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GETTING YOU THERE

ICE

2018 DATA YEAR

IOWA INFRASTRUCTURE CONDITION EVALUATION

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1. INTRODUCTION

To aid in the evaluation of the Primary Highway System, the Iowa Department of Transportation's Systems Planning Bureau has developed a tool that measures the most recent known performance and condition data related to the roadway network.

This tool generates a composite rating that is calculated from the weighted scores of seven different criteria. The score of each individual criterion is calculated from a LRS (Linear Referencing System) overlay.

The overlay is completed using Transcend Spatial Solutions's Segment Analyzer, which generates a linear feature class with measures and geometries from the RAMS LRS network and places it within an enterprise geodatabase. A SQL script generates new tables from the tabular data within the feature class and calculates new fields used for normalization, weighting, and composite rating. The maps, charts, and diagrams presented within this report present the information generated by the script.

1.1 Purpose and need for an annual report

Beginning with its initial development, the purpose of the ICE tool was to provide the Iowa DOT with an initial screening and relative prioritization of corridors/segments. This process now evaluates Iowa's Primary Highway system, independent of current financial constraints, using a select group of criteria weighted in terms of their relative significance. The resulting segments highlight areas that may be considered for further study. While this initial screening will aid the Iowa DOT in identifying those areas to be considered for further study, the report will not identify specific projects or alternatives that could be directly inputted into the programming process.

In 2016, the ICE tool was enhanced to include a more granular set of corridors while addressing an identical set of goals and objectives. This resulted in the definition of 467 corridors (previously 283), meant to provide a more accurate snapshot of current conditions across the primary highway system. Defined by logical breaks in the system, the updated corridors provide specific termini that should see limited change from year to year.

This analysis was again overhauled in 2019 (data year 2018). Analysis corridors were modified to reflect changes to the primary network. There are currently 465 active corridors.

Enhancements to the project include:

- eliminating workarounds necessitated by the retirement of legacy systems,
- integrating more directly with enterprise data systems for storage and processing, and
- utilizing scripting and spatial ETL tools (Extract, Transform, Load) to enhance the repeatability of the analysis.

With the production of each annual report, Systems Planning Bureau attempts to provide objective data analysis using internal data sources to track and manage corridor level data. By maintaining consistency on an annual basis, the ICE tool can provide yearly trend data within each report. As stakeholder needs continue to evolve, the ICE tool attempts to provide flexibility and a means for studying the changes on Iowa's primary road network.

1.2 Current and future uses

The ICE data included in this report provides corridor level analysis and serves as a valuable input to several different processes within the Iowa DOT. The report and tool provide a simple summary of data to support the programming analysis that has traditionally been conducted. Other current and future uses of the ICE tool include the following.

VCAP

The Value, Condition, and Performance (VCAP) matrix is a highway analysis tool developed to leverage the multiple tools available at Iowa DOT to help identify and prioritize locations for highway freight improvements on the Primary Highway System. The analysis uses INRIX-identified bottlenecks and results of freight mobility issue surveys performed by the Iowa DOT to populate a list of candidate locations. These locations are ranked based on the bottleneck occurrences and/or prioritization and represent the performance portion of the VCAP tool. Then, locations are evaluated using the Iowa Travel Analysis Model (iTRAM) to measure the vehicle hours traveled (VHT) cost-reduction benefit. This component serves as the value portion of the VCAP analysis. Lastly, ICE was used to evaluate the current conditions at each location by selecting and analyzing the segmentation from the initial list of INRIX bottleneck locations.

After each location was assigned a Value, Condition, and Performance rating, they were ranked using values from the three categories. The average of these three rankings was calculated and the locations were assigned an overall priority rank. If two locations had the same average ranking, total truck traffic at the location was used as a tiebreak. The final list of locations in the VCAP matrix served as a critical piece for prioritizing candidate locations for highway freight improvements in the Iowa State Freight Plan.

Transportation Systems Management and Operations

The Traffic Operations Bureau has developed a suite Transportation Systems Management and Operations (TSMO) plans which utilize and expands upon the ICE methodology for data analysis. Originating from the ICE tool structure, the ICE-OPS concept utilizes a similar normalization and weighting structure and composite scoring approach to compare Interstate corridors defined by the ICE tool. The tool is meant to provide a detailed analysis for highway corridors using nine different criteria, which include:

- All bottleneck occurrences per mile
- Freight bottleneck occurrences per mile
- Incident frequency per mile
- Crash rate
- Buffer Time Index (BTI)
- Weather sensitive corridor mileage
- Event center buffer mileage
- Average Annual Daily Traffic (AADT)
- ICE composite rating

A final composite rating is then used to provide a relative ranking for each corridor. Like the ICE tool, raw data from each criterion is supported in an Excel table and summarized in a final output table using SQL.

