data with review by local planning staff. Employment data by North American Industry Classification System (NAICS) code came from Longitudinal Employer-Household Dynamics (LEHD) dataset and was refined through local planning staff review. As noted, both datasets were reviewed closely for accuracy, and some adjustments were made. The employment data were further grouped from the original NAICS codes into several employment categories as shown in **Table 4**. Households by size and automobiles available were used to calculate trip productions, and the resulting employment categories are used to calculate trip attractions when running the model.

Census Transportation Planning Productions (CTPP) GEOID numbers were tagged to the TAZ layer, and a separate table is used to disaggregate households by auto ownership and household size groups during a model run.

Figure 3 - GIAMPO TAZs

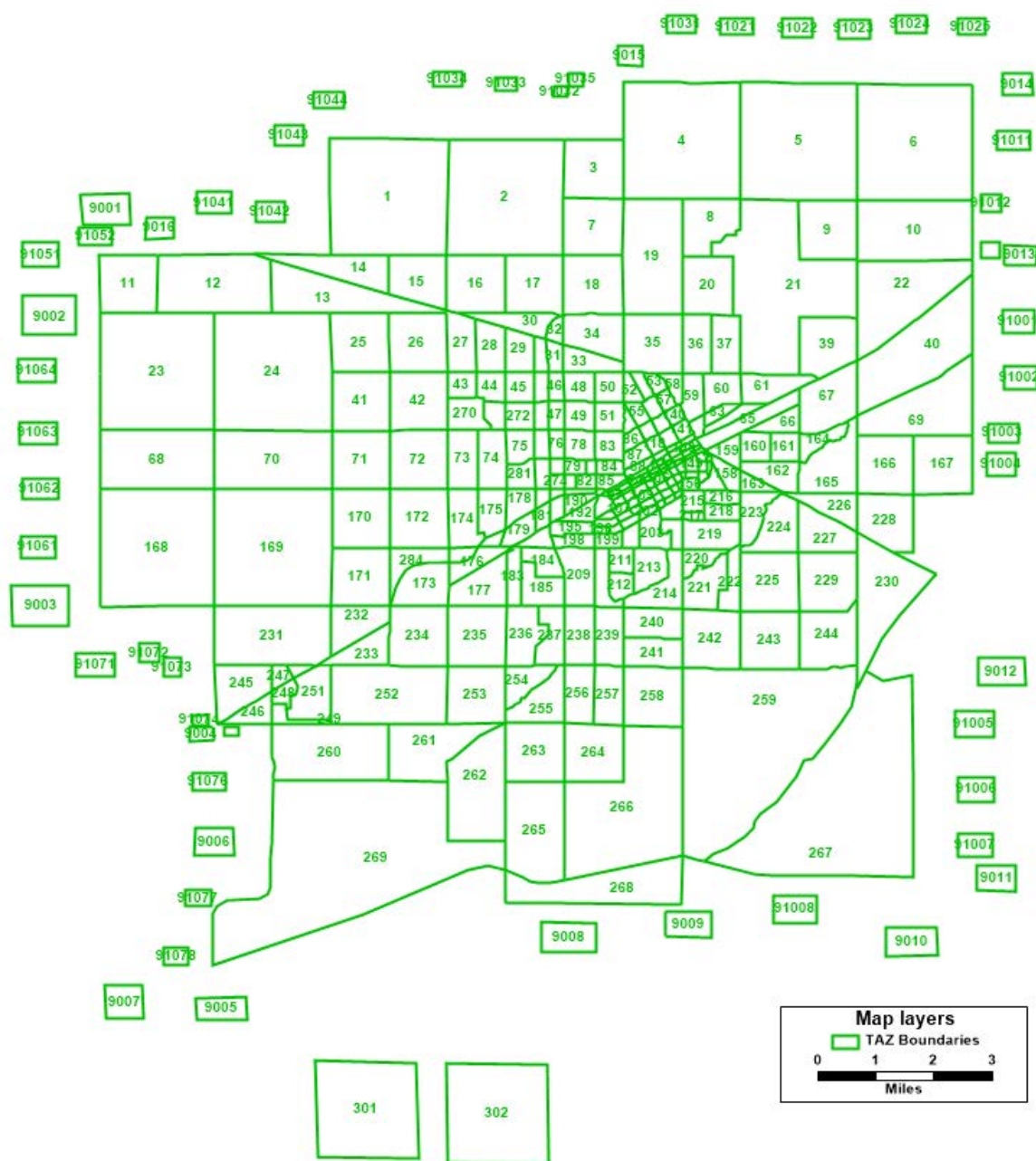


Table 4 - Traffic Analysis Zone (TAZ) Attributes

Field	Description
TAZ	TAZ number
HH_20XX	Households for year of analysis
RET_20XX	Retail sector employment for year of analysis
BAS_20XX	Basic sector employment for year of analysis
SER_20XX	Service sector employment for year of analysis
GOV_20XX	Government employment for year of analysis
SCH_20XX	School enrollment for year of analysis
AT_20XX	Area type for year of analysis 1 = Urban 2 = Suburban 3 = Rural
EXTERNAL	External station TAZ

The area type is a descriptive measure of the relative density within a particular TAZ. **Figure 4** shows the input area types in the GIAMPO TDM. Ultimately, area type is used to determine a terminal time, which is the access/egress time to/from a car or other mode of transportation (e.g., the amount of time it takes between a parked vehicle and the front door of your ultimate origin / destination). The amount of time added to each end of a trip based on area type is shown in **Table 5**. External stations, by default have 10 minutes added, reflecting an average time spent traveling beyond the model cordon. Terminal time values can be altered using the Terminal_Time.bin input file.

Figure 4 - Area Types

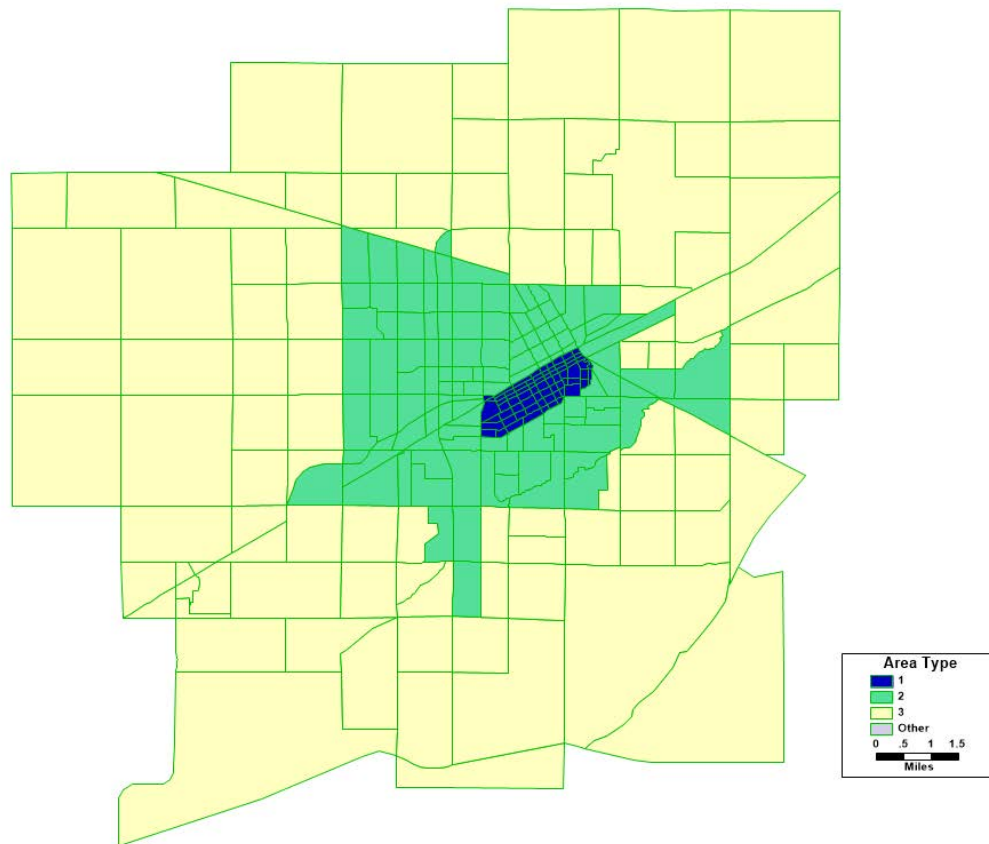


Table 5 - Terminal Times

Area Type	Terminal Time (Minutes per Trip End)
Urban	1.5
Suburban	1.0
Rural	1.0
External	10.0

External Analysis Updates

The GIAMPO TDM has 55 external stations shown in **Figure 5**. Trips both to and from external stations are External-External (E-E) trips. The trips that have one end at an external station and do not have the other trip end at another external station are External-Internal or Internal-External (E-I/I-E) trips.

The previous model update used AirSage data to determine external E-E and E-I/I-E inputs. While the traffic volumes at the external stations changed since the 2015 base year model development, it was assumed that the external travel patterns remained relatively steady. Therefore, the relative patterns in E-E and E-I/I-E trip distribution was kept the same as the 2015base model. The one exception to this was the number of E-E vs. E-I/I-E trips to and from the I-80 external stations. Initially, a screenline across roads just north of I-80 showed that the

number of E-E trips were being underestimated. Because this location represented a perfect screenline and the exact E-E vs. E-I/I-E trips could be inferred, the percentage of E-E trips was increased to more accurately reflect the screenline counts.

The trip purpose split for E-I/I-E trips was also kept the same as the 2015 model. Counts were updated to the new model base year. E-E trips were then factored (proportionally growth factored) for new input totals.

The forecast volume targets for the horizon year were provided by NDOT for the majority of the external stations¹. For the remaining stations, which were all relatively low-volume corridors, a 10% growth assumption was made. A summary of the external stations, counts, and forecast volume targets are shown in **Table 6**.

¹ Per direction from NDOT staff, all non-interstate roads use linear growth extrapolation forecasts, but interstates use an average of linear and exponential growth extrapolation.

Figure 5 - External Station Locations

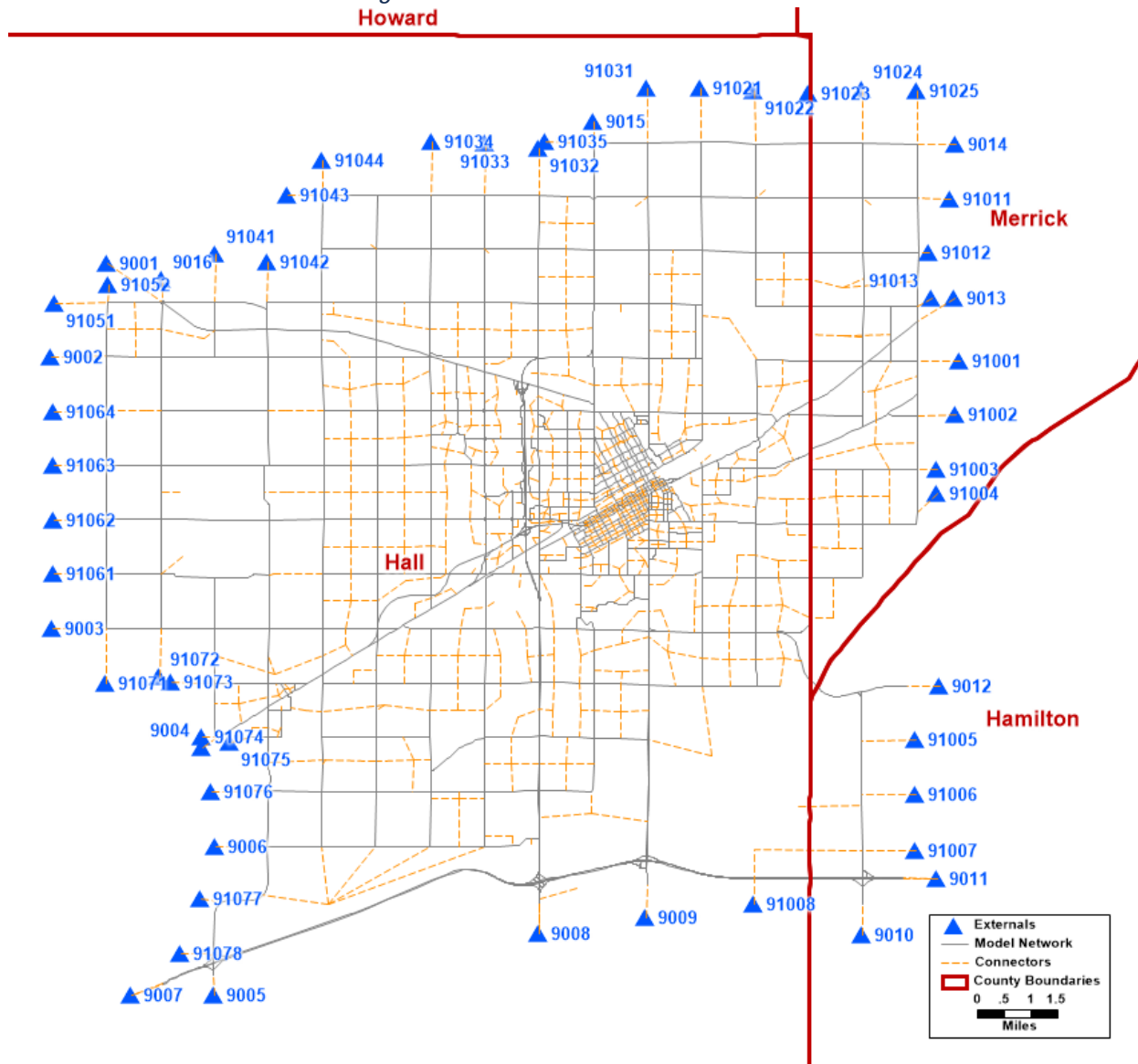


Table 6 - External Station Volumes

External Station	Base Year Volume	Forecast Target Volume	Forecast Method/Source
9001	3000	3300	10% Growth
9002	365	402	TDPP*
9003	790	869	TDPP*
9004	5621	6125	TDPP*
9005	913	1549	TDPP*
9006	501	550	10% Growth
9007	23125	26634	TDPP**
9008	13350	20530	TDPP*
9009	1580	2660	TDPP*
9010	235	260	10% Growth
9011	23621	29213	TDPP**
9012	4785	6490	TDPP*
9013	6643	8465	TDPP*
9014	450	605	TDPP*
9015	5539	7015	TDPP*
9016	445	490	TDPP*
91001	100	110	10% Growth
91002	100	110	10% Growth
91003	80	90	10% Growth
91004	20	20	10% Growth
91005	100	110	10% Growth
91006	100	110	10% Growth
91007	100	110	10% Growth
91008	200	220	10% Growth
91011	100	110	10% Growth
91012	75	85	10% Growth
91013	50	55	10% Growth
91021	100	110	10% Growth
91022	100	110	10% Growth
91023	100	110	10% Growth
91024	1009	1220	TDPP*
91025	100	110	10% Growth
91031	100	110	10% Growth
91032	100	110	10% Growth
91033	99	109	10% Growth
91034	100	110	10% Growth
91035	200	220	10% Growth
91041	100	110	10% Growth

91042	10	10	10% Growth
91043	100	110	10% Growth
91044	100	110	10% Growth
91051	365	400	10% Growth
91052	100	110	10% Growth
91061	100	110	10% Growth
91062	100	110	10% Growth
91063	350	385	10% Growth
91064	100	110	10% Growth
91071	100	110	10% Growth
91072	100	110	10% Growth
91073	100	110	10% Growth
91074	250	275	10% Growth
91075	50	55	10% Growth
91076	100	110	10% Growth
91077	700	770	10% Growth
91078	200	220	10% Growth

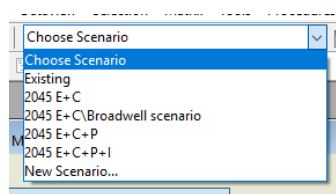
*Linear trendline


**Average of linear and exponential trendlines

Script Updates

The GIAMPO script was updated to TransCAD version 8 and was revised to improve user-friendliness and flexibility, as well as to upgrade several specific processes. The upgraded script makes use of TransCADs Model Flowchart Template.

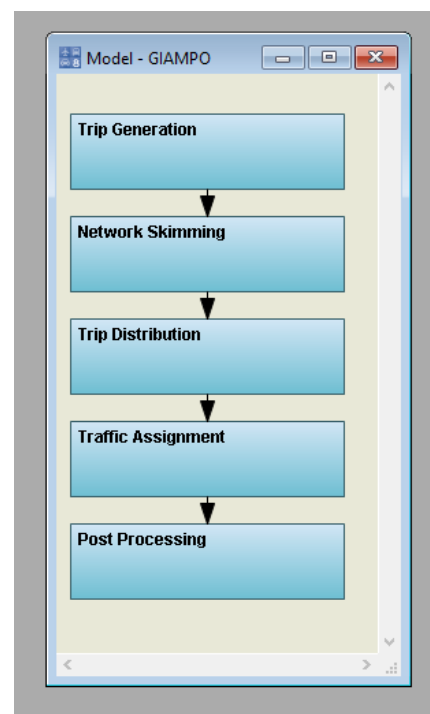
To run the model, the user can drag-and-drop the *GIAMPO.model* file from the *C:\Grand Island\GIAMPO_TDM\Script* folder into TransCAD. A Flowchart appears with each major model step listed as shown in **Figure 6**.




A pre-set scenario can be run by selecting a scenario in the *Choose Scenario* dropdown menu, and then clicking the  button.


New scenarios can be set up by selecting *New Scenario*. These can be set up as independent scenarios or can be nested within the pre-set scenarios. For example, the *Broadwell* scenario is nested within the *2045 E+C* preset scenario in the graphic. This indicates to the user that the *Broadwell* scenario makes use of E+C inputs, and thus the *2045 E+C* preset scenario is the most comparable.

Figure 6 - Model Flowchart

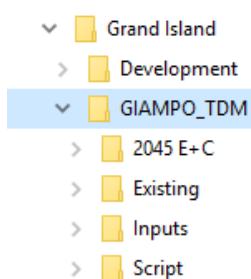


After setting up a new scenario, the parameters can be edited with the  button. Toward the bottom of the *Parameters* tab, year and network set parameters are available to be changed. The user can change between the years 2017 and 2045. The network set can be changed to *Existing*, *Committed*, *Planned* or *Illustrative*. The *Clean Up* parameter is used to delete various intermediate files created by the script during the model runtime that are of lessor importance in order to minimize outputs and the file size of the final model files.

Scenario Year	2045
Scenario Network	Committed
Clean Up	Yes

Multiple scenarios can be run in subsequent order using the  button. This can be useful if many scenarios are set up ahead of time or if new inputs require that multiple scenarios be re-run to produce new outputs.

The GIAMPO_TDM model files are organized into three basic types of folders: Scenario folders, the Inputs folder, and the Script folder. The Script folder is where the GIAMPO.model file is housed, as well as some information about recent model runs that can be useful when troubleshooting errors.



The Inputs folder is where the default model inputs are located. These files will be used by default whenever a scenario is being run unless there are scenario-specific inputs.

The Scenario folder names are provided by the user when setting up a scenario. All outputs are put in an Output folder within each scenario folder. A Scenario folder can also have an Input folder. The Scenario Input folder can be used to test modified inputs for running scenarios without having to overwrite the default inputs. During the model runtime, any scenario inputs will be used in place of a default input. For example, if a scenario is being run to test the impacts of a new road, the default input network can be copied to a new Scenario Input folder. The Scenario Input network can then be modified by adding the new road. This allows the user to have not only scenario-specific outputs, but also a record of any inputs that deviate from the default inputs.

Within the default Inputs folder there are numerous inputs. Many of these inputs are available as input BIN tables for ease of use rather than the user having to edit the script. **Table 7** summarizes the input files.

