2045

Iowa Northland Regional Transportation Authority

LONG-RANGE TRANSPORTATION PLAN

Executive Summary

INRCOG
Iowa Northland Regional Council of Governments

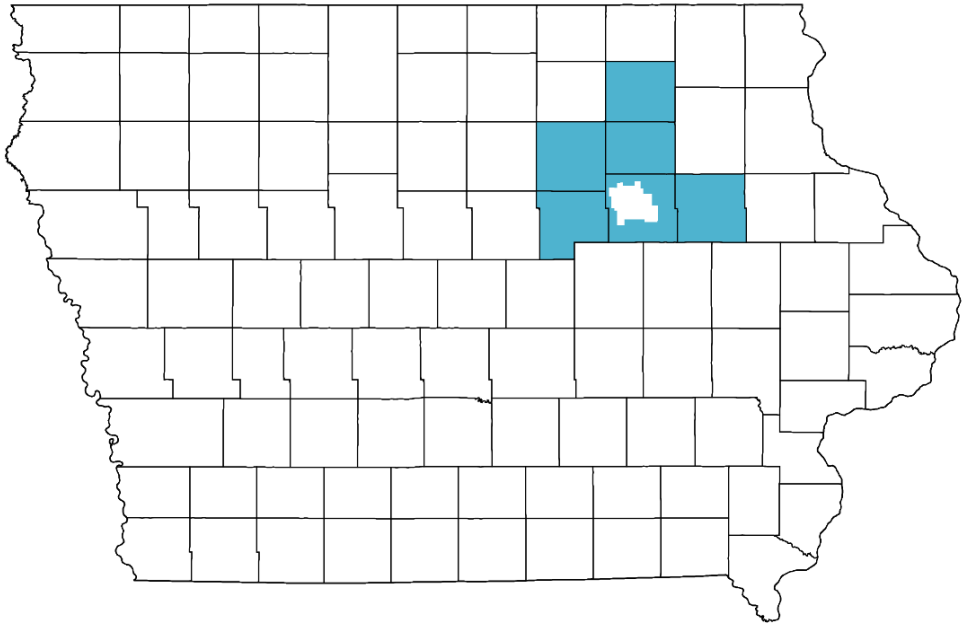
EXECUTIVE SUMMARY

The *2045 Long-Range Transportation Plan* is the regional transportation plan for the Iowa Northland Regional Transportation Authority. The document provides a policy framework for the investment of anticipated federal, state, and local funds, based on anticipated needs and regional goals and objectives, through the year 2045. The Plan establishes the purpose and need for major transportation investments; identifies activities to address transportation and growth issues; and prioritizes investments to improve system safety, condition, and performance across all modes.

WHAT'S NEW

This update:

- Includes performance measures
- Strengthens the role of complete streets
- Further refines the Bicycle Accommodation Plan
- Public Input Survey