In future iterations, the ICE-OPS tool will be refined to ensure the evaluation methodology remains relevant and effective.

Corridor studies

Although the ICE corridors were defined by natural breaks in the primary highway network, corridor termini can be adjusted to meet any user-specific needs. Shortening or lengthening the corridors is a simple process that can be conducted with GIS software. The segments and corridor analysis can be shown spatially in addition to providing the data in an Excel spreadsheet. As a result, the ICE tool can provide comparative analysis for corridor study efforts.

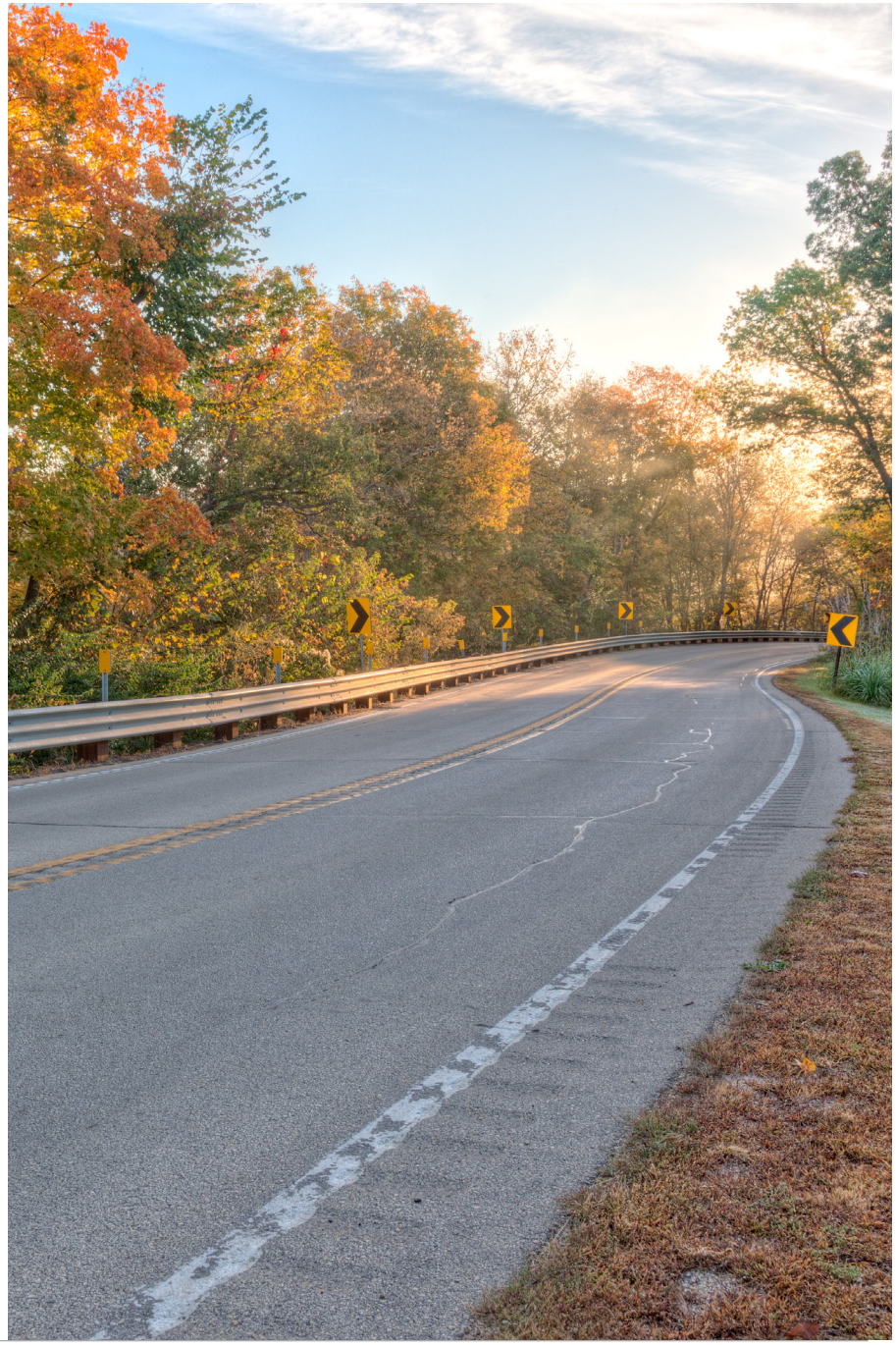
Statewide Long Range Transportation Plan

In the most recent update of the Iowa DOT's Statewide Long Range Transportation Plan, the corridors defined by the ICE process provided the structure for evaluating the condition of Iowa's Primary Highway system. The expanded corridor list offers a corridor-level approach for identifying potential improvement needs in the plan. As part of the corridor structure, the lowest 25 percent of corridors by ICE rating were identified and serve as one layer of the needs identification process.