Table 7 - Input Files

Input	Description	Data Type
A_Rates	Trip attraction rates	BIN File
Auto_Occupancy	Auto occupancy factors	BIN File
Capacities	Hourly capacities	BIN File
CTPP	Household and auto ownership disaggregation file	BIN File
EE_20XX	External-External trips input by year	Matrix File
EI_IE_20XX	External-Internal / Internal-External trips input by year	BIN File
Gravity_Coefficients	Gravity model <i>a</i> , <i>b</i> , and <i>c</i> input coefficients	BIN File
K_Factor	K-Factor input file	Matrix File
Network	Input road network	Standard Geographic File
P_Rates	Trip production rates	BIN File
Projects	Road project list	BIN File
Select_Link	Select link query file	QRY File
Special_Generators	Special generator inputs	BIN File
TAZ	Input Traffic Analysis Zones	Standard Geographic File
Terminal_Time	Terminal times by area	BIN File
Trip_Purposes	List of trip purposes, method for balancing, and whether trip purpose is for trucks.	BIN File
Turn_Penalty	Link-to-link turn penalties	BIN File

The default working directory is *C:\Grand Island\GIAMPO_TDM*. This can be changed by editing the Scenario Parameters after the *GIAMPO.model* file is added to TransCAD.

Calibration and Validation

The model development goal is to create a realistic picture of travel patterns in the study area. As such, models should be calibrated to reflect current travel conditions. Travel is unique in each community, therefore results need to be reviewed in detail and adjustments made to inputs or parameters to match local conditions. Each adjustment needs to be done without unreasonably modifying inputs to unrealistic values, which might constrain the model in future scenario years.

Validation refers to the statistical and non-statistical reasonableness checks used to assess the accuracy of the model. The best practice is to perform validation checks on each major step of the model process. This helps to ensure that data and model structure errors are limited or completely omitted throughout the process, and that the model will be flexible enough to respond to transportation and land use scenarios to be effectively used as a forecasting tool. The main validation checks and calibration adjustments are discussed below.

Location-Based Services Data

A primary validation dataset available for the Grand Island TDM was Location-Based Services (LBS) data, which are (mobile device or smart phone data from 2018 that was processed using traffic counts to create an “observed” trip table for the model area. Although the data represents observed data, it is a sample that must be cleaned and processed in order to represent trips for the entire study area.

NDOT provided the LBS data through a process where the data were initially cleaned, scrubbed of noise, and used to identify spatial clustering and develop residence and workplace locations to build device trips. Demographic biases were also reduced by applying residence-based device expansion factors. External gateways were used to determine when devices crossed model boundaries as part of their trips. Trips were then expanded to counts at external stations.

The rest of the expansion procedure used three additional methods: single factor scaling, iterative screenline fitting, and constrained origin-destination matrix estimation (ODME). The screenline fitting process used the screenline locations shown in **Figure 7**. An iterative process was applied until each iteration traffic assignment failed to improve overall fit to counts as measured by %RMSE against the observed counts.

The results of the final data expansion yielded a 31.4% overall RSME when assigned to the GIAMPO network (**Table 8**).

FIGURE 7 - SCREENLINE LOCATIONS USED FOR LBS ITERATIVE SCREENLINE FITTING PROCESS

*Table 8 - LBS Table Assignment Results*

Volume Group	%RMSE
< 5,000 AADT	50.5
5,000 to 10,000 AADT	29.9
10,000 to 20,000 AADT	16.4
Total	31.4

Trip Generation Validation Checks and Calibration Adjustments

Prior to checking trip generation outputs, it is worthwhile to confirm the accuracy of the input socioeconomic data. **Table 9** shows a comparison of the model input socioeconomic data compared to observed data. The slight difference in Table 9 is due to the boundary for the CTPP household data represents just the city of Grand Island, while the model includes the entire model area. The similar values overall suggest that the model input socioeconomic data is relatively accurate.

Table 9 - Socioeconomic Input Data Control Totals

	Households	Employment
Model	21,769	32,590
Observed*	20,055	33,101

*CTPP for households, LEHD for employment

The trip purposes used by the GIAMPO TDM are listed in **Table 10**. Truck trip purposes represent a combination of both medium and heavy trucks. The Quick Response Freight Manual II was used for the truck trip rates by combining the medium and heavy truck trip rates.

Table 10 - Trip Purpose Summary

Trip Purpose	Description
PHBW	Home-Based Work Production
AHBW	Home-Based Work Attraction
PHBO	Home-Based Other Production
AHBO	Home-Based Other Attraction
PNHB	Non-Home Based Production
ANHB	Non-Home Based Attraction
PTRK	Truck Trip Production
ATRK	Truck Trip Attraction

Because of an absence of local travel survey information, NCHRP 716 was used for the initial auto trip purpose trip rates. However, when looking ahead to the initial traffic assignment results, the default NCHRP 716 trip rates resulted in the model being about 30% low when comparing model Vehicle Miles Traveled (VMT) and count VMT.

The LBS data also suggests that trip rates should be higher than the national average data in NCHRP 716. The previous version of the model encountered similar issues with the need for higher trip rates, and implemented a 20% trip rate increase and did not apply auto occupancies. The 2017 model uses a 35% trip rate adjustment to calibrate this model, as well as a 20% increase over national default rates for 0-1 vehicle households. This was consistent with higher trip rates for lower-income households in the 2010 model. More lower-income auto trips is somewhat expected in a place like the Grand Island area where transit ridership is a relatively low percentage of travel compared to the national average.

The resulting trip rates are shown in **Tables 11 and 12**. Trip attraction rates were similarly factored up by 35% compared to NCHRP 716 rates, with the exception of HBW trips, which were factored up by 15%.

Table 11 - Trip Production Rates

HBW					
		Auto Ownership			
		0	1	2	3+
HH Size	1	0.32	0.95	0.95	1.22
	2	1.13	1.30	1.76	1.89
	3	1.62	1.94	2.70	3.51
	4+	1.62	2.59	2.90	4.19
HBO					
		Auto Ownership			
		0	1	2	3+
HH Size	1	1.71	2.70	2.70	2.70
	2	4.46	4.86	4.86	4.86
	3	6.89	9.05	9.05	9.05
	4+	13.55	14.58	14.58	16.34
NHB					
		Auto Ownership			
		0	1	2	3+
HH Size	1	1.13	2.16	2.16	2.16
	2	2.75	3.51	3.51	3.65
	3	3.24	5.27	5.27	6.08
	4+	6.16	6.32	7.49	8.71

Table 12 - Trip Attraction Rates

	Households	Retail	Basic	Service	Government	School
HBW	0	1.38	1.38	1.38	1.38	0
HBO	1.62	10.94	0.27	2.03	2.03	1.89
NHB	0.81	6.35	0.68	1.89	1.89	0
TRK	0.14	0.39	0.40	0.08	0.08	0

Special generators are used for large or unique land uses where typical trip rates and socioeconomic data do not fairly represent the amount or type of travel. The special generator trips are estimated outside of the model processes, and that value replaces the relevant TAZ's trip totals produced during trip generation. In the GIAMPO model, an input special generator table is available to use for hard-coding trips by purpose. The four special generators and the amount of trips by purpose are shown in **Table 13**. The number of trips were determined using Institute of Transportation Engineers (ITE) Trip Generation Manual trip rates, previous model inputs, and nearby traffic counts.

Table 13 - Special Generators

TAZ	Special Generator	HBW_P	HBW_A	HBO_P	HBO_A	NHB_P	NHB_A	TRK_P	TRK_A
21	Airport	0	0	0	328.84	0	328.84	0	0
95	Library	0	38.28	0	814.8	0	760.48	0	0
301	Truck Stop	0	0	0	0	0	0	294	294
302	Truck Stop	0	0	0	0	0	0	716	716

Each trip has a beginning and an end, and it is necessary for the trip producing trips ends to be equal to the number trip attracting ends. The initial (unbalanced) productions and attractions in the model are never completely equal due to different data sources and trip rate sources, the ratios of productions and attractions by trip purpose should be reasonably close prior to balancing. If they are not, then it could be because of an input data error (either socioeconomic data or trip rates) or a model processing error.

The Travel Model Improvement Program (TMIP) *Travel Model Validation and Reasonableness Checking Manual*, 2nd Edition recommends a preferred ratio of between 0.90 – 1.10 for unbalanced productions and attractions before trip balancing. The unbalanced trip ratios by trip purpose for the GIAMPO TDM are shown in **Table 14** below. Overall, productions and attractions are very close to balanced for each trip purpose, which suggests that there are not any obvious errors in the socioeconomic data or trip rates.

Table 14- Unbalanced Production and Attraction Ratios

Trip Purpose	Unbalanced Trips	Unbalanced Ratio
PHBW	47,102	1.04
AHBW	45,388	
PHBO	169,065	0.93
AHBO	181,740	
PNHB	112,601	1.02
ANHB	110,021	
PTRK	15,095	1.04
ATRK	14,512	
All Ps	343,864	0.98
All As	351,661	

The final balanced trips per household are shown in **Table 15** and compared to Table 5.2 from The Travel Model Improvement Program (TMIP) *Travel Model Validation and Reasonableness Checking Manual* (Second Edition). The modeled number of trips per household is nearly 25% higher than the national average cited in the TMIP manual. Yet, when comparing the final vehicle trip tables against the LBS data the model actually has fewer trips per household than the LBS data (**Table 16**) indicated. Given the range of data sources available, and the later validation checks documented, it was determined that the modeled trips shown in **Table 15** and **Table 16** should be used.

Table 15 - Balanced Trips Per Household

Source	Trips per Household
Model	13.18
TMIP*	10.59

*Travel Model Improvement Program

Table 16 - Final Auto Trips Per Household

Source	Trips	Auto Trips per Household
Model	285,440	13.11
LBS	293,959	13.50

Trip Distribution Validation Checks and Calibration Adjustments

The trip distribution step takes the balanced trips and for each TAZ allocates them to other TAZs based on network travel times and friction factors. This is done using the gravity model within TransCAD.

Figures 8 - 11 below show the friction factor curves used for each trip purpose. The x-axis represents minutes of travel time and the y-axis represents the friction factor, which is the utility or likelihood of making a certain distance trip. For example, the longer a trip is, the less desirable it becomes. Friction factors vary by trip purpose as people will typically travel farther for a work trip than other trip purposes. For instance, Home-Based Work trips are more likely to be longer trips, which is represented by the flatter curve in **Figure 8** relative to the other curves.

Figure 8 - HBW Friction Factor Curves

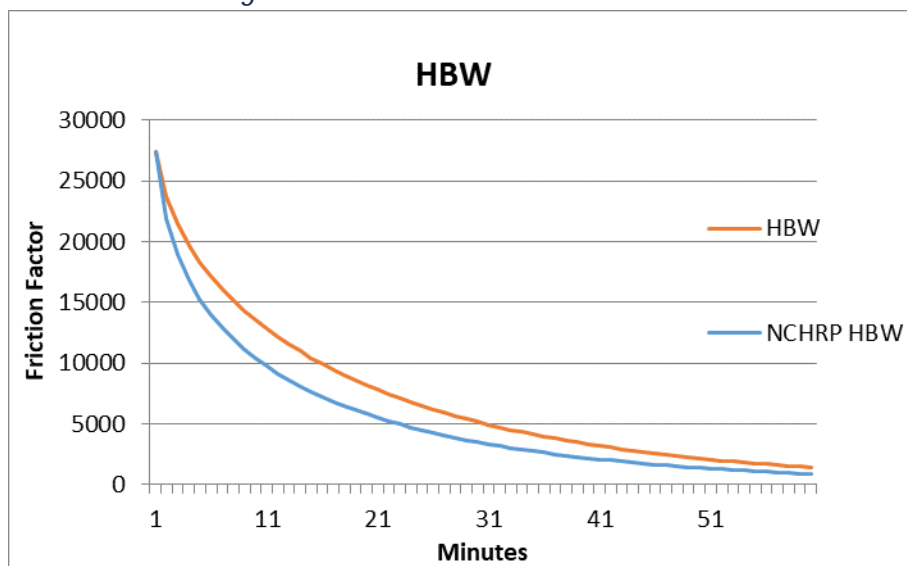


Figure 9 - HBO Friction Factor Curve

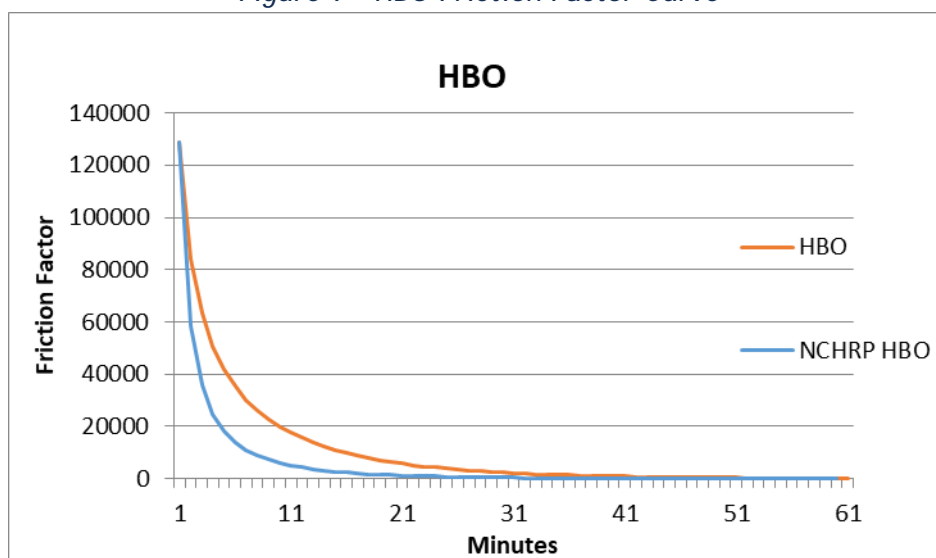


Figure 9 - NHB Friction Factor Curve

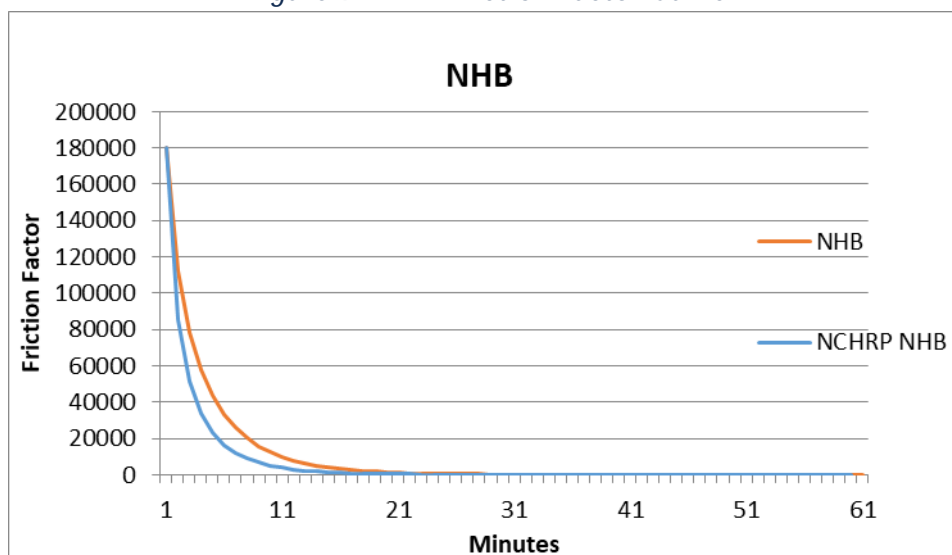
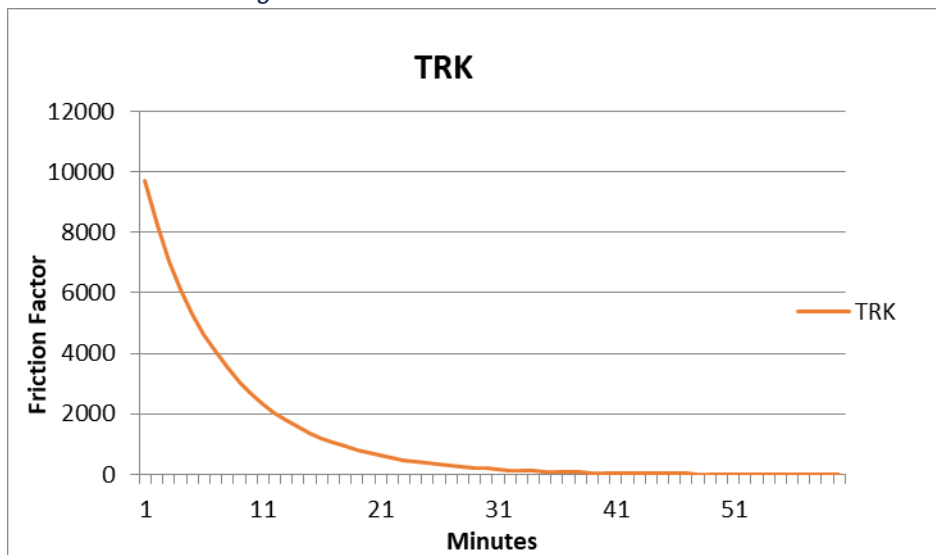
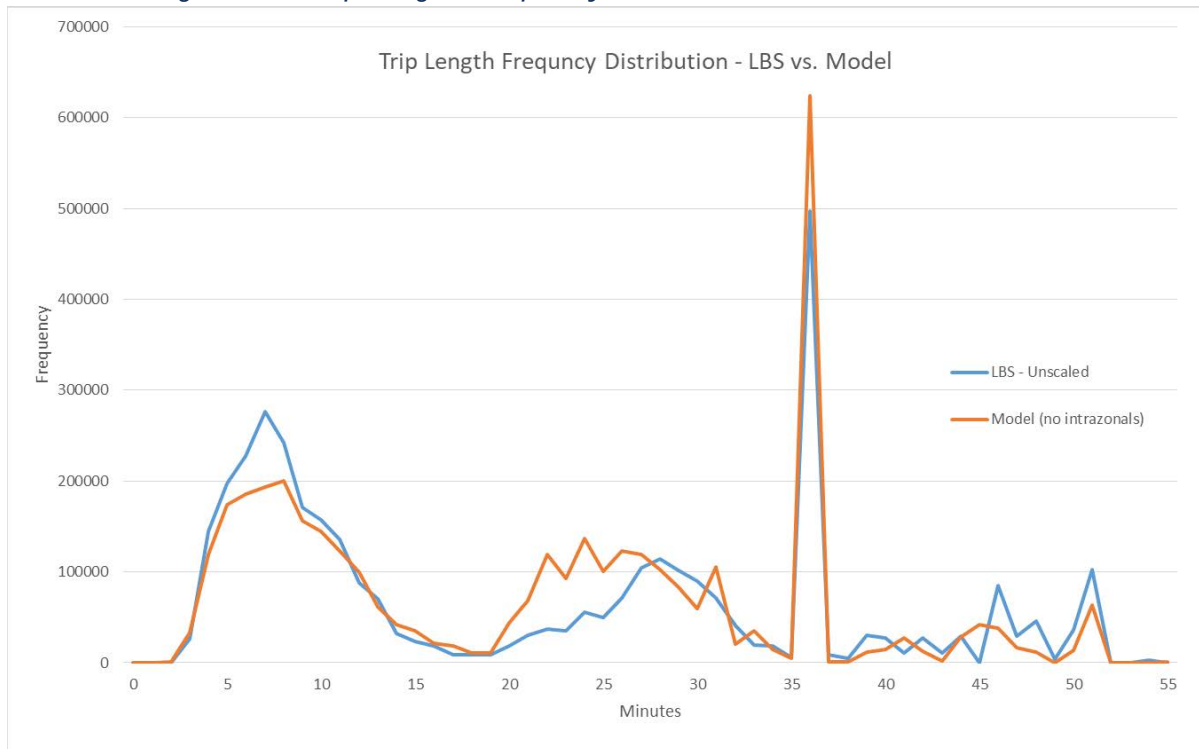


Figure 10 - TRK Friction Factor Curve



NCHRP 716 Small Area MPO gamma coefficients were used as a starting point during calibration. Friction factor curves were flattened slightly during calibration, which allowed the model to match the LBS trip length distribution fairly well, and also produced higher volumes on the network to improve the ratio of count VMT to model volume VMT. **Figure 11** shows a trip length frequency distribution curve for the LBS data compared to the model. While the match is not perfect, it does resemble a similar pattern. The coincidence ratio of the two curves is 0.77.

Figure 11 - Trip Length Frequency Distribution Curve - LBS vs. Model



After the gravity model was applied, a comparison of average travel times was made with the LBS data. These are shown in **Table 17**. Both the LBS data and the model use the same shortest path matrix for travel times between origins and destinations, suggesting that the difference in travel times is due to the model routing trips farther, while the LBS data has a higher number of trips per household. This difference is intentional because trip rates were already rather high compared to national data, and there was not a desire to factor trip rates up any farther. Instead slightly longer trips were used to make up the difference in volume that ultimately results on the network.