2045 RTA Goals

SAFETY

Increase the safety of the transportation system

PRESERVATION

Strategically preserve the existing infrastructure

EFFICIENCY

Support an efficient transportation system

MULTIMODAL

Provide a high degree of multimodal accessibility and mobility

2045 GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

Goal	Objective	Performance Measurement	2019 Baseline Condition Data
Increase the safety of the transportation system	1.1) Reduce the number of traffic fatalities	10-year average of fatalities (2010-2019)	12.5
	1.2) Reduce the rate of traffic fatalities	Rate of fatalities per 100 million Vehicle Miles Traveled	0.65
	1.3) Reduce the number of traffic serious injuries	10-year average of serious injuries (2010-2019)	43.8
	1.4) Reduce the rate of traffic serious injuries	Rate of serious injuries per 100 million Vehicle Miles Traveled	2.3
	1.5) Reduce the number of non-motorized fatalities and serious injuries	10-year average of non-motorized fatalities and serious injuries (2010-2019)	1.3
	1.6) Reduce the number of traffic accidents involving pedestrians and bicyclists	10-year average of total number of crashes involving pedestrians and bicyclists (2010-2019)	9.5
Strategically preserve the existing infrastructure	2.1) Preserve and maintain Iowa DOT road pavement conditions	Percentage of Interstate, U.S. Highway, and Iowa Highway pavement in good condition (2018) Percentage of Interstate, U.S. Highway, and Iowa Highway pavement in poor condition (2018)	57.3% 2.94%
	2.2) Preserve and maintain local road pavement conditions	Percentage of city and county owned paved roads in good condition (2018) Percentage of city and county owned paved roads in poor condition (2018)	76.4% 4.97%
	2.3) Decrease the number of bridges that are posted or closed	Total number of posted or closed bridges (2018)	255
	2.4) Decrease the number of bridges that are structurally deficient	Total number of structurally deficient bridges (2018)	273
	2.5) Increase the average bridge sufficiency rating	Average bridge sufficiency rating of all bridges (2018)	82.8
Support an efficient transportation system	3.1) Maintain the percent of person-miles traveled on the Interstate that are reliable	Level of Travel Time Reliability (LOTTR) (2019)	100.0%
	3.2) Maintain the percent of the person-miles traveled on the non-Interstate National Highway System that are reliable	LOTTR (2019)	98.6%
	3.3) Improve freight travel time reliability	Truck Travel Time Reliability (TTTR) (2019)	1.24
Provide a high degree of multimodal accessibility and mobility	4.1) Provide more on-road bicycle facilities	Number of miles of on-road bicycle accommodations	62.0
	4.2) Provide more paved bicycle and pedestrian facilities	Number of miles of paved trails	95.5
	4.3) Decrease the percent of the Iowa Northland Regional Transit Commission (RTC) vehicles that are beyond Useful Life Benchmark (ULB)	Percent of vehicles that have met or exceeded ULB (2019)	59.1% (13 of 22 vehicles)
	4.4) Increase public transit ridership	10-year average of annual rides provided by RTC (2010-2019)	137,723

ROADS

The regional road network comprises approximately 17,000 lane miles. The condition of the road network is critical to the operating efficiency of the system. Roadway conditions within the region are assessed based on the Pavement Condition Index, International Roughness Index, and Average Annual Daily Traffic.

Pavement Condition Index

The Pavement Condition Index (PCI) is a numerical index between 0 and 100 used to indicate the general condition of a pavement, with 100 representing the best possible condition. PCI data was available for 1,474 centerline miles of secondary and local roads. 76 percent of miles had a rating of "good", 19 percent had a rating of "fair", and 5 percent were rated "poor". From 2012 to 2018, roads in "good" condition increased by almost 10 percent.

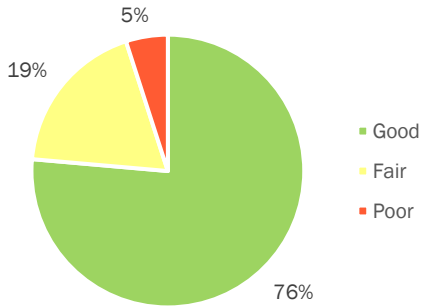
International Roughness Index

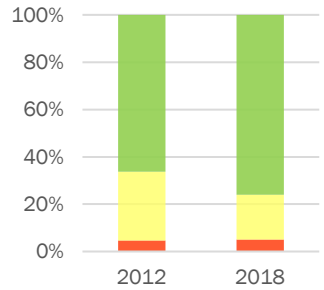
One indicator of pavement condition is the smoothness of the ride. This measure gets to the subjective "feel" of the road that most users notice when riding on it. All states use the International Roughness Index (IRI) as a standard measurement of pavement smoothness which classifies *primary highways*. IRI data was available for the evaluation of 741 centerline miles of primary routes in the region. 55 percent of road miles had a rating of "good", 42 percent had a rating of "fair" and 3 percent were rated "poor".

Average Annual Daily Traffic

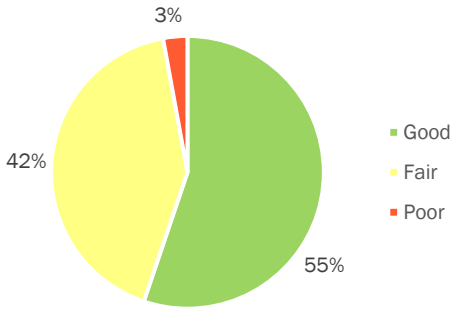
The Average Annual Daily Traffic (AADT) is an indicator of the actual use of a road. To measure AADT, traffic data is collected either by an automated traffic counter or manually. Data is recorded and adjusted to account for the season, time of day, and other variables that would correct the primary data to reflect actual traffic volumes. Approximately 82 percent of lane miles in the region have an AADT of 800 or less.