Road Analyzer

With the DOT's new asset management system, RAMS, one of the tools used to analyze data is called Road Analyzer, which provides the ability to visualize data using an interactive straight-line diagram. The tool is accessed online and provides the user flexibility to display which data is most relevant to them.

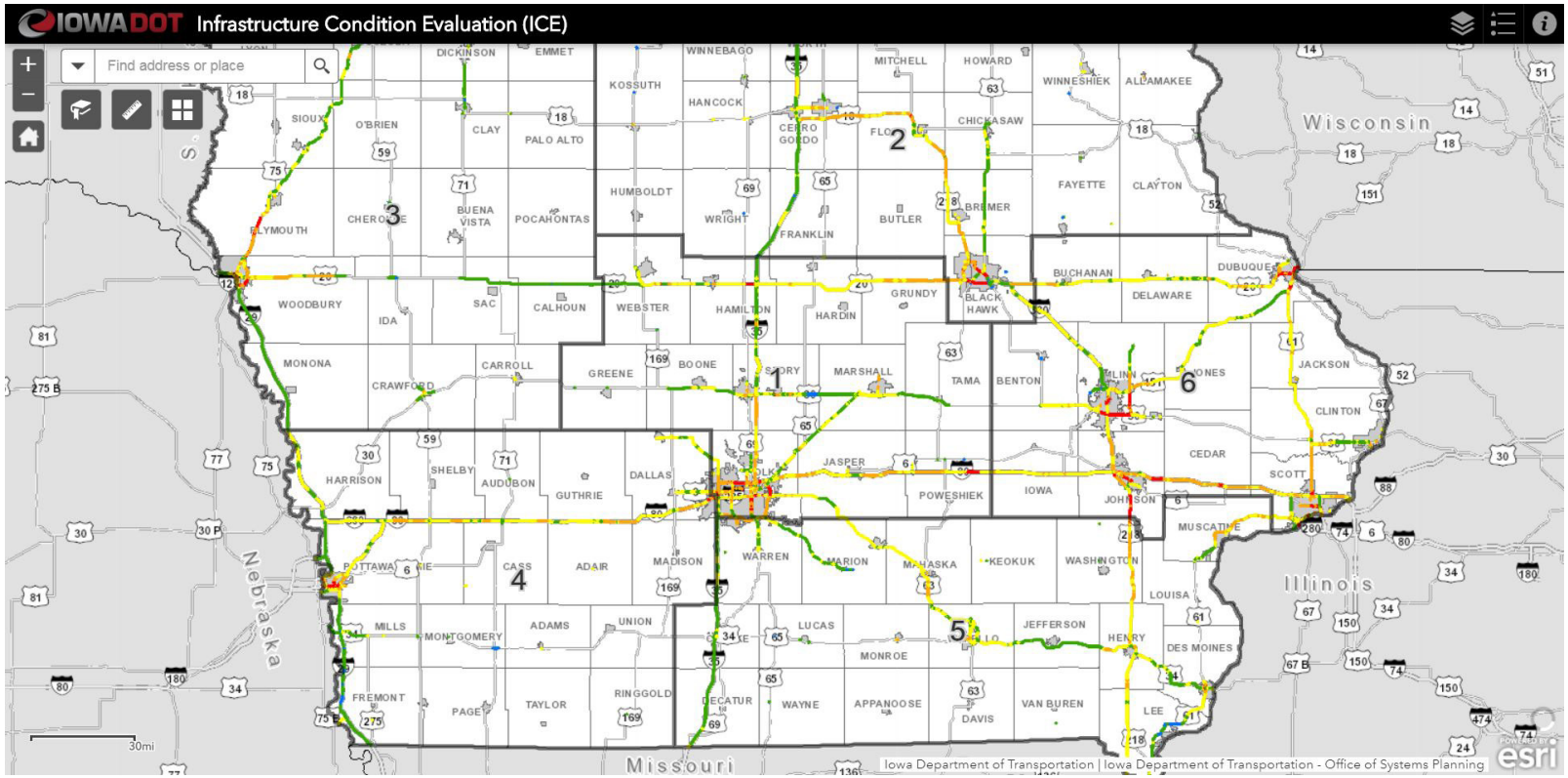
This tool provides an opportunity for ICE users to better interact with the dataset giving more control for personalized viewing. Some of the other features include Google street view, dashboarding, data exports, and customizable display preferences. Each of the features included within Road Analyzer make it a user-friendly method of consuming ICE data.