Table 17 - Average Travel Time (Minutes)

	Average Travel Time
Model	13.54
LBS	12.43

During the trip distribution gravity model, K-Factors can be added to reduce or enhance origin and destination pairs that the gravity model does not represent accurately. K-Factors are often referred to as a “socioeconomic” factor to adjust travel propensity between origin-destination pairs that are not otherwise accounted for in the trip distribution model. In some situations, K factors may be warranted, but ideally are not required (or desired) in a trip distribution model.

The GIAMPO TDM has one K-Factor for the truck special generators at the travel centers near the Alda Road interchange and the US 281 interchange on I-80. Originally, the model was linking truck trips from these special generators mostly within the model boundaries. In reality,

the majority of these trips should start or end at an I-80 external station. A K-Factor value of 0.10 was used between the truck stop zones and all other internal zones to accomplish this.

Once trips are distributed, some conversions need to be made to the trip table including the conversion of person trips to vehicle trips. This is done by applying auto occupancy factors. Without a household travel survey, auto occupancy factors must be borrowed from another source or reasonable estimates must be made. The one exception is for the HBW trip purpose, in which Census Transportation Planning Products (CTPP) Journey-to-Work data was used to estimate. These are shown in **Table 18**.

Table 18 - Auto Occupancy Factors

Trip Purpose	Auto Occupancy
HBW	1.09
HBO	1.40
NHB	1.40
TRK	1.00

Traffic Assignment Validation Checks and Calibration Adjustments

The goal of a TDM is to replicate travel patterns as accurately as possible throughout each step of the model, without placing too many unreasonable constraints on its operation. Ultimately, the model-predicted volumes should have a strong correlation with observed traffic count data.

In the traffic assignment step the model attempts to minimize a trip's cost (in the GIAMPO TDM, this is travel time) between its origin and destination. Travel time is a function of congested speed and distance traveled.

Localized adjustments to centroid connectors were made during calibration to better represent how traffic flows in and out of neighborhoods. Minor, localized speed adjustments of +/- 5 miles per hour were applied to parts of the road network. One additional calibration adjustment was the introduction of a global speed adjustment to expressways of -5 miles per hour. Assignment results initially overrepresented these functional class roadways when compared to traffic count data. The five mile per hour speed adjustment slightly increased travel times and made travel on expressways slightly less attractive, reflecting observed patterns and balancing out traffic among all functional class roadways more evenly. This adjustment impacts the network shortest path travel times used to distribute trips, as well as the routes that traffic assignment assigns to the road network.

A comparison of model-estimated Vehicle Miles Traveled (VMT) to counted VMT for locations with traffic counts shows that all functionally classified road categories are within the validation goals provided by FHWA in 1990 (**Table 19**). Volumes are slightly underestimated on lower functional class roads compared to count data in terms of VMT, yet are still within validation guidelines.

Table 19 - Model-Estimated VMT by Functional Class Compared to Observed VMT

Functional Class	Number of Counts	Vehicle Miles Traveled (VMT)		Error		Validation Goal*
		Estimated	Observed	Difference	Percent	
Freeways	17	200,449	195,449	5,000	2.6%	+/-7%
Principal Arterials/Expressways	73	167,127	163,035	4,092	2.5%	+/-10%
Minor Arterials	106	99,073	103,282	-4,210	-4.1%	+/-15%
Collectors	113	56,068	67,516	-11,448	-17.0%	+/-20%
Total	309	522,717	529,283	-6,566	-1.2%	N/A

*FHWA-1990 goals

Percent Root Mean Squared Error (%RMSE) is a standard model validation check that measures the average error between the model-estimated and counted volumes. The lower the value, the less the difference there is between the model-estimated volumes and the counts.

Tables 20 and 21 show the %RMSE stratified in two different ways: by volume groups and by functional class. The %RMSE in the GIAMPO model is within the preferable validation target for most volume groups and well within the acceptable validation target for all volume groups. No validation guidelines are listed by functional class, but it is typical to expect a total model %RMSE to be at least under 35% and preferably under 30%. Given the amount of lower volume roads in the model area, an overall %RMSE of under 35% is very good.

Table 20 - Percent Root Mean Squared Error by Volume Groups

Volume Range	Number of Counts	% RMSE	Validation Goal*	
			Acceptable	Preferable
0 - 5,000	157	53.75%	100%	45%
5,000 - 10,000	103	29.39%	45%	35%
10,000 - 15,000	43	16.51%	35%	27%
15,000 - 20,000	6	32.49%	35%	27%

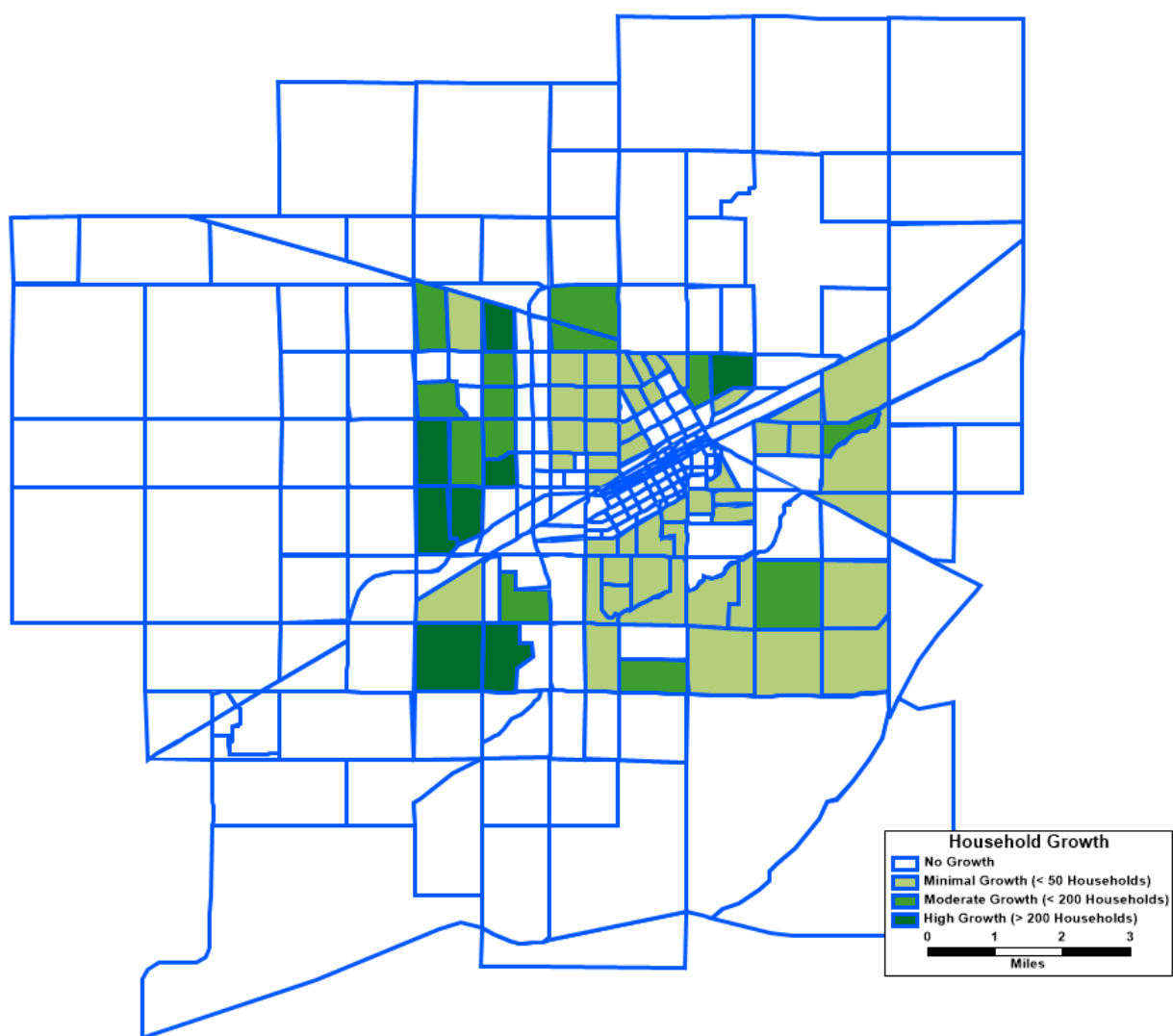
*Florida Standard Urban Transportation Modeling Systems (FSUTMS)

Table 21 - Percent Root Mean Squared Error by Functional Class

Link Type	Number of Counts	% RMSE
Freeway	17	6.23%
Principal Arterial	73	31.35%
Minor Arterial	103	35.42%
Collector	116	40.42%
Total	309	33.19%

While good base year model validation statistics is important, the ultimate goal of the model is to forecast traffic. Thus, the growth and future level-of-service can be reviewed for reasonableness to ensure the model is sensitive enough to be used as a forecasting tool. **Figures 12 and 13** show the growth (or decline) by TAZ in the MAPA TDM for households and employment. Growth is focused in the urbanized area, with the most growth on the western periphery.

Figure 12 - Forecast Household Growth



Employment growth shows a different pattern than household growth, with the highest growth TAZs along major corridors, in particular US 281. Growth is also concentrated along Locust Street and US 30.

Figure 13 - Forecast Employment Growth

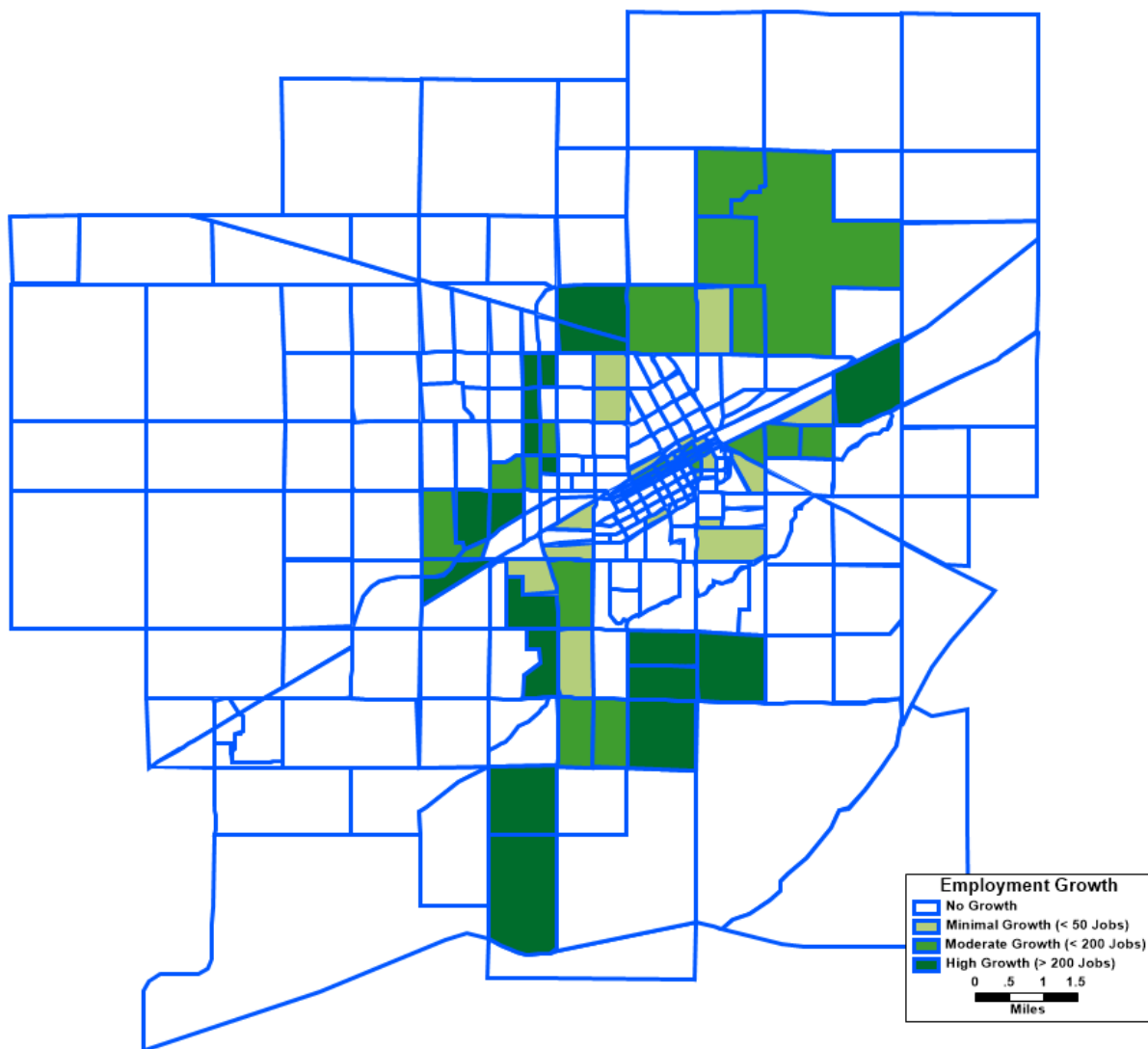
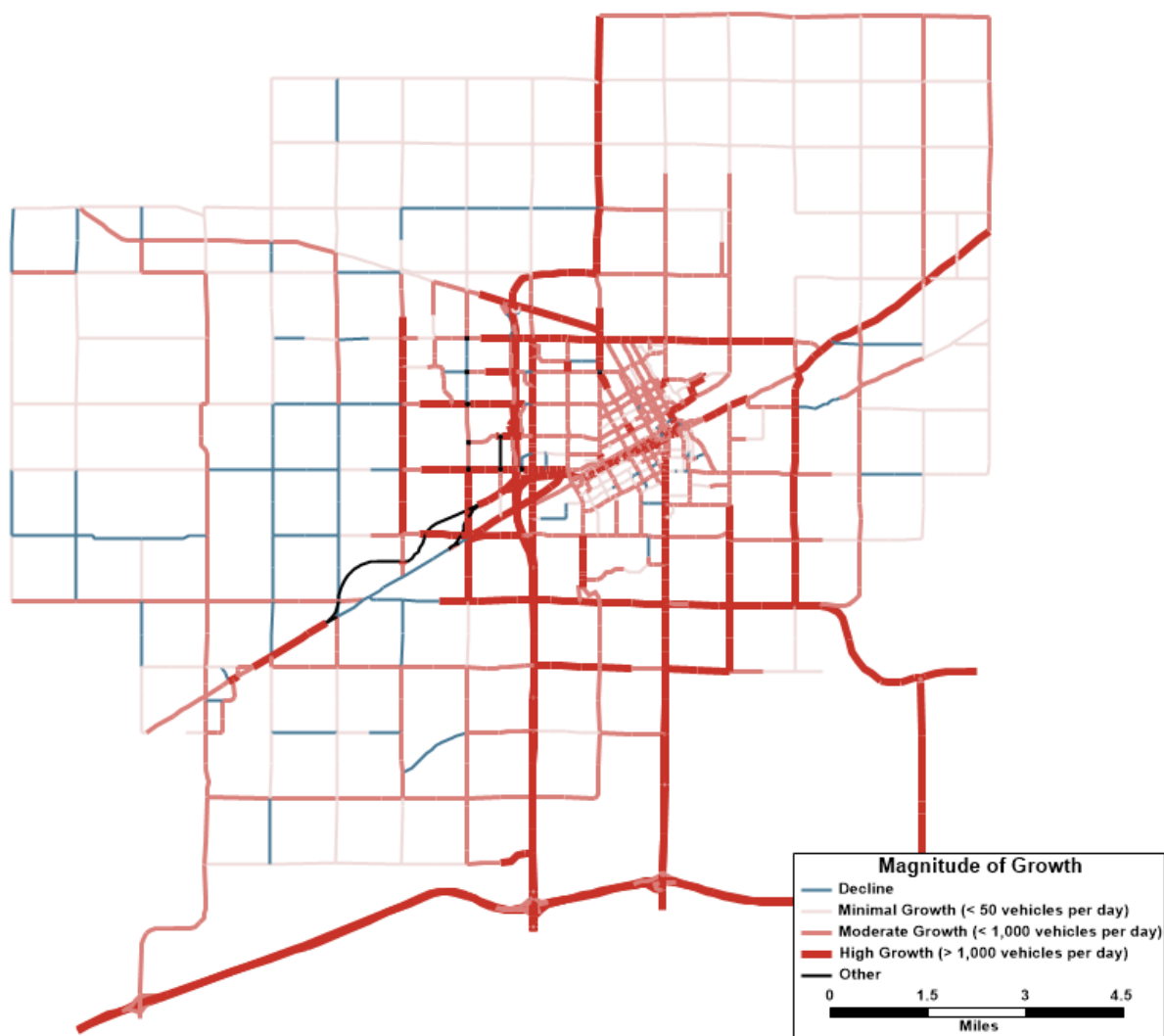


Figure 14 shows the magnitude of growth on the road network when comparing a base year 2017 model run to a 2045 forecast run with existing and committed projects (E+C) included on the network. The committed projects include those listed in the Transportation Improvement Program (TIP) and recently built road projects that were built after 2017.

Similar to the household and employment growth locations, growth tends to be concentrated on the periphery of the urbanized area and along major corridors. The highest growth roadways are the higher functional class roadways, including I-80, US 281, US 30 and Locust Street. Some roads show a decrease in traffic volumes compared to the 2017 base year. These are mostly rural, often gravel, roadways usually in more rural locations. Roads shown in black are future road alignments.

Figure 14 - 2045 E+C Compared to 2017 Base Magnitude of Growth



Figures 15 and 16 show the predicted level-of-service during the AM and PM time periods for 2045. The AM time period shows no congestion. The PM time period shows slightly more congestion, yet mostly in spot locations rather than along entire corridors.