Pavement Condition Index





International Roughness Index



QUICK STATS

17,056
Lane miles of roads

76%
Of secondary and local road miles in good condition (PCI)

55%
Of primary highway road miles in good condition (IRI)

82%
Of lane miles with an AADT of 800 or less

BRIDGES

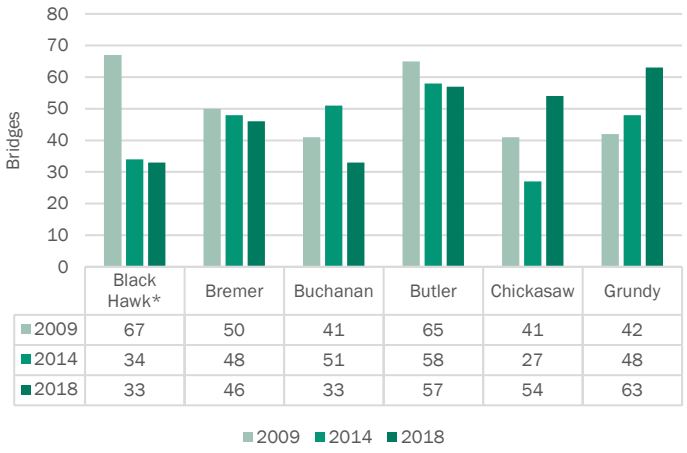
The region has an extensive bridge system with a wide-range of crossing types. Bridge performance can be measured by various conditions and the percentage of all bridges affected. Three of the most common measures are Load Capacity Challenged, Substandard Bridges, and Sufficiency Ratings.

Load Capacity Challenged (Posted and Closed)
Posted bridges have weight restrictions to prohibit heavy loads, while closed bridges prohibit all traffic. Bridges may also be posted for other load-capacity restrictions including speed and number of vehicles permitted on the bridge. Posted and closed bridges can negatively impact people and goods movement as well as emergency response times.

Substandard Bridges (Structurally Deficient or Functionally Obsolete)
Structurally deficient bridges are structures unable to carry vehicle loads or tolerate the speeds that would normally be expected for that particular bridge in its designated system. Functional obsolescence refers to a bridge with inadequate width or vertical clearance for its associated highway system.

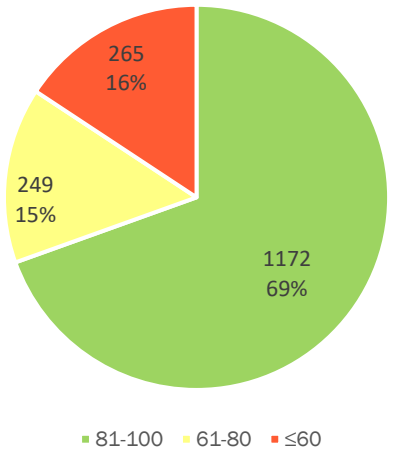
Sufficiency Ratings
The sufficiency rating formula is a method of evaluating a bridge's sufficiency to remain in service based on a combination of several factors. The result is a percentage in which 100 represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge. The rating helps determine which bridges may need repair or replacement. To qualify for federal replacement funds, they must have a rating of 60 or below.

Structurally Deficient Bridges



	Black Hawk*	Bremer	Buchanan	Butler	Chickasaw	Grundy
2009	67	50	41	65	41	42
2014	34	48	51	58	27	48
2018	33	46	33	57	54	63