1.3 Data access

The primary location of the ICE data outside of this document can be found on the Iowa DOT Web map powered by ArcGIS online. Within this Web map, users can explore the ICE data across the entire system and display those results visually. By clicking on the line features within the Web map, the GIS platform displays a popup box that contains the route, county, length, and the normalization values of each of the seven criteria among others. Each of the data layers contains a description of the data and can be toggled on and off to display the ICE ratings by individual criteria.

The web map is intended to serve as a quick, visual reference for the public and internal users. For those seeking a simple answer to their condition questions across the state, the web map would be the recommended medium.



ICE web app

Data availability

Once processed, the tabular and spatial data is maintained as several database objects. When possible, geometries are maintained with tabular data. 37,000 segments are aggregated to the 465 corridors, defined later in the report. A non-exhaustive list of fields that contribute to segmentation of the network can be found in Table 1.1.

Table 1.1: ICE Segmentation

Contributing Factors to ICE Segmentation	
Federal Functional Class	Passenger, Single Unit, Combination Unit AADT
Planning Class	BCI, PCI, IRI, V/C, AADT (Passenger, SU, Combo)
City	ICE Corridor
County	RAMS Compatible Routes and Measures for use in overlays
Urban Area	National Highway System
Interstate/ Divided/ Non-Divided	* Not Exhaustive

Data requests

To access any of the ICE data, the Iowa DOT's Systems Planning Bureau has created a series of tables and maps to house the data generated for the analysis. This data can be aggregated to address user requests and is maintained in such a way that queries can be utilized fulfill requests in a timely manner.

Esri's ArcGIS Desktop / ArcGIS Pro, and Safe Software's FME was utilized during the development of the ICE tool and shapefiles or a compressed database containing relevant tables and feature classes can be requested by users who are interested in performing their own analysis.

Map products beyond the scope of those contained within this document or provided online may be requested. If fulfillment is to be made, a reasonable time frame will be established by the Systems Planning Bureau for completion.

ICE web map portal

2. EVALUATION CRITERIA & PROCESS

When evaluating Iowa's entire Primary Highway System, the data features used in previous primary highway analysis remained the same. The following sections will summarize the evaluation criteria data that drives the final ICE composite rating.

2.1 Data selection and significance

The data available for use in evaluating highway segments includes many attributes and is maintained in several different locations with RAMS. Each category of data was considered in the evaluation, but ultimately only seven were selected to serve as the core evaluation criteria and foundation of this analysis. These criteria, which are defined in detail in the ensuing section, include the following.

- Annual average daily traffic (AADT), passenger count
- AADT, single-unit truck count
- AADT, combination truck count
- Congestion Index value (V/C)
- International Roughness Index (IRI) value
- Pavement Condition Index (PCI) rating
- Bridge Condition Index (BCI) rating

While each individual criterion offers a different component, they were chosen due to their collective utility in evaluating the service and condition of a roadway segment. Having a clear distinction aligned well with one of the initial goals for the evaluation tool, which was to derive a single composite condition rating for each roadway segment using the data most critical to the evaluation criteria.

The following information includes a brief definition of the selected data and explains how it is collected and summarized.