Figure 15 - 2045 Existing+Committed Network AM Predicted Level-of-Service

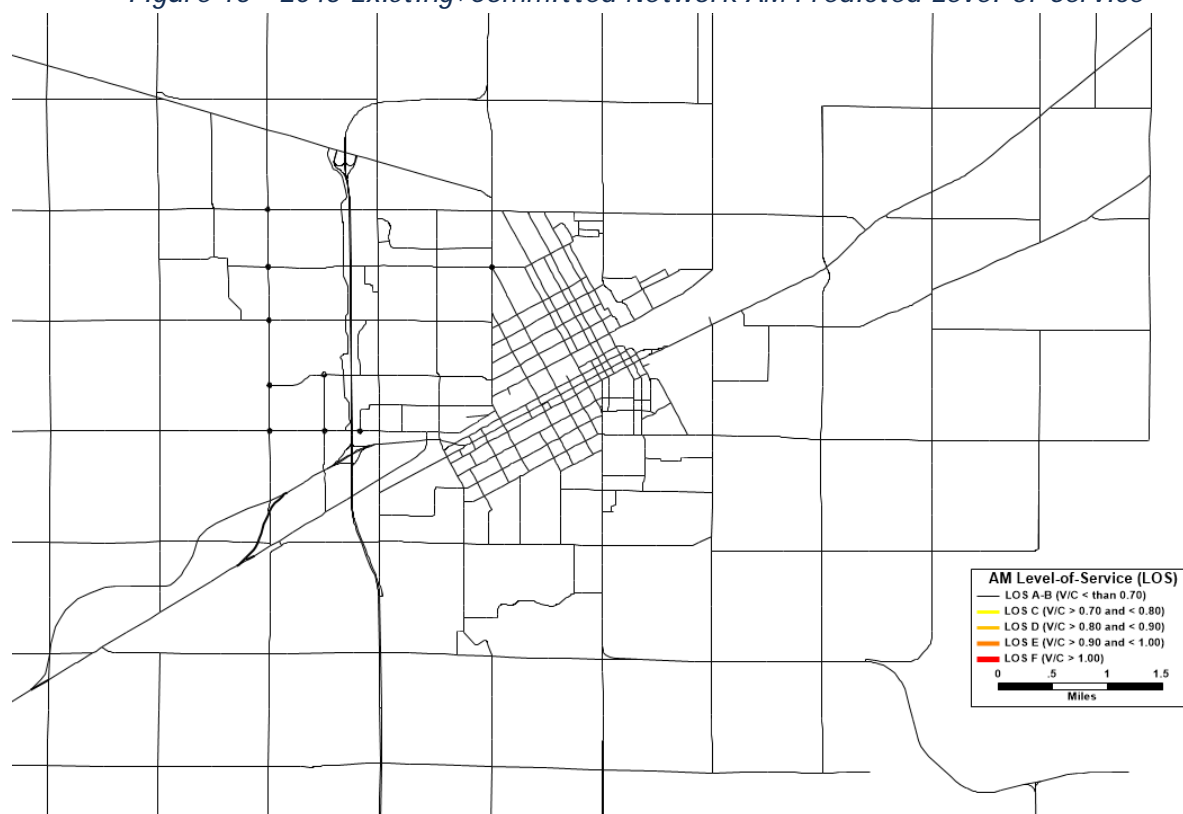


Figure 16 - 2045 Existing+Committed Network PM Predicted Level-of-Service

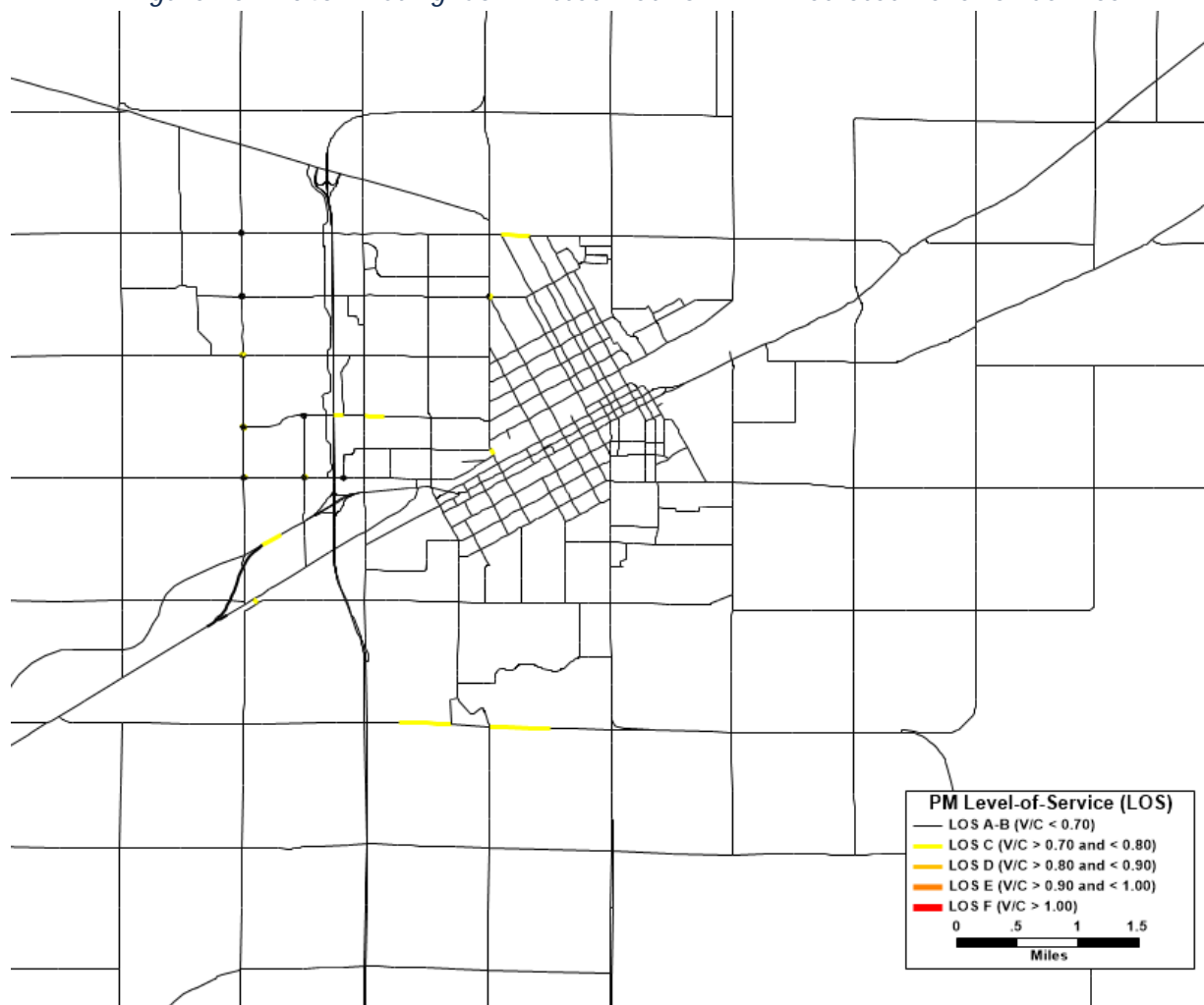


Table 22 shows a summary of the growth. Balanced trips grow by 21%, but both VMT and VHT grow by a higher percentage. This suggests that growth is expected to occur where developable space is available near the edges of the urbanized area, thus requiring more miles and hours driven on average than in the base year. This pattern is confirmed by the increase in average trip length.

Average trip speeds are expected to decrease slightly. This suggests that slightly more congestion is expected compared to the base year. This is confirmed by the Reliability Rating, which is the percentage of VMT that is on roads that have less than a Travel Time Index (TTI) of 1.33. The TTI is the ratio of average daily travel time to free-flow travel time. In the GIAMPO model this represents only reoccurring congestion. The maximum travel time among all four time periods was used as the average travel time to calculate the TTI.

Table 22 - Summary of Growth

	2017	2045 E+C	Growth
Households	21,769	26,588	22%
Employment	31,009	40,134	29%
Balanced Trips	309,974	375,619	21%
VMT (Mi)*	1,283,168	1,603,418	25%
VHT (Hrs)*	28,419	35,566	25%
Average Trip Length (Mi)	4.14	4.27	-
Average Trip Time (Hrs)	0.09	0.09	-
Average Trip Speed (MPH)	45.15	45.08	-
Reliability Rating	1.00	0.78	-

*Centroid Connectors not included

Conclusions and Next Steps

The major edits, updates, and adjustments that were made to the GIAMPO TDM were discussed in this documentation. The calibration process and validation results were also discussed in detail. The validation results indicate that the GIAMPO TDM is sufficiently accurate and useable for a forecasting tool.

While the accuracy and usability of the model is very good, improvements can always be made. The primary recommendation is to conduct a household travel survey. Input parameters were borrowed from national publications. Industry standard inputs are not always good surrogates for local data. Particularly in regards to trip rates, the GIAMPO area does not seem to conform to typical standards, as suggested by the LBS data. Investing in a National Household Travel Survey (NHTS) Add-on sample or other household travel survey would allow for local inputs as well as provide a valuable data source for calibration. The information could also be used in other planning studies by helping provide a sample of how travel actually occurs in the model area. For the TDM, some of the local inputs that could be estimated using an NHTS Add-on or similar household travel survey for the current model structure would include:

- Attraction Trip Rates
- Production Trip Rates
- Time of Day Factors
- Directional Factors
- Auto Occupancy Factors



Alternatives and Strategies Development

Projects were selected for the Fiscally Constrained Plan with the performance-based approach that guided MTP development. The alternatives and strategies were developed and screened based on the goals and objectives presented in **Chapter 4**. Both quantitative and qualitative scoring measures were developed and used to assess which project alternatives and strategies best aligned with regional transportation goals and objectives. These tailored scoring measures allowed for a broad selection of projects that met the range of LRTP goals and objectives. **Table 1** summarizes the alternatives and strategies project scoring methodology.

Role of Project Scoring

The alternatives and strategies project scoring methodology was intended to capture each project's consistency with the broader Grand Island area transportation goals and objectives. The project scoring methodology assisted in determining the final fiscally constrained plan project list, but this list did not solely focus on the numerical project score itself. The fiscally constrained list acknowledges that some projects are more multi-faceted in nature (and thus derive a higher project scoring tier), while other projects were developed with one goal in mind, like improving safety or filling a trail network gap. With this approach, more multi-faceted projects typically check more boxes than single-focus projects do, and as a result often receive a slightly higher score than a critically important single-focus project. In recognition of this reality about the project scoring results, several other factors were included when selecting the fiscally-constrained plan:

- Current and Future Mobility, Safety, and Connectivity Issues
- Project Timing and Coordination with Other Projects
- Timing of Adjacent Growth
- Project Costs and Anticipated Future Budgets
- Public Input

Alternatives and Strategies Scoring Results

The alternatives and strategies project scoring process was applied to each proposed roadway and bicycle and pedestrian project, and each project was placed into a scoring tier based on overall score: High, Medium, or Low. **Table 2** shows the scoring results for roadway projects, including scoring tier by goal area, while **Figure 1** is a map of project locations, with project scores shown. **Table 3** shows the scoring results for the bicycle and pedestrian projects and **Figure 2** is a map of the project locations with project scores shown.

Table 1: Project Scoring Results

Goal Area	Objectives	Prioritization Measure	Project Scoring Method			
			+2	+1	0	-2
System Safety	<ul style="list-style-type: none"> Reduce the incidence and rate of crashes Reduce severe injury and fatal crashes 	Vehicular Safety Assessment	Has the potential to improve safety at top crash frequency or crash rate intersection	Has the potential to improve safety at any intersection	Does not impact safety at top crash frequency or crash rate intersection	Has the potential to negatively impact safety
	<ul style="list-style-type: none"> Reduce bicycle and pedestrian crashes 	Non-motorized Safety Assessment	Has the potential to improve non-motorized safety at top crash frequency or crash rate intersection	Has the potential to improve non-motorized safety at any intersection	Does not impact non-motorized safety at top crash frequency or crash rate intersection	Has the potential to negatively impact non-motorized safety
	<ul style="list-style-type: none"> Maintain safety on transit vehicles 	Policy Objective – Identify Strategies to Improve Transit Safety through Public Transportation Agency Safety Plans				
Multi-modal Connectivity and Accessibility	<ul style="list-style-type: none"> Provide improved connections to key destinations across the community 	Connection to Dense Development Nodes	Creates new, multi-modal connection between highest density tier of land uses and mixed uses	Creates new, multi-modal connection between 2 nd highest density tier land uses and mixed uses	Does not create new, multi-modal connection to dense / diverse land uses and mixed uses	Removes multi-modal connection to dense / diverse land uses and mixed uses
	<ul style="list-style-type: none"> Increase the connectivity of the bicycle and pedestrian system 	Multimodal Connectivity	Enhances connection between two or more modes or connects two existing facilities	Enhances connection for non-motorized or transit modes	No impact on multimodal connectivity for non-motorized or transit modes	Non-motorized or transit connection is removed, or barrier to non-motorized or transit modes is created
	<ul style="list-style-type: none"> Continue to provide quality public transit services 	Transit Operations and State of Good Repair	Supports existing transit services and operations or helps preserve transit capital; or provides enhanced transit services.		No impact transit services and operations or helps preserve transit capital.	Negatively impacts existing transit services and operations or helps preserve transit capital.

Table 1 Continued

Goal Area	Objectives	Prioritization Measure	Project Scoring Method			
			+2	+1	0	-2
Economic Vitality	<ul style="list-style-type: none"> Identify transportation strategies that support economic development projects 	Economic Development Priorities	Project supports access to regional economic development priority site		No impact on access to economic development priority sites	Project negatively impacts access to regional economic development priority site
	<ul style="list-style-type: none"> Identify transportation strategies that provide enhanced access to jobs for low income residents 	Equity Access to Jobs	Directly supports enhanced multimodal access to lower-income jobs or EJ residential areas		No impact on access to lower-income jobs or EJ residential areas	Negatively impacts access to lower-income jobs or EJ residential areas
	<ul style="list-style-type: none"> Provide active transportation options that promote the health and well-being of residents 	Active Transportation Elements	Project would encourage walking or biking		Project would have no significant impact on walking or biking	
	<ul style="list-style-type: none"> Provide access to tourist destinations 	Enhanced Tourism Access	Enhances multimodal access to identified tourist destinations		No access impact to identified tourist destinations	Negatively impacts multimodal access to identified tourist destinations
	<ul style="list-style-type: none"> Identify how transportation can support affordable housing 	Access to Affordable Housing	Provides enhanced transit, bicycle, or pedestrian access to identified affordable housing area		No impact to access to identified affordable housing area	Removes transit, bicycle, or pedestrian access to identified affordable housing area
	<ul style="list-style-type: none"> Promote freight connectivity and access 	Access to Freight Generators	Has potential to improve freight access to highest density tier of industrial employment		No expected impact on freight access	Has potential to degrade freight access to highest density tier of industrial employment
System Preservation	<ul style="list-style-type: none"> Identify sufficient financial resources to maintain all Federal-Aid streets and bridges in fair or good condition 	Project Enhances Pavement or Bridge Condition	Enhances pavement or bridge condition of asset in poor conditions	Enhances pavement or bridge condition of asset that will require reconstruction by 2045	No impact to pavement or bridge condition	

Table 1 Continued

Goal Area	Objectives	Prioritization Measure	Project Scoring Method			
			+2	+1	0	-2
Environment and System Resiliency	<ul style="list-style-type: none"> Promotes energy conservation, especially for non-renewable energy sources 	Vehicular Travel Reduction	Anticipated to have a measurable reduction in vehicle-miles traveled and vehicle-hours traveled	Anticipated to have a measurable reduction in vehicle-miles traveled or vehicle-hours traveled	Anticipated to have limited impact to vehicle-miles traveled and vehicle-hours traveled	Anticipated to have a measurable reduction in vehicle-miles traveled and vehicle-hours traveled
	<ul style="list-style-type: none"> Transportation projects should limit impacts to the natural and build environment 	Project Impact Screening	Anticipated project or strategy would reduce existing natural and built environment impacts		Anticipated project alignment would have no impact to environmental resources of right-of-way	Anticipated project alignment would impact environmental resources, or would require significant right-of-way acquisition
	<ul style="list-style-type: none"> Invest in alternative and renewable fuel infrastructure when practical 	Policy Objective – LRTP may identify strategies to improve renewable energy infrastructure				
	<ul style="list-style-type: none"> Identify strategies to make transportation infrastructure more resilient to natural and manmade events 	Infrastructure Resiliency	Improves resiliency to natural events or improves security against manmade events.		No impact to resiliency or security.	Reduces resiliency to natural events or reduces security against manmade events.
Traffic Operations and System Reliability	<ul style="list-style-type: none"> Limit the emergence of recurring congestion 	Corridor Level of Service	Improves traffic operations for a location operating at LOS D or worse in 2045	Improves traffic operations	No impact on traffic operations	Degrades traffic operations
	<ul style="list-style-type: none"> Improve travel reliability on arterial roadways 	Corridor Reliability LOTTR	Improves reliability on a corridor identified as having reliability issues	Improves reliability on an NHS or Interstate route	No impact on reliability	Negatively impacts reliability on a corridor identified as having reliability issues
	<ul style="list-style-type: none"> Support high-levels of freight reliability on the state highway system 	Freight Reliability TTTR	Improves freight reliability on state highway or Interstate Corridor		No impact on freight reliability	Negatively impacts freight reliability on a state highway or Interstate Corridor
	<ul style="list-style-type: none"> Promote development outside of flood prone areas 	Policy Objective – LRTP may identify strategies to promote development outside of flood prone areas				

Table 2: Roadway Projects

Project ID	Project Description	Safety	Multimodal Connectivity and Accessibility	Economic Vitality	System Preservation	Environment and System Resiliency	Traffic Operations and System Reliability	Priority
1	Intersection geometric improvements, turn lane additions, long term communications and signal upgrades. Include advanced warning for rural intersections for northbound traffic.	High	High	High	Low	High	Medium	High
2	3-lane Urban Section on 13th St from Independence Ave to North Ave. Roundabout at the intersection of Independence and 13th St.	Medium	Low	Low	Low	Medium	Medium	Medium
4	Claude Avenue Extension as a 3-lane, Faidley to State. Roundabout at Claude Avenue intersections with 13th and State.	Low	High	Low	Low	Medium	Medium	Medium
5	Roundabouts or other intersection improvements. Lower volumes. Discuss with Hall County. Potential Vision Project.	Medium	Low	Low	Low	Medium	Low	Low
6	Advanced warning for rural intersections - consistent between Stuhr and Shady Bend intersections. Discuss with NDOT.	Medium	Low	Medium	Low	Medium	Low	Medium
7	Broadwell / UPRR grade separation.	Medium	High	Medium	Low	Medium	High	High
8	Broadwell / BNSF grade separation and adjacent intersection improvements.	Medium	Medium	Low	Medium	Medium	Medium	Medium
9	Reconstruct Locust with improved access management, potential signal communications and cabinet upgrades.	High	Low	Low	Medium	Medium	Low	Medium
10	Medians for access control at Diers and Driveways. Coordinate with Claude Ave Extension, provide roundabout at Claude / State.	High	Low	Low	Low	High	Medium	Medium
11	Medians for access control at Diers and Driveways. Coordinate with Claude Ave Extension, provide roundabout at Claude / 13th. Improve pedestrian crossing access and markings.	High	Low	Low	Low	High	Medium	Medium
12	Medians for access control at Diers and Driveways. Coordinate with Claude Ave Extension, provide roundabout at Claude / Faidley. Improve pedestrian crossing access and markings.	High	Low	Low	Low	High	Medium	Medium
13	4-lane divided section between Faidley and grade separation project. Alternative improvements would be access control through this section.	Low	Low	Low	Low	Low	Medium	Low
14	Restripe / remove on-street parking for 3-Lane section between grade separation project and Anna.	Low	Low	Medium	Low	Medium	Medium	Medium
15	Broadwell Avenue extension between Anna and Adams. Widen Fonner Park Rd between Adams and Sylvan.	Low	High	Medium	Low	Medium	Medium	Medium

Table 2 Continued

Project ID	Project Description	Safety	Multimodal Connectivity and Accessibility	Economic Vitality	System Preservation	Environment and System Resiliency	Traffic Operations and System Reliability	Priority
16	3-Lane Urban Section between Broadwell and Sky Park. Higher priority phase is Broadwell to St Paul.	Low	Low	Medium	Medium	Medium	Medium	Medium
17	EB Advanced warning for rural intersections - approaching Claude and US 281. Discuss with NDOT.	Medium	Low	Medium	Low	Medium	Low	Medium
18	3-Lane Urban Section. Likely not needed if East Bypass is implemented.	Low	Low	High	High	Medium	Medium	High
19	Intersection improvements (left turn lanes) at Hwy 34 / Wortmann (College entrance). Re-evaluate need if East Bypass is implemented.	Medium	Low	Low	Low	Medium	Low	Low
20	Stuhr Road / Sky Park grade separation from UPRR. Not needed if East Bypass is implemented.	Medium	High	Medium	Low	Medium	Medium	High
21	US 30 Bypass of Alda, consistent with Alda Comprehensive Plan. Discuss with NDOT.	Low	Low	Medium	Low	Low	Medium	Low
22	Intersection improvements or 3-lane section for State St between Broadwell and Lafayette. Potential for school safety.	High	Low	Low	Low	Medium	Medium	Medium
23	East Bypass - would be an NDOT project. Planning included in Build Nebraska Act.	Low	Low	High	Low	High	High	High
24	Capital Avenue widening to 3 lanes between North Road and Engelman Road.	Low	Low	Low	Low	Medium	Medium	Low
25	Old Potash widening to 3 lanes between North Road and Engelman Road	Low	Low	Low	Medium	Medium	Medium	Medium
26	Husker Highway widening to 3 lanes between Prairieview Street and North Road	Low	Low	Low	Low	Medium	Medium	Low
27	Stolley Park Road widening to 3 lanes between Locust St and Stuhr Rd	Medium	Low	Medium	Medium	Medium	Medium	Medium
28	Capital Avenue grade separation at UPRR	Medium	Low	Low	Low	Medium	Medium	Medium