Sufficiency Ratings



QUICK STATS

1,686
Bridges

255
Posted or closed bridges

286
Structurally deficient bridges

82.8
Average bridge sufficiency rating

39 years
Average age of bridge structures

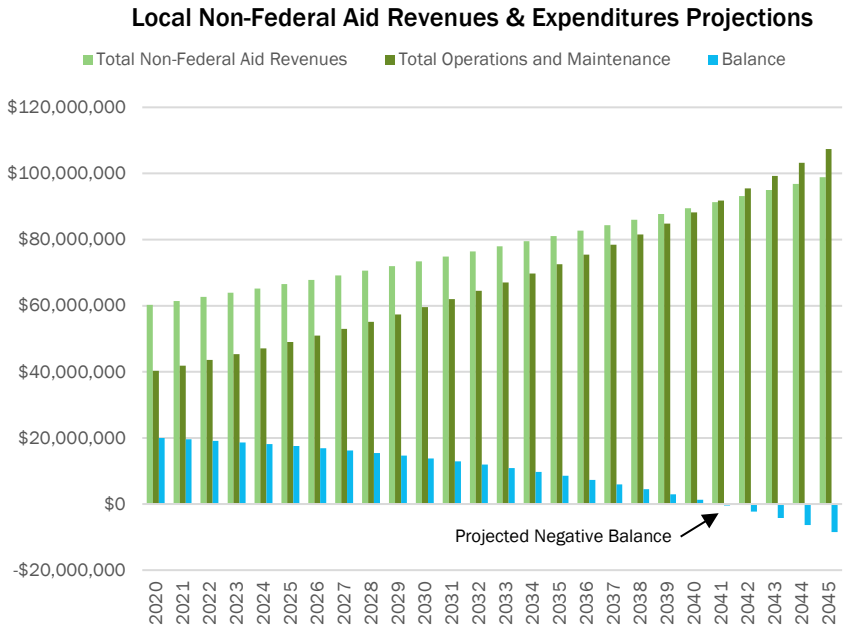
FUNDING DEFICIENCIES

Before constructing or reconstructing new infrastructure, an expense that must be factored into local funding is the operation and maintenance of the existing system. Projections for local non-federal aid revenues and operation expenditures show a negative balance starting in FY 2041.

An assessment was conducted to estimate funding levels required to improve the region's existing federal aid eligible secondary and local and local road and bridge network to a state of good condition. In total, it would cost approximately **$205 million** in current dollars which does not account for future maintenance costs for construction projects or infrastructure that is presently in good condition. Comparing this expense to projected state and federal funding, the region will experience a significant funding deficiency over the life of this plan.

Projected Funding Deficiency for Federal Aid Eligible Roads & Bridges

Revenues	
STBG & TAP Flex	$62,700,689
City Bridge	$15,015,000
County Bridge	$101,580,497
Total Revenues	$179,296,186
Less cost to improve roads & bridges to a state of good condition	$205,000,000
Total Funding Deficiency	**$-25,703,814**



2045 BICYCLE ACCOMMODATION PLAN

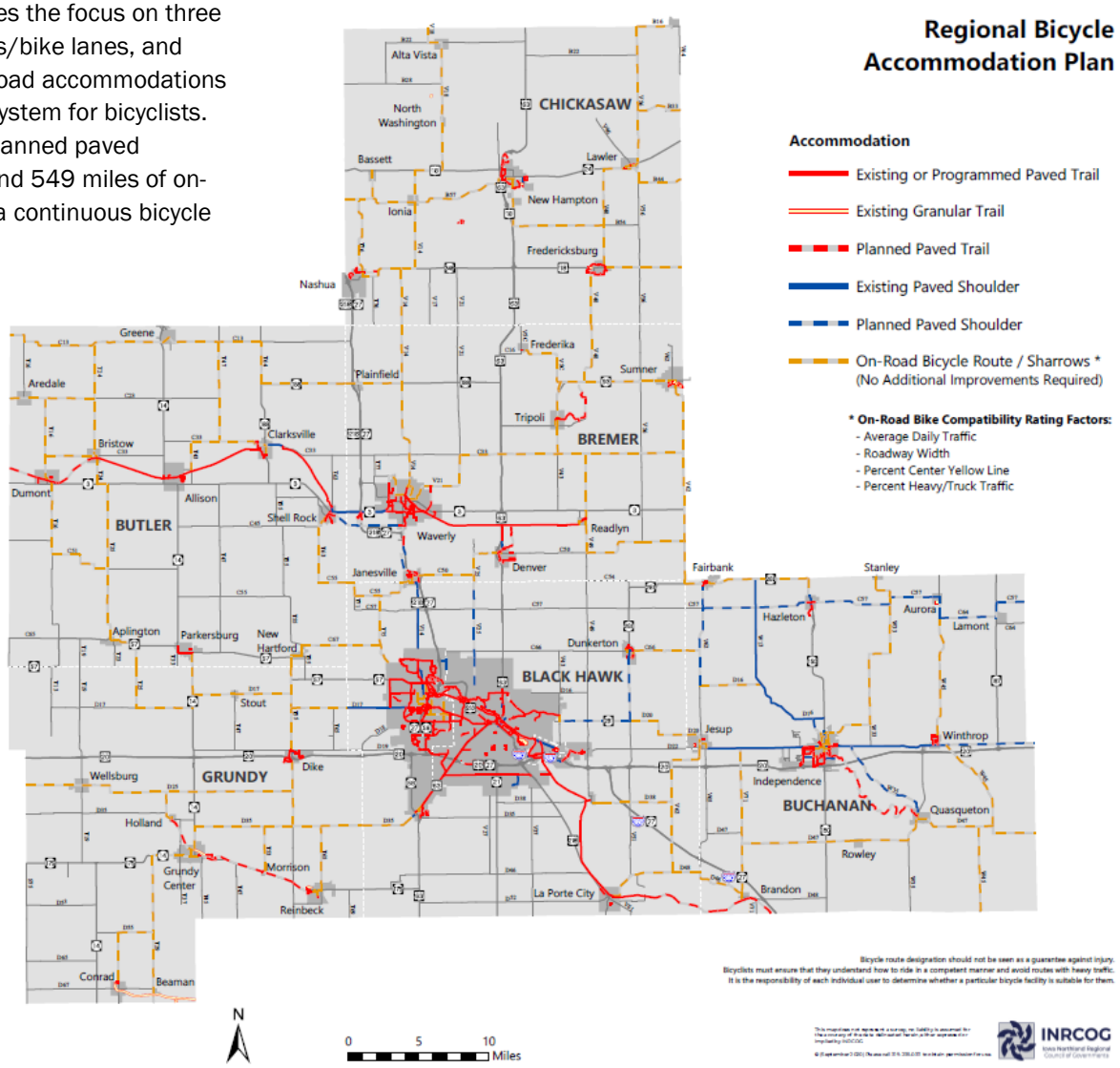
The 2045 Regional Bicycle Accommodation Plan continues the focus on three types of facilities: on-road bicycle routes, paved shoulders/bike lanes, and paved trails. A continuous and seamless network of on-road accommodations and paved trails will greatly enhance the transportation system for bicyclists. The Bicycle Accommodation Plan identifies 64 miles of planned paved shoulders and bike lanes, and 88 miles of paved trails, and 549 miles of on-road bicycle routes. Full implementation would result in a continuous bicycle network of 885 miles.