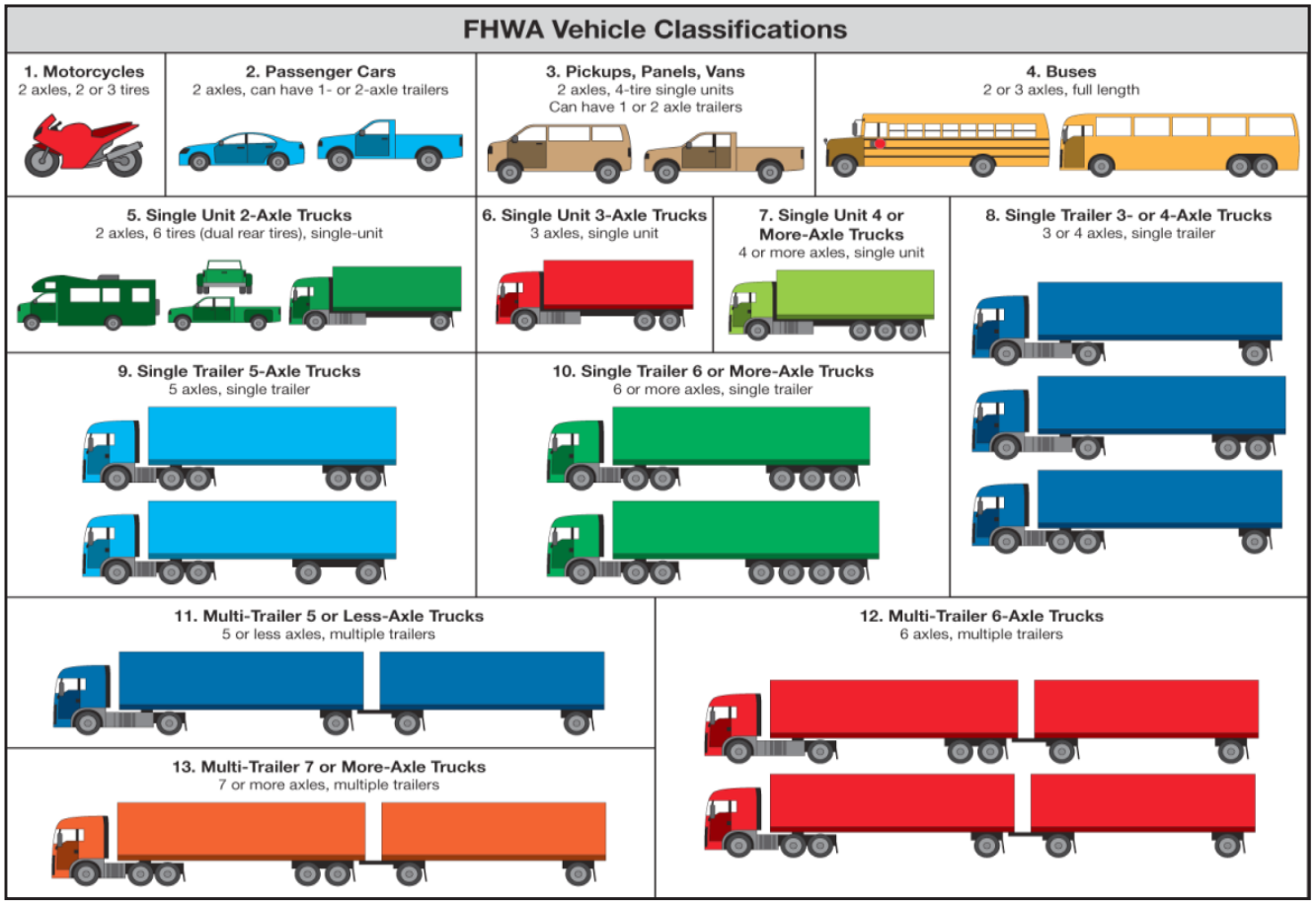
AADT

AADT is a general unit of measurement for traffic, which represents the annual average daily traffic that travels a roadway segment. Vehicular traffic counts are collected on a short-term duration using portable counting devices and on a long-term duration using permanent counting devices. Short duration counts ensure geographic diversity and coverage while long-term counts help understand time-of-day, day-of-week, and seasonal patterns. Long-term counts are also used to accurately adjust short duration counts into accurate annual estimates of conditions.

The Federal Highway Administration (FHWA) Traffic Monitoring Guide classifies traffic into 13 categories and are illustrated in Figure 2.1.

This analysis aggregates total passenger vehicles (1-3), single-unit truck traffic (4 – 7), and combination truck traffic (8 – 13).

Figure 2.1: FHWA 13-Classification



Source: FHWA

Congestion index

The congestion index is a measure that characterizes operational conditions within the flow of traffic. This measure is expressed as a volume-to-capacity (V/C) ratio for a roadway segment. The ratio is an indicator of highway capacity sufficiency, where it is estimated that a facility is congesting as V/C approaches a value of 1. This index emphasizes the relative congestion of primary highway segments to one another.

For the purposes of this report, the Volume (V) is derived from the most recent observed or estimated AADT for segments on the primary highway system. Truck traffic is increased by a factor of 1.5 to account for this vehicle type's more impact on congestion. Total traffic is converted to a peak hourly rate by applying a peak-hour factor. The peak-hour factor is determined by whether the segment meets criteria to be treated as a rural, suburban, or urban

Capacity (C) is calculated in a manner that is consistent with the method covered within the ISMS (Iowa Standardized Model Structure) Roadway Capacity section. The model establishes segment capacities by multiplying estimated lane capacity by the number of through lanes. Estimated lane capacities are calculated per segment based upon the presence of relevant criteria for that record.

IRI value

IRI is a numerical roughness index that is commonly used to evaluate and manage road systems. There is no defined upper limit to IRI. In Iowa, IRI is primarily measured on a rotating two-year cycle and is collected by an outside vendor.