Table 3: Bicycle and Pedestrian Projects

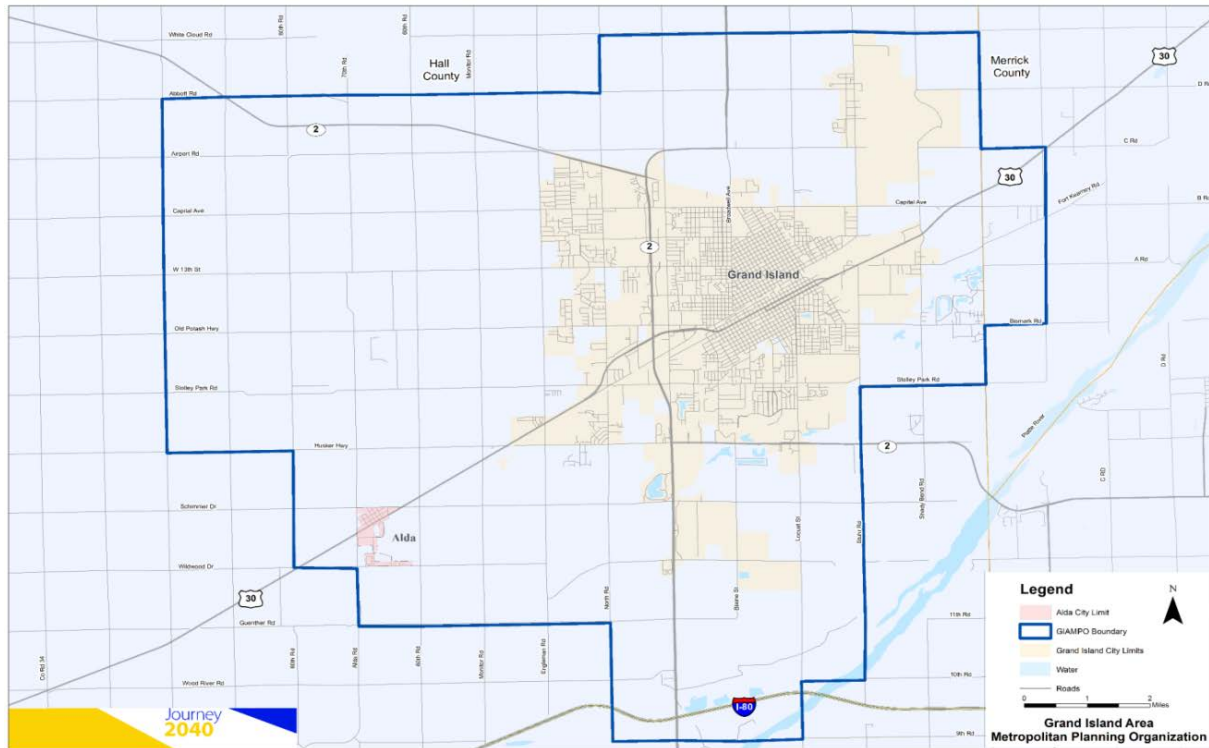
Project ID	Project Description	Safety	Multimodal Connectivity and Accessibility	Economic Vitality	System Preservation	Environment and System Resiliency	Traffic Operations and System Reliability	Priority
1	John Brownell Trail to JBS Connection	Low	Low	Medium	Low	Medium	Low	Medium
2	MidBlock Crossing by Library	Medium	Low	Medium	Low	Medium	Low	Medium
3	Capital Ave Trail to Eagle Scout Park Connection	Low	High	High	Low	High	Low	High
4	Shoemaker Trail to College / Med Center Connection	Low	High	High	Low	Medium	Low	High
5	Morman Island Trail	Low	Low	Low	Low	Medium	Low	Low
6	Stuhr Rd Connection	Low	Low	Medium	Low	Medium	Low	Medium
7	Pedestrian visibility / safety for US 281 xing	High	Medium	Medium	Low	Medium	Low	Medium
8	Downtown curb extensions	High	Medium	High	Low	Medium	Low	High
9	Independence to NWHS trail	Low	Medium	Low	Low	Medium	Low	Low
10	Rural US 281 Trail	Low	Low	High	Low	Medium	Low	Medium
12	NW High School to State Street Trail Connection	Medium	Medium	Low	Low	Medium	Low	Low
13	Fonner Park to Beltline Trail	Medium	High	Medium	Low	Medium	Low	High
14	Warning signing on trail and street. Limited sight	Medium	Low	Medium	Low	Medium	Low	Medium
15	Extend John Brownell Trail into Downtown	Medium	Medium	Medium	Low	Medium	Low	Medium
16	Pedestrian crossing improvements near school	High	Low	Medium	Low	Medium	Low	Medium
18	Augustine Park - Gates School - BuechlerPark Trail	Medium	Medium	Low	Low	Medium	Low	Low
19	Claude Avenue Trail between Faidley and Capital	Low	Medium	Low	Low	Medium	Low	Low
20	Enhanced Pedestrian Crossings at Trail and School	Low	Low	Low	Low	Medium	Low	Low
21	Faidley to North Street Drainageway Trail	Low	Medium	Low	Low	Medium	Low	Low
22	Enhanced pedestrian crossing to water park	Low	Medium	Low	Low	Medium	Low	Low
23	Faidley Trail from Bike / Ped Plan	High	High	Low	Low	Medium	Low	Medium
24	Stolley Park Trail	Medium	Medium	High	Low	Medium	Low	High
25	Stolley Park to LE Ray Park Trail	Low	Low	Low	Low	Medium	Low	Low
26	LE Ray to Riverway Trail Connection	Low	Low	Low	Low	Medium	Low	Low
27	Crossing Over Spillway	Low	Medium	Low	Low	Medium	Low	Low

Project ID	Project Description	Safety	Multimodal Connectivity and Accessibility	Economic Vitality	System Preservation	Environment and System Resiliency	Traffic Operations and System Reliability	Priority
28	Riverway Trail Extension	Low	Low	Low	Low	Low	Low	Low
29	Oak Street Shared	Medium	Medium	Medium	Low	Medium	Low	Medium
30	Independence Avenue Trails	Low	Low	Low	Low	Medium	Low	Low
31	Lariat Lane	Low	Low	Low	Low	Medium	Low	Low
32	South Locust Street Trails	Low	Medium	Medium	Low	Medium	Low	Medium
33	Kay Avenue Trails	Low	Low	Low	Low	Medium	Low	Low
34	Nevada Avenue / Arizona Avenue Trails	Low	Low	Low	Low	Medium	Low	Low
35	Custer Avenue Trails	Low	Low	High	Low	Medium	Low	Medium
36	Adams Street Trails	Medium	Medium	Medium	Low	Medium	Low	Medium
37	Capital Avenue Trails	Low	High	Medium	Low	Medium	Low	Medium
38	20th Street East Trails	Low	Medium	Medium	Low	Medium	Low	Medium
39	Hancock Avenue Trails	Medium	High	High	Low	Medium	Low	High
40	State Street Trails	High	High	Low	Low	Medium	Low	High
41	Stuhr Museum-Prairie Pioneer Trails	Low	Low	Medium	Low	Medium	Low	Medium
42	Wood River Trails	Low	Low	High	Low	Low	Low	Medium
43	Central Community College / Husker Highway Trails	Low	Medium	Medium	Low	Medium	Low	Medium
44	State Fair Boulevard / Bellwood Drive Trails	Medium	Medium	Medium	Low	Medium	Low	Medium
45	St. Joe Trail / Highway 34 to Wildwood Drive rail to trail project	Low	Medium	High	Low	Medium	Low	Medium



Transportation Improvement Program Fiscal Years 2021 – 2025

Grand Island Area Metropolitan Planning Organization (GIAMPO)



Disclaimer

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Amendment No. 1 – Open for public comments from October 20 – November 4.

2021-2025 TIP – Approved on May 26, 2020 by the GIAMPO Policy Board (Resolution 2020-1)

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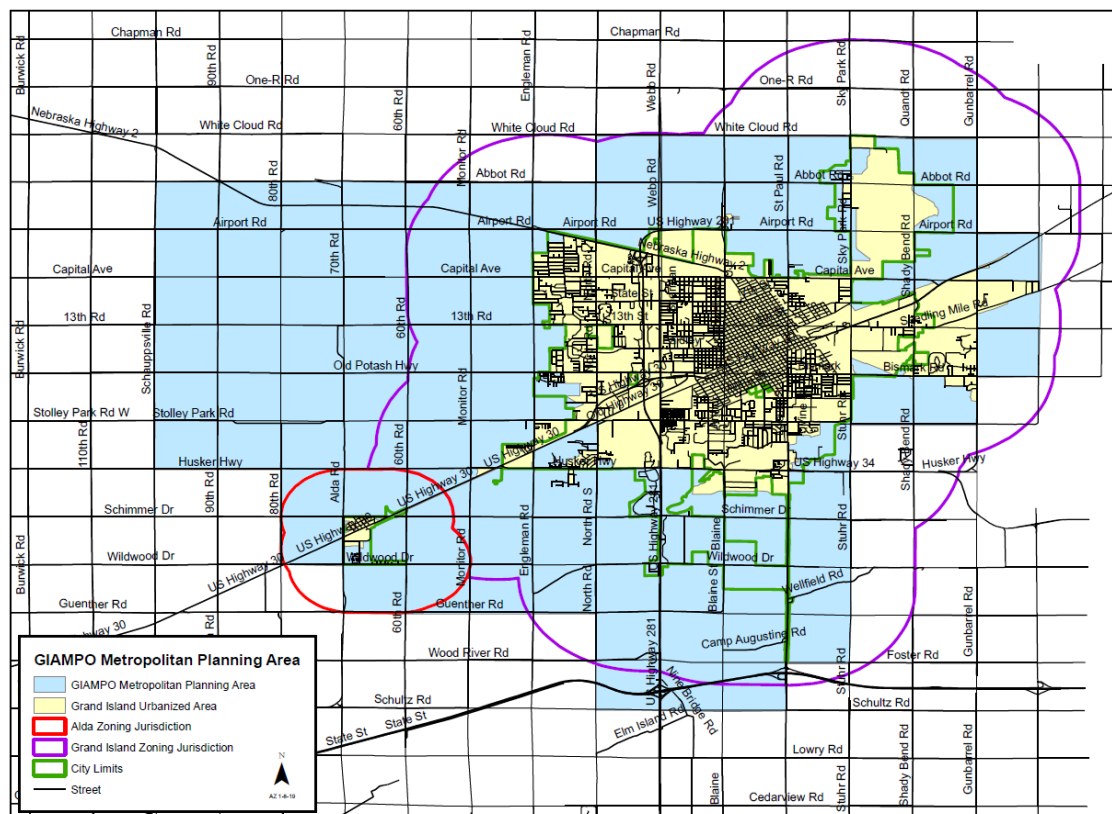
Acronyms

AC	Advanced Construction
CMAQ	Congestion Mitigation and Air Quality Program
DOT	Department of Transportation
EA	Earmark
GIAMPO	Grand Island Area Metropolitan Planning Organization
HSIP	Highway Safety Improvement Program
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
MAP-21	Moving Ahead for Progress in the 21st Century Act
MPO	Metropolitan Planning Organization
NDOT	Nebraska Department of Transportation
NHPP	National Highway Performance Program
STIP	Statewide Transportation Improvement Program
TAM	Transit Asset Management
TIP	Transportation Improvement Program
TPM	Transportation Performance Management
USDOT	United States Department of Transportation
YOE	Year of Expenditure
3-C	Continuing, Cooperative, and Comprehensive

Introduction

The Transportation Improvement Program (TIP) for the Grand Island Area Metropolitan Planning Organization (GIAMPO) Metropolitan Planning Area is a staged, five-year schedule of transportation improvements using (or expected to use) Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding, state funds, and other projects that have significant system impacts. The TIP is developed cooperatively by the GIAMPO Technical Advisory Committee and agencies within the GIAMPO Metropolitan Planning Area including City of Grand Island Public Works Department, Hall County Public Works Department, Merrick County Highway Department, Village of Alda, Nebraska Department of Transportation (NDOT), and others agencies as transportation related projects are developed. The GIAMPO Metropolitan Planning Area (MPA) is illustrated in **Figure 1**.

Figure 1 – GIAMPO Metropolitan Planning Area



Federal regulations require that each urbanized area, as a condition to receive federal capital or operating assistance, have a continuing, cooperative, and comprehensive (3-C) transportation planning process. The Metropolitan Planning Organization (MPO) is the organization designated to carry out the 3-C process which results in plans and programs that are consistent with the comprehensively planned development of the urbanized area. The TIP, along with the Long Range Transportation Plan, is a key element of this process. The Moving Ahead for Progress in the 21st Century Act (MAP-21) became law in 2012 which authorizes surface transportation programs and continues the basic planning requirements. The Fixing America's Surface Transportation Act (FAST Act), became law in 2015 and continues the Metropolitan Planning programs. These programs continue the requirement for a cooperative, continuous, and comprehensive framework for making transportation investment decisions in metropolitan areas

and the joint oversight by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). In order to remain eligible for federal transportation funding, the planning process must demonstrate that the GIAMPO Metropolitan Planning Area is in compliance with all federal requirements for metropolitan transportation planning.

Purpose of the TIP

The primary purpose of this document is to provide information to FHWA, FTA, NDOT, transportation agencies, and citizens regarding the TIP development process which:

- Depicts the GIAMPO priorities for the expenditure of federal funds for all transportation funding categories by federal fiscal year including highway and public transportation projects;
- Provides assurance to the FHWA that the project selection process has been carried out in accordance with federal requirements, Section 134 of Title 23, U.S. Code, as amended; and
- Demonstrates that the TIP is financially feasible.

Federal Requirements for Transportation Improvement Programs

The planning and programming regulations include specific requirements for development and content of TIPs which are summarized below and addressed within this document.

Time Period

The TIP is to cover at least a four-year period and be updated at least every four years. The financial and project tables included in this document cover FY 2020–2024. NDOT and the MPOs have established an annual update cycle for the TIP. GIAMPO on an annual basis must submit an approved TIP to NDOT prior to June 15.

Public Comments

The TIP process is to provide opportunity for public review and comment on the TIP. GIAMPO's transportation planning process allows for public involvement at various points within the transportation plan and program development. GIAMPO's Public Participation Plan was adopted on November 24, 2015.

Specific Project Information

The TIP is to list capital and non-capital surface transportation projects to use a variety of federal funds or regionally significant projects requiring FHWA or FTA action. For each project or project phase the TIP shall include sufficient descriptive material including description, location, length, total cost, amount of federal funds, and responsible agency. Line items may be used for projects that are not considered to be of appropriate scale for individual identification. A complete detailed project listing is organized by project type for each project.

Consistency with the Long Range Transportation Plan

Each project or project phase in the TIP is to be consistent with the Long Range Transportation Plan, its goals, and performance measures. For each project included in the detailed project listing, GIAMPO staff cross-checks with the Long Range Transportation Plan to ensure consistency.

Financial Constraint

The TIP is to include a financial plan including system level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain federal-aid highways and public transportation. The financial plan is shown on page 14, which summarizes the TIP financial resources.

Process for Including Projects in the TIP

The TIP should specify the process to identify projects for inclusion in the TIP in coordination with the Long Range Transportation Plan. GIAMPO's process annually coordinates with NDOT and local agencies to program projects in the TIP.

Status of Projects from the previous TIP

The TIP should list major projects from the previous TIP that were implemented or delayed. Each section lists projects under construction, completed, delayed, or moved out of the current programming period.

Transportation Control Measures and Air Quality

The Grand Island Area Metropolitan Planning Area is in conformance for air quality and the state does not require a State Implementation Plan for meeting Clean Air Act requirements.

The Metropolitan Planning Organization Structure

The governor designates the MPOs for urban areas in the state to be responsible for carrying out the urban transportation planning process through the development of a Long Range Transportation Plan and TIP. GIAMPO is the designated MPO for the Metropolitan Planning Area which includes the City of Grand Island, Village of Alda, and portions of Hall and Merrick Counties. The MPO is composed of elected and appointed officials representing local, state, and federal governments and agencies having interest or responsibility in land use planning, the quality and the location of transportation facilities, transportation safety issues on all roads, and better planning and designs.

The Mayor of the City of Grand Island Area is the "Chair" of the GIAMPO Policy Board. Under the Mayor, the MPO functions through a committee structure consisting of the GIAMPO Policy Board, GIAMPO Technical Advisory Committee, subcommittees which may be created to assist the Technical Advisory Committee on various local transportation issues, and MPO administrative staff to establish and approve the Long Range Transportation Plan, TIP, and other work of the MPO. The GIAMPO Policy Board is composed of elected and appointed officials representing local, state, and federal governments or agencies having interest or responsibility in the comprehensive transportation planning process. Below is the current membership of the GIAMPO Policy Board and Technical Advisory Committee.

Current Membership of the Policy Board

Roger G. Steele, Mayor	City of Grand Island
Mitch Nickerson, Councilman	City of Grand Island
Julie Hehnke, Councilwoman	City of Grand Island
Clay Schutz, Councilman	City of Grand Island
Ron Peterson, District 7 Supervisor	Hall County Board of Supervisors
Gary Quandt, District 6 Supervisor	Hall County Board of Supervisors
Pat O'Neill, Chairman	Hall County Planning Commission
Kyle Schneweis, Director	Nebraska Department of Transportation

Joseph Werning, Division Administrator
Mokhtee Ahmad, Regional Administrator

FHWA Nebraska Division (Ex-Facto)
FTA Region VII (Ex-Facto)

Current Membership of the Technical Advisory Committee

Voting

Jerom Janulewicz, City Administrator
Chad Nabity, Director
John Collins, Public Works Director
Keith Kurz, Director of Engineering Services
Charley Falmlen, Transit Program Manager
Craig Wacker, Highway Planning Manager
Wes Wahlgren, District 4 Engineer
Steve Riehle, Public Works Director
Mike Meyer, Highway Superintendent
Romana Schafer, Clerk/Treasurer
Mike Olson, Executive Director

City of Grand Island
Hall County Regional Planning Dept.
City of Grand Island
City of Grand Island
City of Grand Island
Nebraska Department of Transportation
Nebraska Department of Transportation
Hall County
Merrick County
Village of Alda
Central Nebraska Regional Airport

Non-Voting

Justin Luther, Trans. Planner, Realty, Civil Rights
Logan Daniels, Transportation Program Specialist
Daniel Nguyen, Community Planner
Jodi Gibson, Local Projects Engineer
VACANT, Assistant Planning Engineer
Sara Thompson Cassidy
Bentley Tomlin
Cindy Johnson
Mary Berlie

Federal Highway Administration
Federal Transit Administration - VII
Federal Transit Administration - VII
Nebraska Department of Transportation
Nebraska Department of Transportation
Union Pacific Railroad
Burlington Northern Santa Fe Railroad
Grand Island Chamber of Commerce
Grand Island Area Economic
Development Corporation
City of Grand Island
City of Grand Island

Patrick Brown, Finance Director
Shannon Callahan, Street Superintendent

Geographic Area the TIP Covers

The Metropolitan Planning Area is the geographic area in which the metropolitan transportation planning process must be carried out. The boundaries of the Metropolitan Planning Area are determined by agreement between the Governor and the MPO. The GIAMPO Metropolitan Planning Area encompasses the City of Grand Island, Village of Alda, and portions of Hall and Merrick Counties.

Transportation Improvement Program (TIP)

The TIP is a programming document that identifies the timing and funding of all highway, bridge, transit, bicycle, and pedestrian transportation projects scheduled for implementation in the MPO planning area over a four -year period using federal transportation funds and is annually coordinated with the State-TIP process. According to federal regulations governing transportation planning, the TIP is to be a staged multi-year program of transportation improvement projects that "shall cover a period of not less than four years and be consistent with the urban area transportation plan."

The TIP is directly related to the City's, County's, and State's Capital Improvement Programs which are brought forward at this time each year. The TIP identifies funding amounts by source

of funding, jurisdictional responsibility, type of project, and year of funding for these projects. This program is a listing of priority projects which are to be carried out within the next five fiscal years which include FY 2020-2021, 2021-2022, 2022-2023, 2023-2024 and 2024-2025. Projects planned for implementation beyond this time frame are not listed in this program since local funding may be tentative and federal funds for these projects cannot be obligated.

The TIP reflects the priorities and direction of the region and its state and federal partners in the transportation planning process. Projects identified in the TIP must be consistent with the projects or goals and objectives identified in the current Long Range Transportation Plan for the Grand Island metropolitan region. The TIP is part of the MPO's effort to establish and maintain the planning process required by the federal government as a condition for receipt of federal transportation funding. This program of projects depicts the MPO's priorities for the expenditure of federal funds for all transportation funding categories by federal fiscal year including highway and public transportation projects. The TIP document may also include, for informational purposes, non-federally funded projects occurring in the planning area. The federal government regulations require the TIP to be updated and adopted by the local MPO at least every four years.

Statewide Transportation Improvement Program (STIP)

The TIP becomes part of the State Transportation Improvement Program (STIP) by reference and the frequency and cycle for updating the TIP is compatible with STIP development and approval process. NDOT and the Nebraska MPOs have established an annual update cycle.