Existing and Planned Bicycle Accommodations

	Existing Miles	Planned Miles	Total
On-Road Bicycle Routes	548.5	--	548.5
Paved Shoulders/ Bike Lanes	62.0	63.9	125.9
Paved Trails	95.5	*88.2	183.7
Granular Trails	26.5	--	26.5
Total	**732.5**	**152.1**	**884.6**

*Includes 0.6 miles of programmed trails in FY 2021-2024

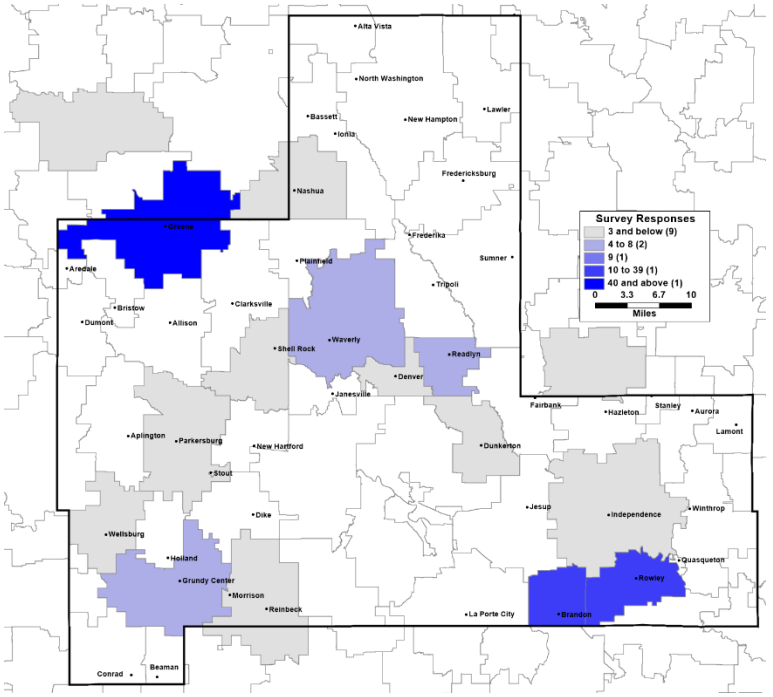
Full implementation of the 2045 Regional Bicycle Accommodation Plan is estimated at $33 million. The region is projected to received $4.6 million in Transportation Alternatives Program (TAP) dollars over the life of this Plan. Assuming every dollar was spent towards the Regional Bicycle Accommodation Plan, **$28 million** in additional funds would still be required for full implementation. Additional funding sources that could be sought after include Surface Transportation Block Grant Program, State and Federal Recreational Trails program, Statewide TAP, and local funds and grants.