PCI rating

PCI, or Pavement Condition Index, is a calculated value used to estimate the condition of pavement averaged over a defined area based on surveyed surface distresses. This number helps identify locations where sections have pavement distresses or don't meet current DOT standards for stable pavements. Values range between 0 and 100.

BCI rating

The bridge condition index (BCI) provides a method of evaluating roadway bridge structures by calculating four separate factors to obtain a numeric value that is indicative of a structure's overall condition/sufficiency. These factors include structural condition, load carrying capacity, horizontal and vertical clearances, width, traffic levels, type of roadway it serves, and the length of out-of-distance travel id the bridge were closed. From there, various reductions are then factored into the rating. Table 2.1 highlights the information that factors into the rating.

The index rating is then calculated using the following formula: S1+S2+S3-S4. A value of 100 represents a wholly sufficient structure, while a value of zero represents an insufficiency or deficient structure. The full structure inventory contains dozens of fields of data, which are used to meet several federal reporting requirements that are set forth in the National Bridge Inspection Standards (23 CFR 640.3). The information is collected through on-site inspections, which are conducted year-round.

Prior to the 2017 analysis, the Federal Highway Administration's Structure Inventory and Appraisal (SIA) Sufficiency rating was incorporated. However, due to the accuracy based on the tailored analysis and real-time inspection/survey updates provided by the Iowa DOT's Bridges and Structures Bureau staff, BCI has replaced this rating system.

Table 2.2: Bridge Condition Index rating

Summary	Alias	Weight	Item description
Structural Adequacy & Safety	S1	55%	Superstructure
			Substructure
			Deck
			Culvert
			Inventory Ranking
Serviceability and Functional Obsolescence	S2	30%	Bridge Roadway Width
			Under clearances
			Waterway Adequacy
Essentiality for Public Use	S3	15%	Detour Length
			AADT
			Highway System Designation
Special Reductions	S4	11%	Fracture Critical
			Fatigue Vulnerability
			Channel Protection

Source: Iowa DOT Office of Bridges and Structures

Data snapshot

Some of the datasets have been updated since 2018, but the data within this report reflects the known or estimated state of the network as of December 31, 2018. PCI data is collected on a two-year cycle, and half of the state network is collected every year; the data generated for PCI was collected between January 1, 2017 and December 31, 2018

All trends and datasets included in the report are represented by the report year. In other words, the denoted year represents the previous year's dataset (i.e., 2019 report year is equivalent to 2018 data values).

2.2 Linear overlay and system segmentation

The core of this report contains results from the evaluation tool itself. It combines data from both the Iowa DOT's RAMS and PMIS and merges the data using overlays to create a feature class. The feature class is output to an Oracle database.

The feature class is then analyzed with a SQL script to achieve the data normalization, weighting, and the composite ratings outlined in Chapter 3 Corridor evaluation. Safe Software's FME is used to process safety scores, and maps of the data are prepared using ArcGIS Pro.

System segmentation

The linear overlay process segments the network based on specified attributes when more than one data set are used. Original data is stored within tables with routes and measures, which are used to relate that data to locations on the centerline network. (see Figure 2.3.1). In applying the analysis used in this report, the primary system was divided into more than 40,000 segments. (see Figure 2.3).

Figure 2.3: Linear Overlay Data Model, ESRI

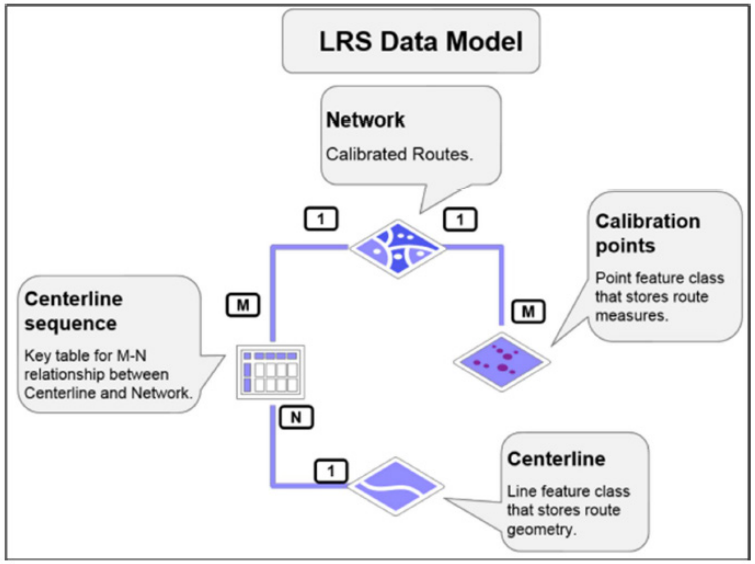


Figure 2.4: Linear overlay functions

Operator	ID	Returns	Visual definition
Difference	1	Linear portion of an input event and reference event that do not overlay each other.	Return portion
Intersection	2	Linear portion of an input event that completely overlays the reference event.	Return portion
Union	3	Union of the difference and intersection sets.	Return portion

2.3 Normalization and weighting

When developing a composite rating that could be assigned to roadway segments, a statistical process was used that normalized criteria values to a common scale. The resulting values were calculated further using an appropriate weighting or numeric multiplier. This process is described below and highlighted in Table 2.2.