The STIP begins as a compilation of the regional TIPs that have been adopted by the MPOs and develops into a comprehensive list of all highway (state or local) and all transit (capital or operating) projects in urban and rural areas that propose to use federal funds. All federally funded projects proposed to begin between October 1st and September 30th from all of the regional TIPs across the state are included in this STIP including federally funded projects in rural areas. The STIP is updated every year and is to include a minimum four year listing of federal-aid projects for approval by FHWA and FTA.

Conformance with Long Range Transportation Plan

All projects were drawn from, or are consistent with, the GIAMPO Long Range Transportation Plan (Journey 2040), Regional Transit Needs Assessment and Feasibility Study, State Transportation Plans and Needs Studies, and the recommendations of local governments and citizens for the TIP. The projects reflect community goals and objectives and are assigned to the appropriate staging period based on the area's priorities, the individual project urgency, and the anticipated funding capabilities of the participating governments.

The TIP document was developed in conformance with the Long Range Transportation Plan for GIAMPO. A review was undertaken to ensure transportation projects programmed in the TIP were found to be consistent with the Long Range Transportation Plan.

The Long Range Transportation Plan was adopted by GIAMPO on April 26, 2016. The development of the Long Range Transportation Plan included a needs assessment and financial analysis and discussed the social, economic, and environmental impacts to consider when developing new transportation projects, and where environmentally sensitive areas are located in relation to projects identified in the horizon years or 2025 and 2040. The Long Range Transportation Plan was transmitted to NDOT and to FHWA and FTA.

Types of Projects included in the TIP

Federal regulations require that any transportation project within the Metropolitan Planning Area that is to be funded with U.S. Department of Transportation funds must be included in the TIP. The types of projects listed below are eligible for federal funding:

- a. Projects on the federal-aid system (road and bridge construction, reconstruction, resurfacing, restoration, rehabilitation, etc.).
- b. Public transportation (vehicle maintenance and operations, capital improvement projects, public transit system construction, etc.).
- c. Projects that are not on the federal-aid system, but may be eligible for federal funding for other reasons (e.g., bridge projects, bicycle and pedestrian facilities, etc.). The projects, however, must be linked to the transportation network.
- d. Regional projects requiring FHWA or FTA action or projects having significant regional impacts.

Project Selection

GIAMPO's process for including projects in the TIP is the means by which projects move from the current Long Range Transportation Plan (LRTP) into the TIP for implementation. This process entails annual coordination with NDOT and local agencies to identify projects for programming in the TIP. Projects listed in the TIP typically originate in the LRTP developed by the MPO in cooperation with the respective implementing agencies involved in the planning process. Implementing agencies carry out the LRTP's specific elements through the TIP process. As a result, the TIP serves as a strategic management tool to accomplish the objectives of the Long Range Transportation Plan.

Project prioritization is an important element of the TIP, especially since the demand for federal-aid transportation projects usually exceeds the level of federal funds available for use. State highway projects in the TIP have been prioritized by NDOT. Local federal-aid improvement projects programmed by the City of Grand Island, Hall County, Merrick County Village of Alda, and coordinating agencies have been dependent on the availability of competitive funding using the federal Highway Safety Improvement Program, Set Aside from Surface Transportation Block Grant Program (Transportation Alternatives), and FTA funds. Other selected projects are accomplished through a coordinated effort among all parties to advance projects which preserve the existing system, increase safety and efficiency of the transportation system, improve vehicle mobility and connectivity, protect and enhance the environment, and support quality of life. Readiness to proceed and financial capacity is also considered in project selection.

Maintenance and Operation of Current Transportation Systems

The highest priority in the selection of projects for the TIP is to ensure the adequate reconstruction, maintenance, and operation of the current transportation system. NDOT is programming two (2) projects for highway resurfacing, one (1) project for repairs/overlays to three US-30 bridges, and construction of a 4-lane divided roadway on new alignment for a section of US-30. The City of Grand Island is programming one (1) project programmed for safety and operational improvements at the Broadwell Avenue, State Street, and Eddy Street intersection and one (1) project to widen a section of Old Potash Highway and three (3) projects to widen sections of North Road and a (1) Planning and Environmental on Broadwell Ave./ UPRR.

Public Transportation Project Prioritization Process

Public transportation projects are funded with a mix of local, state, and federal funds. The public transportation element of the TIP includes projects for the City of Grand Island's Transit Program that collectively constitutes the Program of Projects (POP) for the City of Grand Island's Transit Program. Approval of the TIP includes the approval of the POP for the City of Grand Island's Transit Program. The public involvement procedures used for TIP development and amendments are used to satisfy the POP requirements for FTA Section 5307 (urban) funding.

In 2012, the City of Grand Island became the designated recipient to receive FTA Section 5307 funds. In 2013, the City of Grand Island and Hall County entered into an interlocal agreement for Hall County to continue to provide public transit services using unexpended FTA Section 5311(rural) funds during a transitional period. In April 2016, the City of Grand Island approved an interlocal agreement where the City of Grand Island would provide public transit services within the City of Grand Island and Hall County through a contract with a public transportation services provider up to a three year period. This interlocal agreement was renewed in April 2019 for a term of one year with an automatic renewal thereafter for successive terms of one year each unless either the City of Grand Island or Hall County provides written notice not less than 90 days prior to the termination of the then current term.

In December 2017, GIAMPO completed a Regional Transit Needs and Feasibility Study, and it recommended a preferred alternative for a five year planning horizon within the Grand Island urbanized area. This plan will be used by the City of Grand Island Transit Program to plan and program transit projects in the TIP.

Financial Plan Statement

The projects identified in the TIP are financially constrained, meaning they can be implemented using current and proposed revenue sources based on the programs contained in the TIP. The expected and anticipated revenue sources are, therefore, reasonably expected to be in place when needed. Revenues for federally funded projects during each year are shown in the Financial Plan on page 14.

Public Involvement Process

The transportation planning process allows for public involvement at various points within the transportation plan and program development. This involves a series of steps from the adoption of the MPO Long Range Transportation Plan that is coordinated with the programming of projects and again for the actual construction of the transportation facilities. The critical decision points in the transportation planning process are: 1) the development of at least a 20 year transportation plan, 2) the street improvement program which identifies priorities for planned projects, 3) the development of capital improvement programs for a period of four to six years, 4) project design and project construction. The first two steps are included in the long range planning process, the third step consolidates the capital improvement programs of the City of Grand Island, Hall County, Merrick County, Village of Alda, and NDOT with the MPO TIP and the last step is the specific project design and development.

The City of Grand Island, Hall County, Merrick County, and Village of Alda each have an established procedure for adopting improvement programs. Their processes include review by the County Planning Commission for compliance with the Comprehensive Plan and formal advertised public hearings before the Planning Commission and City Council or County Board. The consolidation of these improvement programs is coordinated in the TIP as reviewed by the GIAMPO Technical Advisory Committee before it is released for the public review and comment

period. The public comments are summarized, including how the comments were addressed, and incorporated in the TIP. The GIAMPO Policy Board reviews, approves, and submits the TIP to NDOT for inclusion in the STIP.

Annual Listing of Projects

Pursuant to the provisions of 23 U.S.C. 134(j)(7)(B) and 49 U.S.C. 5303(c)(5)(B), the MPO has published an annual listing of projects for which federal funds have been obligated in the preceding year. These are listed in the TIP by jurisdiction within each section. The published document is available for public review from the MPO and on the MPO website under the TIP Section.

Congestion Mitigation and Air Quality (CMAQ)

Federal legislation provides funds to be utilized in the Clean Air Act for non-attainment and maintenance areas for transportation programs and projects that contribute to attainment of National Ambient Air Quality Standards. Since the GIAMPO Metropolitan Planning Area is in compliance with the latest air quality standards, the MPO does not specifically program for CMAQ funding.

National Performance Management Measures

With the passing of MAP-21 transportation bill, and continuing in the FAST Act, State departments of transportations (State DOT) and MPOs are required to use a performance based planning and programming approach as part of the Transportation Performance Management (TPM) program. TPM is defined as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals.

As part of TPM, FHWA and FTA issued Final Rules that include National Performance Management Measures at the system level that the State DOTs and MPOs are required to incorporate into their planning processes. The applicable National Performance Management Measures to MPOs include the following:

- **Safety (PM-1).** Highway Safety Improvement Program/Safety Performance Management Measures [23 CFR § 924, 23 CFR § 490]
- **Infrastructure (PM-2).** Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program [23 CFR § 490]
- **System Performance (PM-3).** Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program [23 CFR § 490]
- **Transit Asset Management (TAM)** is established to evaluate the state of good repair of transit provider capital assets for safety and operations [49 CFR § 625, 630].

Each of the above National Performance Management Measures consists of a series of performance measures and corresponding target setting requirements. When State DOTs and/or transit providers have set targets, MPOs must establish performance targets at the regional level within 180 days. MPOs have the option to set its own regional targets, or to support the targets established by State DOTs and/or transit providers.

Safety

FHWA published the Highway Safety Improvement Program and Safety Performance Management Measures (PM-1) Final Rules in the Federal Register on March 15, 2016. The Safety Performance Management Measures rule supports the Highway Safety Improvement Program (HSIP), as it establishes five safety performance measures to carry out the HSIP and to assess serious injuries and fatalities on all public roads. State DOTs are required to establish safety (HSIP) targets for all five performance measures by August 31 of each year.

GIAMPO has agreed to support the state's annual (CY 2020) safety performance targets set in August 2019. The targets are:

Performance Measure	Target
Number of Fatalities	239
Rate of Fatalities per 100 million vehicle miles traveled (VMT)	1.14
Number of Serious Injuries	1,442
Rate of Serious Injuries per 100 million VMT	6.8
Number of Non-motorized Fatalities and Non-motorized Serious Injuries	133

GIAMPO supports these targets by reviewing and programming HSIP projects within the Metropolitan Planning Area. Working in partnership with local agencies, NDOT safety investments were identified and programmed which will construct effective countermeasures to reduce traffic fatalities and serious injuries. NDOT projects chosen for HSIP investment are based on crash history, roadway characteristics, and the existence of infrastructure countermeasures that can address the types of crashes present.

Infrastructure

Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program (PM-2) was identified in the FHWA Final Ruling published in the Federal Register on January 18, 2017 (82 FR 5886). This rule establishes six performance measures to assess the condition of pavement and bridges on the National Highway System (NHS) to carry out the National Highway Performance Program. State DOTs are required to establish pavement and bridge condition targets by May 20 every four years.

GIAMPO has agreed to support the state's 4-year performance period (CY 2018-2021) pavement and bridge performance targets set in May 2018. The targets are:

Performance Measure	Target
% of Interstate pavements in Good condition	At least 50%
% of Interstate pavements in Poor condition	No more than 5%
% of non-Interstate NHS pavements in Good condition	At least 40%
% of non-Interstate NHS pavements in Poor Condition	No more than 10%
% of NHS bridges by deck area classified as in Good condition	At least 55%
% of NHS bridges by deck area classified as in Poor condition	No more than 10%

GIAMPO will review and program pavement and bridge projects within the Metropolitan Planning Area to contribute toward the accomplishment of these targets.

System Performance

Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program (PM-3) was identified in the FHWA Final Ruling, published in the Federal Register on January 18, 2017 (82 FR 5970). This rule establishes performance measures to assess the performance of the Interstate and non-Interstate NHS to carry out the National Highway Performance Program, freight movement on the Interstate system to carry out the National Highway Freight Program, and traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. There are two performance measures to assess system performance of the NHS, one performance measure to assess freight movement on the Interstate system, two performance measures to assess traffic congestion under the CMAQ program, and one performance measure to assess total emissions reductions by applicable pollutants under the CMAQ program. State DOTs are required to establish system performance, freight, and CMAQ targets by May 20 every four years.

GIAMPO has agreed to support the state's 4-year performance period (CY 2018-2021) system performance and freight performance targets set in May 2018 (Nebraska exempt from CMAQ measures this performance period). The targets are:

Performance Measure	Target
% of Person-Miles Traveled on the Interstate that are Reliable	98.6%
% of Person-Miles Traveled on the non-Interstate NHS that are Reliable	92.6%
Freight Reliability	1.10

GIAMPO will review and program system performance and freight projects within the Metropolitan Planning Area to contribute toward the accomplishment of these targets.

Transit Asset Management

FTA issued a Final Rule on transit asset management (TAM) plans to evaluate the state of good repair of transit provider capital assets for safety and operations. Recipients of public transit funds—which include states, local authorities, and public transportation operators—are required to establish targets for state of good repair performance measures; to develop transit asset management and transit safety plans; and to report on their progress toward achieving targets. Public transportation operators are directed to share information with MPOs and states so that all plans and performance reports are coordinated.

The Rule, “Transit Asset Management; National Transit Database,” went into effect on July 26, 2016 with the TAM plan due for transit by October 1, 2018. Transit target setting repeats annually and plans are updated every four years. The City of Grand Island (transit provider) participates in a group TAM plan, which is sponsored by NDOT. GIAMPO has agreed to establish state of good repair performance targets, which are the same targets established by NDOT and the City of Grand Island. NDOT set its targets on January 1, 2017, and the City of Grand Island set its targets on May 23, 2017. The targets are:

Category	Class	Default *ULB	Performance Target
Rolling Stock	Cutaway bus	10 years	50% of fleet exceeds default ULB
	Minivan	8 years	50% of fleet exceeds default ULB
	Van	8 years	50% of fleet exceeds default ULB

Equipment	Automobile	8 years	75% of fleet exceeds default ULB
Facilities	Admin/Storage	40 years	70% of facilities rated under 3.0 on TERM scale

GIAMPO supports these targets by reviewing and programing transit projects relating to capital assets within the Metropolitan Planning Area.

Revising an Approved TIP/STIP

Revisions are changes to a TIP/STIP that occur between their annual publications. There are two types of changes that occur under the umbrella of revision. The first is a major revision or “Amendment”. The second is a minor revision or “Administrative Modification”.

Amendments

An amendment is a revision to a TIP/STIP that involves a major change to a project included in the TIP/STIP. Amendments requires public review and comment and demonstration of fiscal constraint.

There are four main components that can be used to determine whether a project change rises to the level of an amendment:

- Project costs: Amendments are required whenever the federal-aid amount changes by 20% or \$2 million, whichever is greater. For computing the % change, standard rounding procedures will be used; 19.50% and greater is considered to be 20% and therefore would require an amendment.
- Additions/Deletions: Projects or phases of projects which are added or deleted from the first four years of the TIP/STIP will be processed as amendments (excluding grouped projects).
- Funding sources: Adding federal funding sources or changing from one federal funding category to another (including converting advanced construction) will require an amendment.
- Scope and termini changes: Substantial changes to project scope shown in the approved STIP or project termini changes greater than 0.25 mile will require an amendment.

Administrative Modifications

A minor revision to a TIP or STIP is an administrative modification. It includes minor changes to projects, including projects using advanced construction (AC) procedures, already included in the TIP. Administrative modifications may be made at any time and do not require public review or Policy Board action. However, GIAMPO must demonstrate financial constraint. This includes changes such as clarifying project descriptions, reducing project costs, minor adjustments to project budgets or clerical mistakes.

The following components should be used to determine if a change can be processed as an administrative modification:

- Project costs: Projects in which the federal-aid and/or AC amount has been changed by less than 20% or \$2 million, whichever is greater, can be processed with an administrative modification. For purposes of this calculation federal-aid and AC amounts will be combined.
- Additions/Deletions: Projects or phases of projects added to group listings explained earlier will be processed as administrative modifications.
- Schedule changes: Changes in schedules to projects which are included in the first four years of the TIP/STIP will be considered administrative modifications
- Funding sources: Redistribution of federal funding or AC among funding sources already listed with the project can be done with an administrative modification.
- Scope and termini changes: Minor changes to project scope and termini changes of less than 0.25 mi. can be made with an administrative modification. Project termini not consistent with the Long Range Transportation will require an amendment.

Grand Island Area Metropolitan Planning Organization (GIAMPO)
Transportation Improvement Program
Fiscal Years 2021-2025
Financial Constraint Projects
(\$1,000's)

Federal Highway Administration	2021	2022	2023	2024	2025	Total
National Highway Performance Program (NHPP)	\$15,343	\$4,070	\$0	\$0	\$0	\$19,413
Highway Safety Improvement Program (HSIP)	\$4,003	\$0	\$0	\$0	\$0	\$4,003
Earmark (EM)	\$0	\$0	\$0	\$0	\$0	\$0
Nebraska Department of Transportation	\$3,460	\$4,120	\$3,863	\$23,054	\$0	\$34,497
City of Grand Island	\$16,754	\$11,514	\$2,308	\$2,190	\$0	\$32,766
	\$39,560	\$19,704	\$6,171	\$25,244	\$0	\$90,679

Federal Transit Administration	2021	2022	2023	2024	2025	Total
Section 5307	\$2,097	\$599	\$538	\$554	\$0	\$3,788
Section 5311	\$20	\$26	\$22	\$23	\$0	\$91
Section 5339	\$90	\$0	\$0	\$0	\$0	\$90
Nebraska Department of Transportation	\$9	\$9	\$9	\$9	\$0	\$36
City of Grand Island	\$392	\$385	\$376	\$388	\$0	\$1,541
Hall County	\$9	\$9	\$9	\$9	\$0	\$36
	\$2,617	\$1,028	\$955	\$983	\$0	\$5,583

NOTE: The financial table above illustrates the identified funding for the projects included in the tables for FY 2021-2025.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program
FY 2021-2025**

Appendix A – Highway Projects

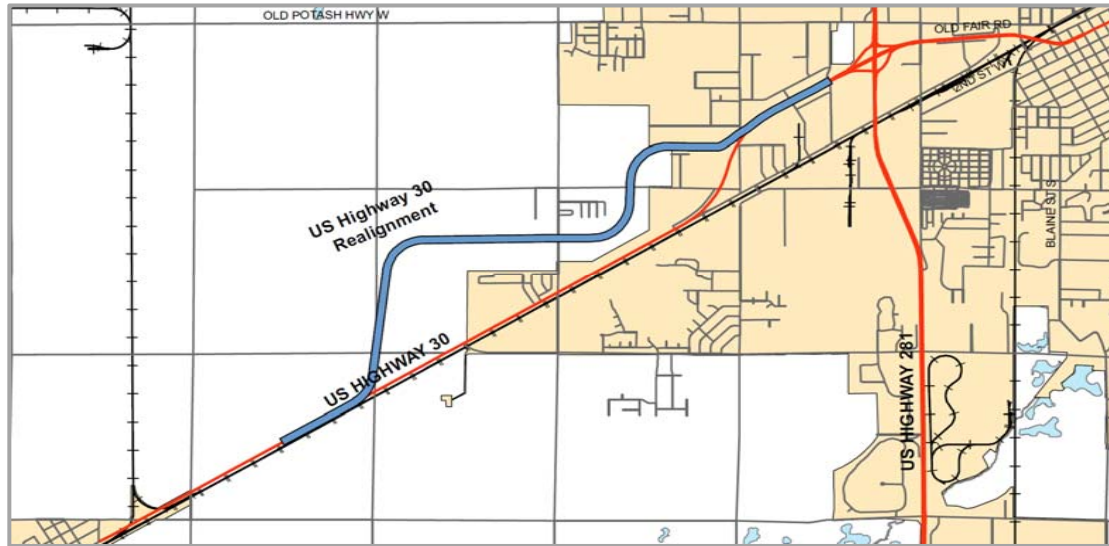
**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2016-004

State ID: 41704

Project #: S-30-4(1046)

Project Name: US-281 West, Grand Island



Description

4 lane divided roadway on new alignment

HWY: US-30

Location: US-30 from 1.4 mi west of Grand Island to 0.4 mi west of US-281. Begin RP - 308.84

Length (SLM): 3.7

Project Sponsor: NDOT

District #: 4

A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2022	PE	Local	Grand Island	\$147
2022	PE	State	NDOT	\$2,204
2023	ROW	Local	Grand Island	\$508
2023	ROW	State	NDOT	\$3,863
2024	CONST/CE	Local	Grand Island	\$2,190
2024	CONST/CE	State	NDOT	\$23,054
Total Project Estimate				\$31,966

Notes: This project was moved from FY 2022 to FY 2024.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2016-008

State ID: 42776

Project #: NH-30-4(162)

Project Name: In Grand Island Bridges



Description

3-bridge repair/overlays, sealing, approach slabs, mill, resurface roadway

HWY: US-30

Location: Three US-30 Bridges in Grand Island (Jct US-30/US-281/N-2 bridge and from Old Lincoln Hwy to Grant St), RP - 313.66