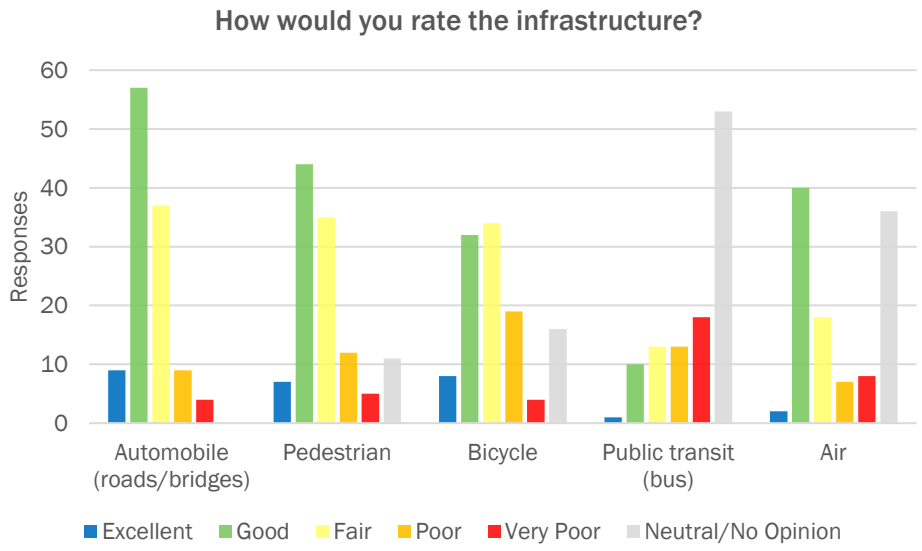


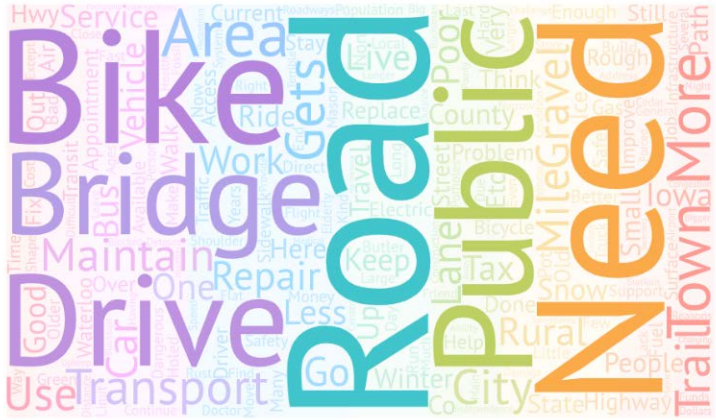
PUBLIC INPUT SURVEY

In September 2020, RTA staff conducted a public input survey to gain input from across the Iowa Northland Region. A mailing list of 1,000 randomly selected households in the region was purchased, and 118 surveys were returned. Notable findings include the following:

- When asked what the number one transportation problem is in their life:
  - 28.8 percent responded road and bridge maintenance.
  - 9.3 percent reported a safety issue (road, railroad crossing, bike & ped).
  - 7.6 percent indicated there is no public transportation in their area.
- When asked what the biggest transportation challenge will be in the next 25 years:
  - 43.2 percent responded road & bridge maintenance.
  - 11.9 percent said access to public transit (bus & rail).
- When asked if they would support bike lanes on roads, short trails/trail loops in local parks, and/or long-distance recreational trails:
  - 79.7 percent would support at least one improvement.
  - 21.2 percent would support all three improvements.







HOW TO GET INVOLVED

The public is encouraged to discuss transportation concerns at any time with local officials and the Iowa Northland Regional Council of Governments transportation planning staff.

Meeting times and dates, and draft and final documents can be found on the website. Information can also be obtained by contacting or visiting INRCOG staff during normal business hours from 8:00 a.m. to 4:00 p.m. Monday through Friday.

Kyle Durant
Transportation Planner II
kdurant@inrcog.org

Codie Leseman
Transportation Planner II
cleseman@inrcog.org

Kevin Blanshan
Executive Director
kblanshan@inrcog.org

Iowa Northland Regional Council of Governments
229 E Park Ave
Waterloo, IA 50703
(319) 235-0311

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