Value ranges

The first step in the process was to examine the range of possible values for the seven evaluation criteria identified in Section 2.1. For three of the seven criteria, a logical and fixed scale was used. The ranges for these criteria are noted below.

- Congestion index: 0 - 1.00+
- PCI: 0 - 100
- BCI: 0 - 100

For the remaining four criteria, the range of possible values did not necessarily have a strict upper bound. For these criteria, the uppermost normalized value was derived by calculating the value at which five percent of the network mileage would exceed the value. The remaining nine normalization values would be calculated by subdividing the remainder (95 percent) into nine equal intervals. The actual maximum and minimum calculated values within each normalization range are shown within table 2.2

Interpolation of Missing Data

Less than 90 miles (less than 1 percent) of the Primary network was missing data needed for the calculation of one or more normalized values. The impact of missing data affects some planning corridors more than others.

425 of the 465 corridors have 95 percent of needed data in all categories, five have less than 75 percent coverage from one or more criteria. A composite score cannot be calculated for segments with missing data, so the weighted average corridor normalization is applied for missing criteria. The average value is included for that segment when all segments are aggregated to corridors.

Weighting and multipliers

After completing the above process, appropriate weighting could be applied. Since the goal was to create a maximum composite rating of 100, weighting was initially viewed in terms of a percentage. The criteria that would have greater influence on the composite rating were assigned a higher percentage, and vice versa. These percentages were identified through working group and internal stakeholder discussions.

From the percentages, which summed to 100, multipliers were derived to allow for a maximum composite rating of 100. The percent weighted values were divided by 10 to identify the multipliers for each criterion. For example, if a criterion was given a weighting of 25 percent, its multiplier value would be 2.5. These multipliers would then be applied to the normalized value from the 1 to 10 scale for each criterion. For segments without a bridge, BCI received a normalized value of 10, meaning a segment with no structures would receive no additional priority for that criterion.

After the multipliers are applied to each normalized value across all seven criteria, the values are summed to calculate the composite rating. This step is represented in the final three columns of Table 2.2. The process was then applied to every segment of the Primary Highway System, allowing for comprehensive screening and further prioritization.

It should be noted that, as part of the vetting process outlined in this section, a basic sensitivity analysis was conducted to measure the effects of different weighting. While the working group was pleased with the output that resulted from the weighting identified in Table 2.2, there was a desire to examine other weighting options and the effects of shifting weight from the condition criteria to the traffic and congestion criteria.

Generally, the results were not desirable as this shift resulted in an unreasonable bias toward urban areas. From these discussions, the working group concluded that the weighting presented in Table 2.2 was most appropriate.

```
  2.5 * BCI
+ 2.5 * PCI
+ 1.5 * IRI
+ 0.5 * Passenger AADT        ( Normalized )
+ 0.5 * SU AADT
+ 1.5 * Combo AADT
+ 1.0 * V / C
= Composite Score
```

AADT normalization and weighting structure

Due to the variation of AADT across the statewide primary system, a one size fits all approach was avoided for developing a range of values used to calculate the normalized values. Thus, a different approach from the original weighting structure in the Interstate Condition Evaluation had to be taken. To address the variation of AADT across the state, the range values were broken up by the following route types.

- Interstate
- Non-interstate divided
- Non-divided

Each range for the three different route types was calculated based off of the top five percent of segments by mileage. After sorting largest to smallest by AADT, a cumulative sum was calculated up to the five percent value of the total mileage. The associated AADT value at the five percent mark became the upper threshold. That AADT value was then divided by nine to define the 10 different normalization breaks. Table 2.2 gives a detailed look at the breakout of the ICE criteria weighting structure.