Length (SLM): 0.4

Project Sponsor: NDOT

District #: 4

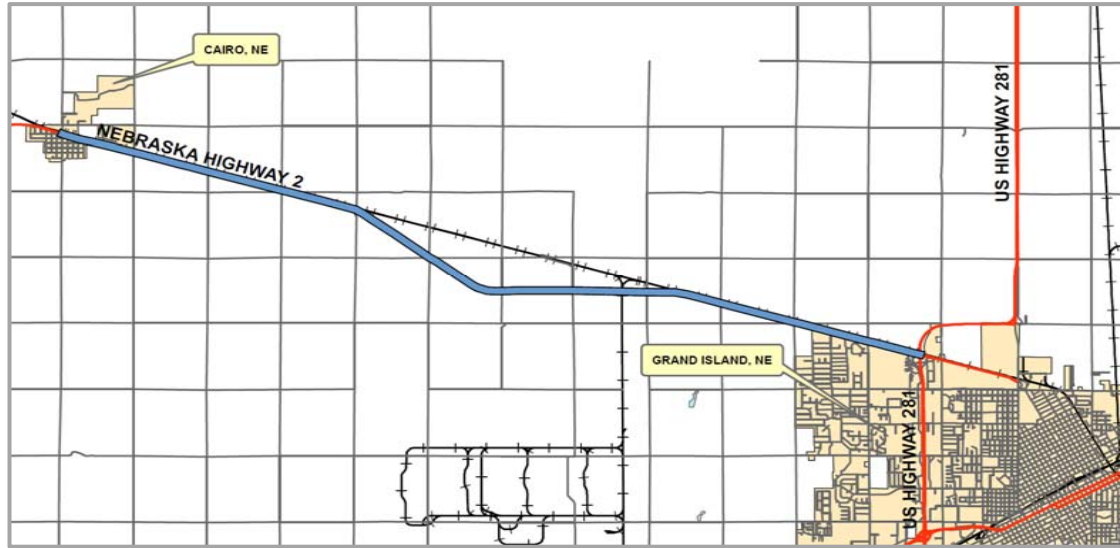
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	State	NDOT	\$290
2020	ROW	State	NDOT	\$27
2021	CONST/CE	Local	Grand Island	\$197
2021	CONST/CE	Federal	NHPP	\$4,007
2021	CONST/CE	State	NDOT	\$969
Total Project Estimate				\$5,490

Notes: PE in YOE 2019 and ROW in YOE 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2018-001 **State ID:** 42787 **Project #:** NH-2-4(112) **Project Name:** Cairo - Grand Island



Description

Resurfacing

HWY: N-2

Location: N-2 from Cairo southeast to US-281 in Grand Island, RP - 343.73

Length (SLM): 12.5

Project Sponsor: NDOT

District #: 4

A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	State	NDOT	\$585
2020	ROW	State	NDOT	\$0
2021	CONST/CE	Local	Grand Island	\$2,080
2021	CONST/CE	Federal	NHPP	\$11,336
2021	CONST/CE	State	NDOT	\$1,667
Total Project Estimate				\$15,668

Notes: PE in YOE 2019 and ROW in YOE 2020 is not reflected in Financial Constraint Table. This project is in progress.

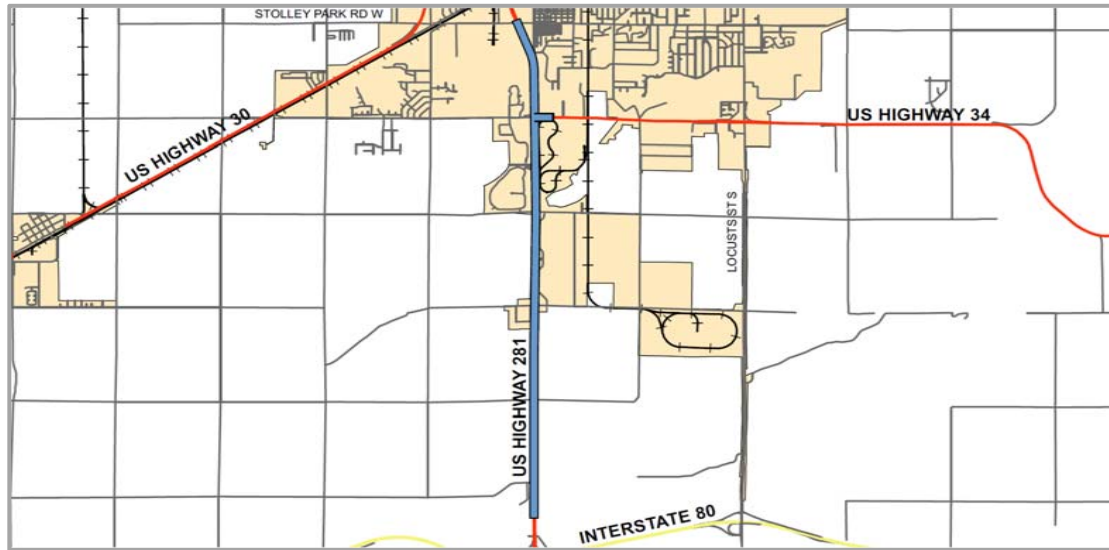
**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2020-001

State ID: 42819

Project #: NH-34-4(134)

Project Name: In Grand Island & South (SB)



Description

Resurfacing

HWY: US-34

Location: US-34 from 2.2 mi south of Grand Island north to N Jct US-281 / W Jct N-2, RP - 226.74

Length (SLM): 5.4

Project Sponsor: NDOT

District #: 4

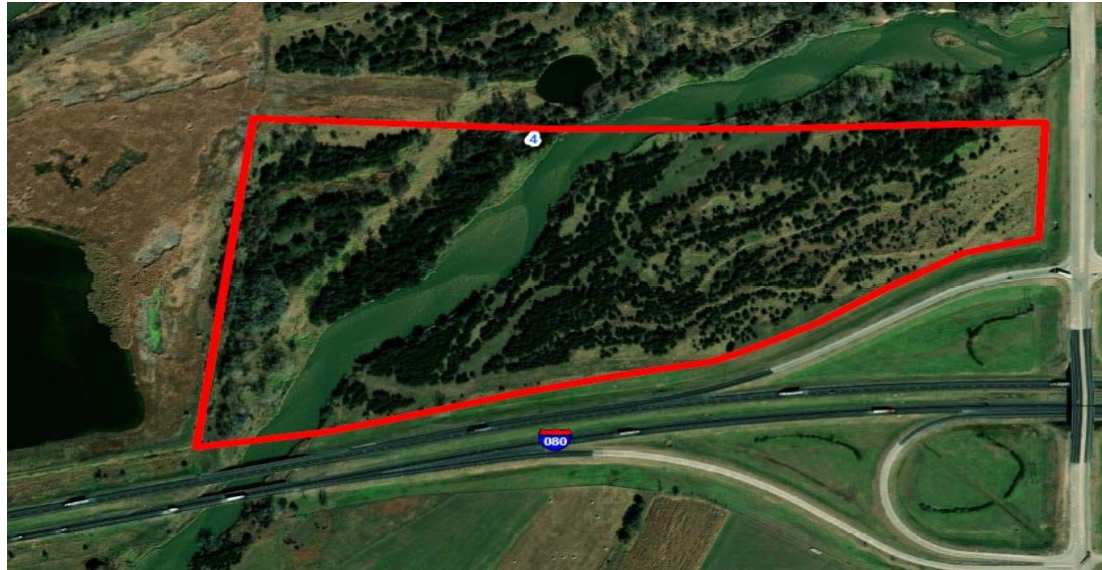
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2021	PE	State	NDOT	\$418
2022	CONST/CE	Federal	NHPP	\$4,070
2022	CONST/CE	State	NDOT	\$1,018
Total Project Estimate				\$5,506

Notes: Project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2020-002 **State ID:** 42891 **Project #:** MISC-40(65) **Project Name:** District 4 Wetland Bank



Description

Survey, design, construct and monitor a wetland mitigation site

HWY:

Location: Adjacent to existing Mormon Island Mitigation Bank, RP - 0.00

Length (SLM): 0.0

Project Sponsor: NDOT

District #: 4

A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2021	PE	State	NDOT	\$230
2022	CONST/CE	State	NDOT	\$898
Total Project Estimate				\$1,128

Notes: This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2020-003 **State ID:** 42894 **Project #:** ELEC-80-6(1047) **Project Name:** West Grand Island Interchange



Description

Build new high mast lighting towers, install buried cable & control boxes

HWY: I-80

Location: I-80 at the Grand Island Interchange, RP - 311.50

Length (SLM): 1.5

Project Sponsor: NDOT

District #: 4

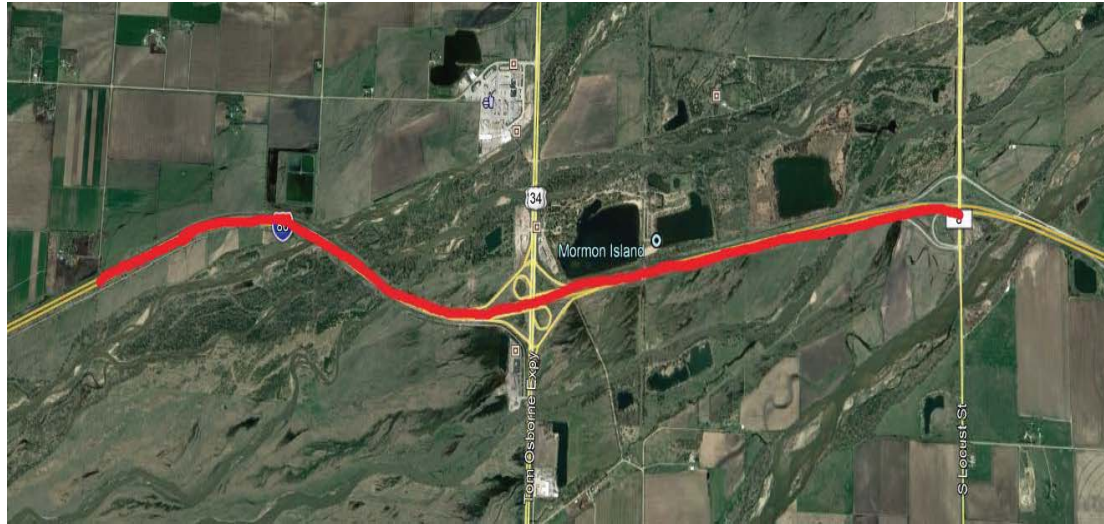
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	State	NDOT	\$27
2020	CONST/CE	State	NDOT	\$1,018
Total Project Estimate				\$1,045

Notes: PE in YOE 2019 and CONST/ CE in YOE 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2020-2024**

TIP #: 2021-008 **State ID:** 42911 **Project #:** HSIP-80-7(170) **Project Name:** Grand Island Area Bridges



Description

Add High Friction Surface Treatment to bridges and Horizontal curves on I80

HWY: I-80

Location: (13) Bridges on I80 near the Grand Island Interchange

Length (SLM): 4.52

Project Sponsor: NDOT

District #: 4

A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2020	PE	State	NDOT	\$8
2021	Const/CE	State	NDOT	\$176
2021	Const/CE	Federal	HSIP	\$1,585
Total Project Estimate				\$1,770

Notes: PE in YOE 2020 is not reflected in Financial Constraint Table. This project is in progress.

Status of Previous Years for State Agency Sponsored Projects

Project Sponsor	TIP ID	Project Name	Location	Description	YOE	Phase	Funding Description	Estimate (\$1,000)	Status
NDOT	2016-004	US-281 West, Grand Island	US-30 from 1.4 mi west of Grand Island to 0.4 mi west of US-281. Begin RP - 308.64	4 lane divided roadway on new alignment	2022	PE	Grand Island	\$147	Project scheduled for 8/24/23 letting FY 2024
					2022	PE	NDOT	\$2,204	
					2023	ROW	Grand Island	\$508	
					2023	ROW	NDOT	\$3,863	
					2024	CONST/CE	Grand Island	\$2,190	
					2024	CONST/CE	NDOT	\$23,054	
NDOT	2016-008	In Grand Island Bridges	Three US-30 Bridges in Grand Island (Jct US-30/US-281/N-2 bridge and from Old Lincoln Hwy to Grant St), RP - 313.66	3-bridge repair/overlays, sealing, approach slabs, mill, resurface roadway	2019	PE	NDOT	\$290	Project has been delivered to contracts and is currently scheduled for a 8/26/21 letting
					2020	ROW	NDOT	\$27	
					2021	CONST/CE	Grand Island	\$197	
					2021	CONST/CE	NHPP	\$4,007	
					2021	CONST/CE	NDOT	\$969	
NDOT	2018-001	Cairo - Grand Island	N-2 from Cairo southeast to US-281 in Grand Island, RP - 343.73	Resurfacing	2019	PE	NDOT	\$585	Project is scheduled for a 8/26/21 letting
					2020	ROW	NDOT	\$0	
					2021	CONST/CE	Grand Island	\$2,080	
					2021	CONST/CE	NHPP	\$11,336	
					2021	CONST/CE	NDOT	\$1,667	
NDOT	2020-001	In Grand Island & South (SB)	US-34 from 2.2 mi south of Grand Island north to N Jct US-281 / W Jct N-2, RP - 226.74	Resurfacing	2021	PE	NDOT	\$418	Project currently scheduled for 8/25/22 letting
					2022	CONST/CE	NHPP	\$4,070	
					2022	CONST/CE	NDOT	\$1,018	
NDOT	2020-002	District 4 Wetland Bank	Adjacent to existing Mormon Island Mitigation Bank, RP - 0.00	Survey, design, construct and monitor a wetland mitigation site	2021	PE	NDOT	\$230	Project currently scheduled for 08/26/21 letting. FY 2022
					2022	CONST/CE	NDOT	\$898	
NDOT	2020-003	West Grand Island Interchange	I-80 at the Grand Island Interchange, RP - 311.50	Build new high mast lighting towers, install buried cable & control boxes	2019	PE	NDOT	\$27	Project was let.
					2020	CONST/CE	NDOT	\$1,018	
NDOT	2021-008	Grand Island Area Bridges	(13)Bridges on I80 near the Grand Island Interchange	Add High Friction Surface Treatment to bridges and Horizontal curves on I80	2020	PE	NDOT	\$8	Project currently scheduled for a 2/25/21 letting
					2021	Const/CE	NDOT	\$176	
					2021	Const/CE	HSIP	\$1,585	

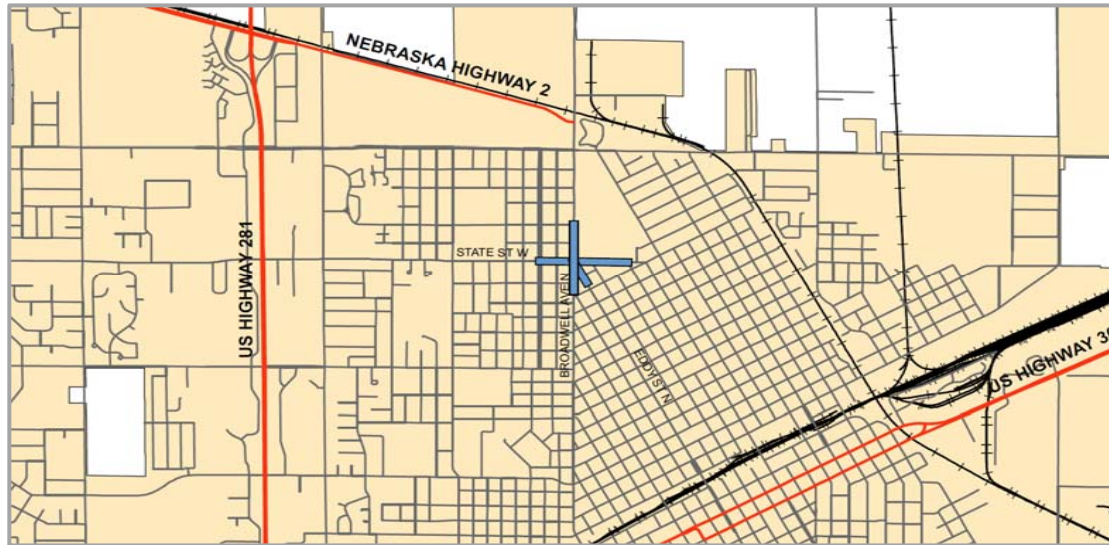
**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2018-003

State ID: 42863

Project #: HSIP-5409(3)

Project Name: 5-Points Intersection Improvements



Description

Intersection Improvements (Roundabout)

HWY: Broadwell Avenue

Location: Broadwell Avenue, State Street, and Eddy Street intersection

Length (SLM): 0.4

Project Sponsor: Grand Island

District #: 4

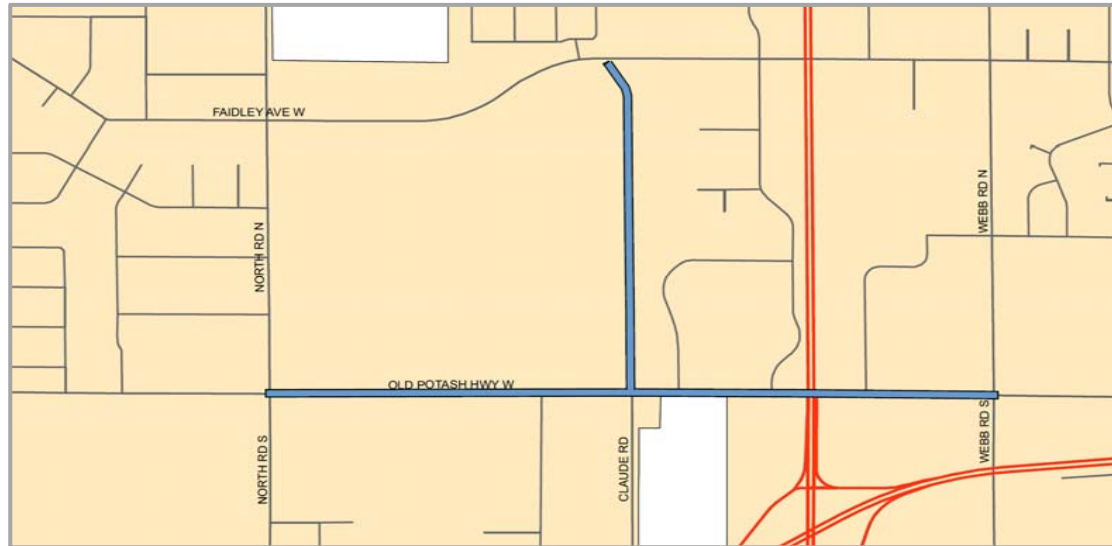
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	Local	Grand Island	\$80
2019	PE	Federal	HSIP	\$318
2021	ROW	Local	Grand Island	\$101
2021	ROW	Federal	HSIP	\$406
2021	CONST/CE	Local	Grand Island	\$503
2021	CONST/CE	Federal	HSIP	\$2,012
Total Project Estimate				\$3,420

Notes: PE in YOE 2019 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2020-004 **State ID:** **Project #:** **Project Name:** Old Potash Highway Improvements



Description

Widening and Intersection Improvements, including an extension of Claude Road

HWY: Old Potash Highway

Location: Old Potash Highway from North Road to Webb Road and Claude Road from Old Potash Highway to Faibley Ave

Length (SLM): 1.8

Project Sponsor: Grand Island

District #: 4

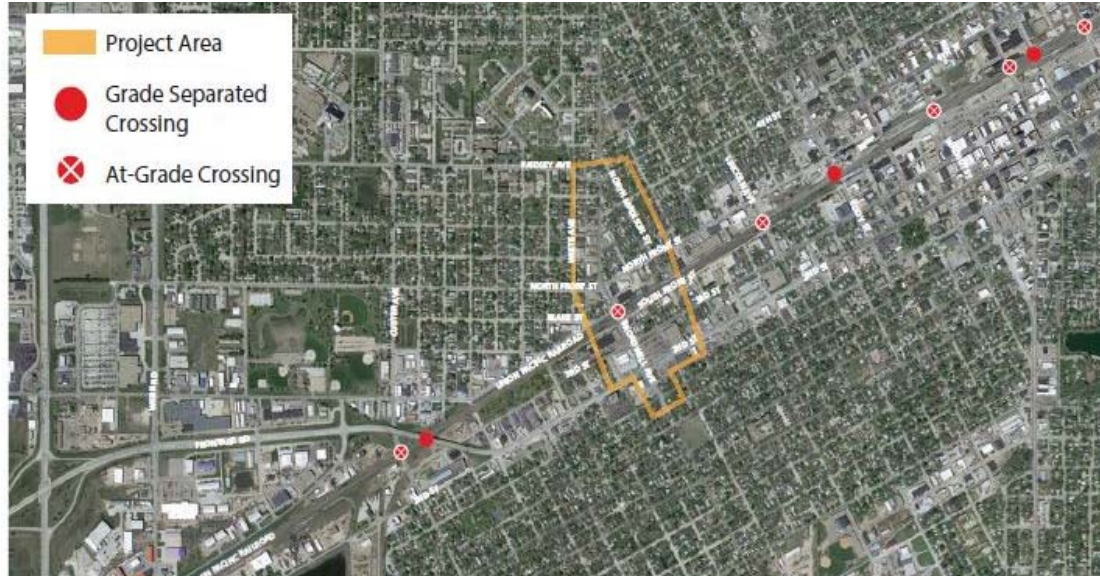
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	Local	Grand Island	\$1,713
2020	ROW	Local	Grand Island	\$2,080
2021	CONST/CE	Local	Grand Island	\$9,162
2022	CONST/CE	Local	Grand Island	\$4,975
Total Project Estimate				\$17,930

Notes: PE in YOE 2019 and 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2021-004 **State ID:** **Project #:** **Project Name:** Broadwell Ave./ UPRR - Planning & Environmental



Description

Broadwell Ave./ UPRR - Planning & Environmental Study.

HWY: Broadwell Avenue

Location: Broadwell Ave. - Faidley Ave. to Anna St.

Length (SLM): 1.0

Project Sponsor: Grand Island

District #: 4

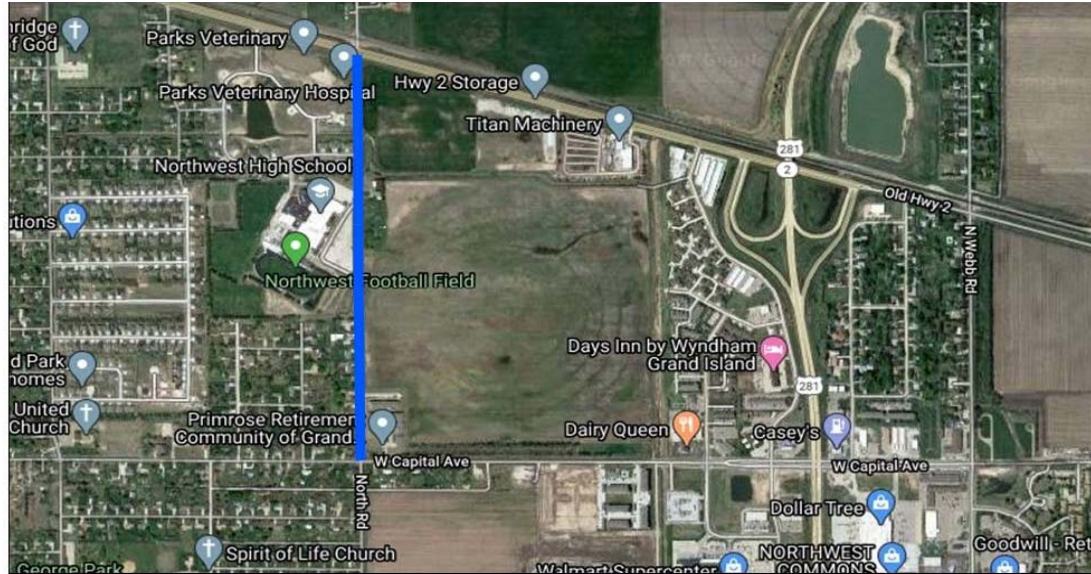
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	Planning	Local	Grand Island	\$88
2020	Planning	Local	Grand Island	\$284
2021	Planning	Local	Grand Island	\$40
Total Project Estimate				\$412

Notes: Planning in YOE 2019 and 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2021-005 **State ID:** **Project #:** **Project Name:** North Road Improv. - Highway 2 to Capital Ave



Description

Curb and gutter roadway section with associated sidewalk, traffic control, drainage improvements.

HWY: North Road

Location: North - Highway 2 to Capital Ave.

Length (SLM): .75

Project Sponsor: Grand Island

District #: 4

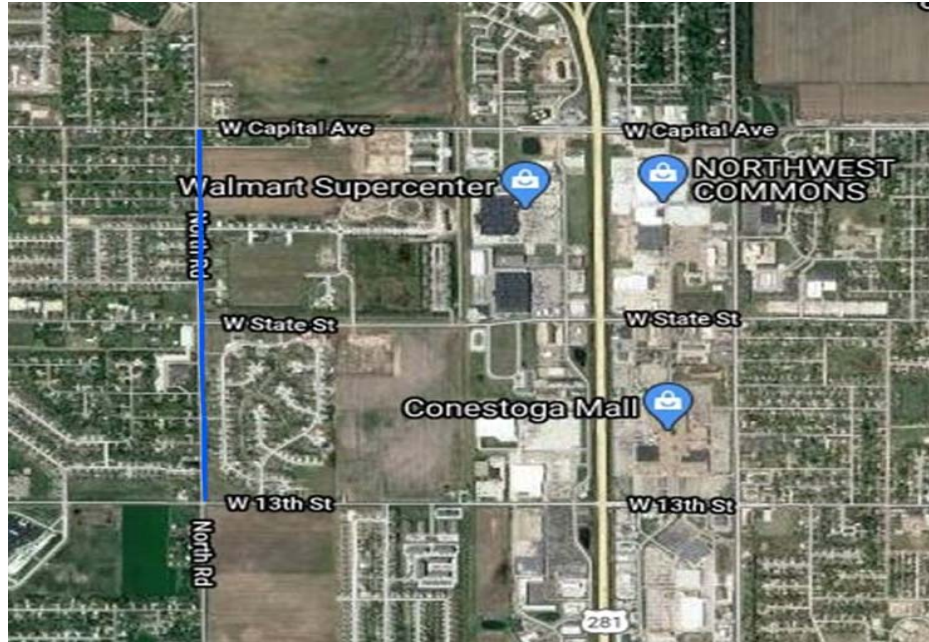
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	Local	Grand Island	\$473
2019	ROW	Local	Grand Island	\$40
2020	PE	Local	Grand Island	\$288
2020	CONST/CE	Local	Grand Island	\$2,835
2021	PE	Local	Grand Island	\$51
2021	CONST/CE	Local	Grand Island	\$500
Total Project Estimate				\$4,188

Notes: PE and ROW in YOE 2019 and PE and Construction in YOE 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2021-006 **State ID:** **Project #:** **Project Name:** North Road Improv. - Capital Ave. to 13th St.



Description

Curb and gutter roadway section with associated sidewalk, traffic control, drainage improvements.

HWY: North Road

Location: North - Capital Ave. to 13th St.

Length (SLM): 1.0

Project Sponsor: Grand Island

District #: 4

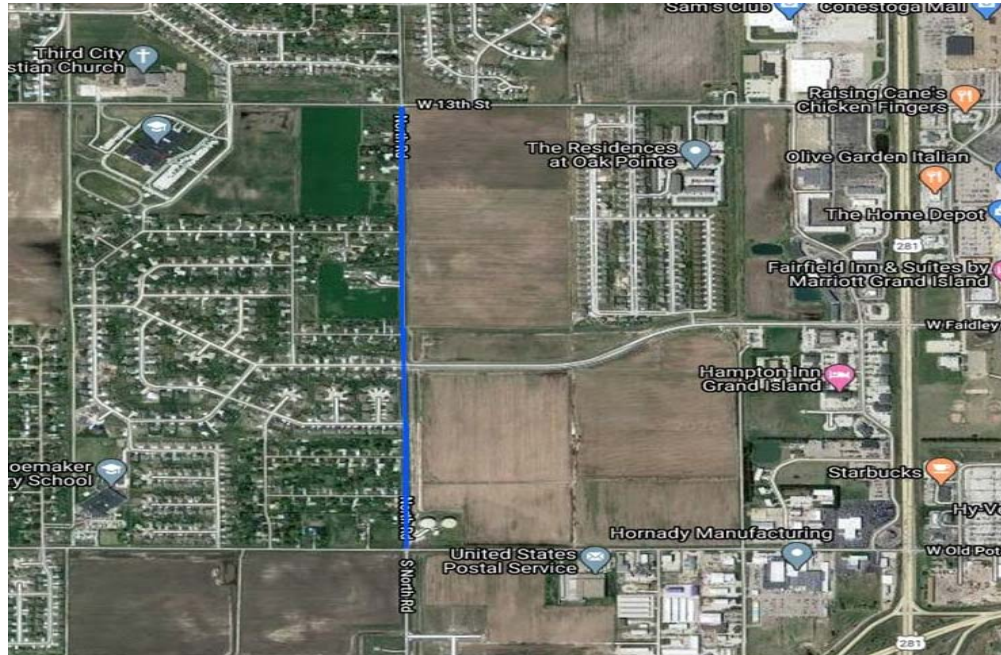
A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	Local	Grand Island	\$100
2020	PE	Local	Grand Island	\$200
2020	ROW	Local	Grand Island	\$80
2021	PE	Local	Grand Island	\$636
2021	CONST/CE	Local	Grand Island	\$2,854
2022	CONST/CE	Local	Grand Island	\$2,854
Total Project Estimate				\$6,724

Notes: YOE 2019 and 2020 is not reflected in Financial Constraint Table. This project is in progress.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for 2020-2024**

TIP #: 2021-007 **State ID:** **Project #:** **Project Name:** North Road Improv. - 13th St. to Old Potash HWY



Description

Curb and gutter roadway section with associated sidewalk, traffic control, drainage improvements.

HWY: North Road

Location: North - 13th St. to Old Potash HWY

Length (SLM): 1.0

Project Sponsor: Grand Island

District #: 4

A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>
2019	PE	Local	Grand Island	\$90
2020	PE	Local	Grand Island	\$100
2021	PE	Local	Grand Island	\$530
2021	ROW	Local	Grand Island	\$100
2022	PE	Local	Grand Island	\$538
2022	CONST/CE	Local	Grand Island	\$3,000
2023	CONST/CE	Local	Grand Island	\$1,800
Total Project Estimate				\$6,158

Notes: YOE 2019 and 2020 is not reflected in Financial Constraint Table. This project is in progress.

Status of Previous Years for Local Agency Sponsored Projects

Project Sponsor	TIP ID	Project Name	Location	Description	YOE	Phase	Funding Description	Federal (\$1,000)	Status
Grand Island	2016-010	Grand Island - Stolley Park Reconfiguration	From Webb Road to S. Locust Street	Reconfigure Stolley Park Road to 3, 4, and 5 lane sections - FHWA Road Diet Initiative	2017	PE	Grand Island	\$16	Construction Completed on October 2019
					2017	PE	HSIP	\$144	
					2018	CONST/CE	Grand Island	\$1,115	
					2018	CONST/CE	HSIP	\$124	
Grand Island	2018-003	5-Points Intersection Improvements	Broadwell Avenue, State Street, and Eddy Street intersection	Intersection Improvements	2019	PE	Grand Island	\$80	Letting was scheduled for September 30, 2021
					2019	PE	HSIP	\$318	
					2020	ROW	Grand Island	\$101	
					2020	ROW	HSIP	\$406	
					2021	CONST/CE	Grand Island	\$503	
					2021	CONST/CE	HSIP	\$2,012	

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program
FY 2021-2025**

Appendix B – Transit Projects

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2021-2025
Local Agency Sponsored Projects
(Includes the Program of Projects for the City of Grand Transit Program)**

TIP #: 2021-001	State ID: N/A	Project Name: Operations - Urban Transit Operating Assistance	Length (SLM): N/A
Project #:		Project Sponsor: Grand Island	District #: 4
HWY: N/A		Location: Grand Island Urbanized Area	A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>	<u>Description:</u>
2021	OPR	Federal	5307	\$497	Operating assistance for transit services in the Grand Island Urbanized Area. Includes costs associated with operating, bus support equipment/facilities (i.e., rideshare, vehicle equipment), and other capital items relating to bus activities (i.e., preventative maintenance, third-party contracting, federal administration (City Transit Program Manager), training expenses)
2021	OPR	Local	Grand island	\$374 *	
2022	OPR	Federal	5307	\$599	
2022	OPR	Local	Grand island	\$385 *	
2023	OPR	Federal	5307	\$538	
2023	OPR	Local	Grand island	\$376 *	
2024	OPR	Federal	5307	\$554	
2024	OPR	Federal	Grand island	\$388 *	
Total Project Estimate				\$3,711	

Notes: YOE 2021: FTA 5307 - \$497 (Operating - \$304, Bus Support Equipment/Facilities - \$36, Other Capital Items (Bus) - \$157) and Local - \$374 (Operating - \$304, Bus Support Equipment/Facilities - \$9, Other Capital Items (Bus) - \$61).

YOE 2022: FTA 5307 - \$599 (Operating - \$313, Bus Support Equipment/Facilities - \$37, Other Capital Items (Bus) - \$249) and Local - \$385 (Operating - \$313, Bus Support Equipment/Facilities - \$9, Other Capital Items (Bus) - \$62)

YOE 2023: FTA 5307 - \$538 (Operating - \$323, Bus Support Equipment/Facilities - \$38, Other Capital Items (Bus) - \$177) and Local - \$376 (Operating - \$323, Bus Support Equipment/Facilities - \$10, Other Capital Items (Bus) - \$44)

YOE 2024: FTA 5307 - \$554 (Operating - \$348, Bus Support Equipment/Facilities - \$39, Other Capital Items (Bus) - \$167) and Local - \$388 (Operating - \$336, Bus Support Equipment/Facilities - \$10, Other Capital Items (Bus) - \$42)

* This amount is subject to decrease because the City of Grand Island may receive state funds from the Nebraska Public Transportation Assistance Program.

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2021-2025
Local Agency Sponsored Projects
(Includes the Program of Projects for the City of Grand Transit Program)**

TIP #: 2021-002	State ID: N/A	Project Name: Operations - Rural Transit Operating Assistance	Length (SLM): N/A
Project #: 2018-005		Project Sponsor: Hall County	District #: 4
HWY: N/A		Location: Areas outside of the Grand Island Urbanized Area in Hall County	A/Q Status: Exempt

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>	Description: Operating assistance for transit services in areas outside of the Grand Island Urbanized Area
2021	OPR	Federal	5311	\$20	
2021	OPR	State	NDOT	\$9	
2021	OPR	Local	Hall County	\$9	
2022	OPR	Federal	5311	\$26	
2022	OPR	State	NDOT	\$9	
2022	OPR	Local	Hall County	\$9	
2023	OPR	Federal	5311	\$22	
2023	OPR	State	NDOT	\$9	
2023	OPR	Local	Hall County	\$9	
2024	OPR	Federal	5311	\$23	
2024	OPR	State	NDOT	\$9	
2024	OPR	Local	Hall County	\$9	
Total Project Estimate				\$164	

Notes:

**Grand Island Area Metropolitan Planning Organization
Transportation Improvement Program for FY 2021-2025
Local Agency Sponsored Projects
(Includes the Program of Projects for the City of Grand Transit Program)**

TIP #: 2021-003	State ID: N/A	Project Name: CARES Funding Projects	Length (SLM): N/A
Project #:		Project Sponsor: Grand Island	A/Q Status: Exempt
HWY: N/A	Location: Grand Island Urbanized Area	District #: 4	

<u>YOE</u>	<u>Phase</u>	<u>Fund Type</u>	<u>Fund Description</u>	<u>Estimate (\$1,000)</u>	Description: Planning and capital acquisition for projects making use of CARES funding.
2021	PLANNING	Federal	5307	\$100	
2021	PLANNING	Local	Grand Island	\$0	
2021	DESIGN	Federal	5307	\$0	
2021	DESIGN	Local	Grand Island	\$0	
2021	CAP	Federal	5307	\$1,500	
2021	CAP	Local	Grand Island	\$18	
2021	CAP	Federal	5311	\$0	
2021	CAP	State	5339	\$90	
2021	CAP	Local	Hall County	\$0	
Total Project Estimate				\$1,708	

Notes:

Status of Previous Years for Local Agency Sponsored Projects

Project Sponsor	TIP ID	Project Name	Location	Description	YOE	Phase	Funding Description	Federal (\$1,000)	Status
Grand Island	2021-001	Operations - Urban Transit Operating Assistance	Grand Island Urbanized Area	Operating assistance for transit services in the Grand Island Urbanized Area	2021	OPR	5307	\$497	Estimate revised for YOE 2021. Estimate added for YOE 2022 - 2024.
					2021	OPR	Grand island	\$374	
					2022	OPR	5307	\$599	
					2022	OPR	Grand island	\$385	
					2023	OPR	5307	\$538	
					2023	OPR	Grand island	\$376	
					2024	OPR	5307	\$554	
Grand Island	2021-002	Operations - Rural Transit Operating Assistance	Areas outside of the Grand Island Urbanized Area in Hall County	Operating assistance for transit services in areas outside of the Grand Island Urbanized Area	2021	OPR	5311	\$20	Estimate revised for YOE 2021. Estimate added for YOE 2022 - 2024.
					2021	OPR	NDOT	\$9	
					2021	OPR	Hall County	\$9	
					2022	OPR	5311	\$26	
					2022	OPR	NDOT	\$9	
					2022	OPR	Hall County	\$9	
					2023	OPR	5311	\$22	
					2023	OPR	NDOT	\$9	
					2023	OPR	Hall County	\$9	
					2024	OPR	5311	\$23	
					2024	OPR	NDOT	\$9	
Grand Island	2021-003	Transit Facility	Grand Island Urbanized Area	Facility planning and acquisition of facility for transit operations and vehicle storage	2021	PLANNING	5307	\$100	Estimate added for YOE 2021
					2021	PLANNING	Grand Island	\$0	
					2021	DESIGN	5307	\$0	
					2021	DESIGN	Grand Island	\$0	
					2021	CAP	5307	\$1,500	
					2021	CAP	Grand Island	\$18	
					2021	CAP	5311	\$0	
					2021	CAP	5339	\$90	
					2021	CAP	Hall County	\$0	



RESOLUTION NO. 2021-1

**RESOLUTION TO APPROVE THE GRAND ISLAND AREA METROPOLITAN
PLANNING ORGANIZATION 2045 LONG RANGE TRANSPORTATION PLAN**

WHEREAS, the Grand Island Area Metropolitan Planning Organization (GIAMPO) Policy Board, who is designated as the Metropolitan Planning Organization (MPO) for the Grand Island Area urbanized area by the Governor acting through the Nebraska Department of Transportation in cooperation with locally elected officials of the City of Grand Island, and Hall County; and

WHEREAS, GIAMPO has prepared the 2045 Long Range Transportation Plan to guide local area transportation system planning over the next 25 years in conformance with the content and procedural standards established by the Fixing America's Surface Transportation Act (FAST Act) ; and

WHEREAS, the preparation of the 2045 Long Range Transportation Plan has involved extensive public participation and outreach efforts; and

WHEREAS, the 2045 Long Range Transportation Plan encourages the development and utilization of a variety of modes of travel, including roadways, public transit, and pedestrian and bicycle routes; and

WHEREAS, the 2045 Long Range Transportation Plan is consistent with the future land use, goals and policies contained in the 2004 Grand Island Comprehensive Development Plan ; and

WHEREAS, the Draft 2045 Long Range Transportation Plan was made available for public comment for a 30-day period, and significant comments were incorporated into the final draft; and

WHEREAS, the 2045 Draft Long Range Transportation Plan was reviewed and recommendation for adoption by the GIAMPO Technical Advisory Committee was made at their December 14th, 2020 meeting; and

NOW, THEREFORE LET IT BE RESOLVED THAT, the Grand Island Area Metropolitan Planning Organization adopts the 25-year 2045 Long Range Transportation Plan; and

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute such agreement on behalf of the Grand Island Area Metropolitan Planning Organization.

Certification:

The foregoing resolution was approved by the Grand Island Area Metropolitan Planning Organization Policy Board at its regularly scheduled meeting on February 23rd, 2021.

By:

Attest:

Roger G. Steele, Mayor/ Chairperson

John Collins, Public Works Director