Table 2.5: Observed Values Within Normalization Ranges

Normalized value	BCI	PCI	IRI	Interstate Passenger	Divided passenger	Non-divided passenger	Interstate single-unit	Divided Single-unit	Non-divided single-unit	Interstate combo	Divided combo	Non-divided combo	V/C
1	N/A	5 - 8	176 - 516	29,631 - 70,894	11,237 - 19,872	5,841 - 36,930	1,319 - 3,490	430 - 980	272 - 1,245	5,531 - 14,374	1,026 - 2,385	494 - 1,945	.9 - 2.4
2	11 - 11	11 - 20	156 - 175	26,436 - 29,631	10,035 - 11,237	5,194 - 5,841	1,174 - 1,319	383 - 430	242 - 272	5,003 - 5,530	912 - 1,026	442 - 494	.8 - .9
3	24 - 26	21 - 30	136 - 156	23,076 - 26,233	8,746 - 9,985	4,549 - 5,188	1,027 - 1,172	335 - 380	212 - 241	4,309 - 4,902	800 - 911	385 - 439	.7 - .8
4	31 - 40	31 - 40	117 - 136	19,996 - 22,893	7,492 - 8,712	3,896 - 4,542	882 - 1,024	287 - 334	182 - 211	3,687 - 4,290	684 - 797	330 - 383	.6 - .7
5	40 - 50	41 - 50	97 - 117	16,543 - 19,740	6,248 - 7,487	3,246 - 3,893	733 - 879	239 - 286	152 - 181	3,075 - 3,676	570 - 683	275 - 329	.5 - .6
6	50 - 60	51 - 60	78 - 97	13,174 - 16,431	4,995 - 6,234	2,600 - 3,245	588 - 733	191 - 239	121 - 151	2,460 - 3,055	456 - 570	220 - 274	.4 - .5
7	60 - 70	61 - 70	59 - 78	9,957 - 13,160	3,747 - 4,994	1,948 - 2,595	440 - 586	144 - 191	91 - 120	1,847 - 2,439	342 - 456	165 - 219	.3 - .4
8	70 - 80	71 - 80	39 - 58	6,591 - 9,868	2,498 - 3,740	1,299 - 1,946	294 - 439	96 - 143	61 - 90	1,233 - 1,841	228 - 342	110 - 164	.2 - .3
9	80 - 90	81 - 90	25 - 39	3,386 - 6,571	1,253 - 2,497	650 - 1,294	148 - 293	48 - 95	31 - 60	666 - 1,228	114 - 227	55 - 109	.1 - .2
10	90 - 100	91 - 98	N/A	130 - 3,234	110 - 1,244	70 - 649	10 - 145	8 - 47	4 - 30	10 - 607	4 - 114	2 - 54	0 - .1

*N/A cells indicate no occurences within that normalization range.

Table 2.6: Observed Safety Values Within Normalization Ranges, Safety

Normalized value	Interstate Crash Rate	Divided Crash Rate	Non-divided Crash Rate
1	80 - 240	229 - 785	204 - 886
2	67 - 74	204 - 228	179 - 201
3	59 - 66	191 - 200	157 - 177
4	50 - 57	162 - 177	134 - 156
5	42 - 49	128 - 147	112 - 133
6	36 - 40	103 - 124	90 - 111
7	29 - 31	76 - 101	67 - 89
8	17 - 18	51 - 73	45 - 66
9	N/A	27 - 50	34 - 44
10	N/A	19 - 19	N/A

*Table includes maximum and minimum values that occur within normalization ranges. N/A cells indicate no occurrences within that normalization range.

Table 2.7: ICE Scoring Structure

ICE Criteria	% of ICE Score
PCI	25%
BCI	25%
IRI	15%
Combination Truck AADT	15%
Single-Unt Truck AADT	5%
Passenger AADT	5%
Congestion Index (V / C)	10%
Safety	0%

Safety factor addition

Using the Traffic and Safety Bureau's crash dataset from 2014-2018, a crash rate was calculated for each segment within the Primary Highway Network and added to the existing dataset. The calculated crash rate was based on a formula involving crashes per 100 million vehicle-miles of travel, 2014-2018 crash data, length of roadway, and AADT.

The process to normalize crash rates was very similar to that of AADT. The worst five percent of the network was given the lowest score possible and the remainder was divided crash rates using nine equal intervals.

Table 2.6 shows the normalized values for crash rates by route type. This criterion is not directly included within the calculation of the final composite rating and is meant to serve as an indicator for measuring safety at the corridor level within this report.

2.4 Corridor definition

The termini of the corridors were defined using a set of general guidelines driven by logical geographic breaks in the system. Some of the other factors considered in the corridor designation included the following.

- Breaks at US and Iowa route interchanges
- Transition to and from National Highway System (NHS) designated routes
- Interstate breaks at major interchanges
- Urban, rural, and suburban route transitions
- Incorporated areas
- Lane capacity transitions
- Corridor length
- Duplicate routes if current corridor is not the "primary through route"

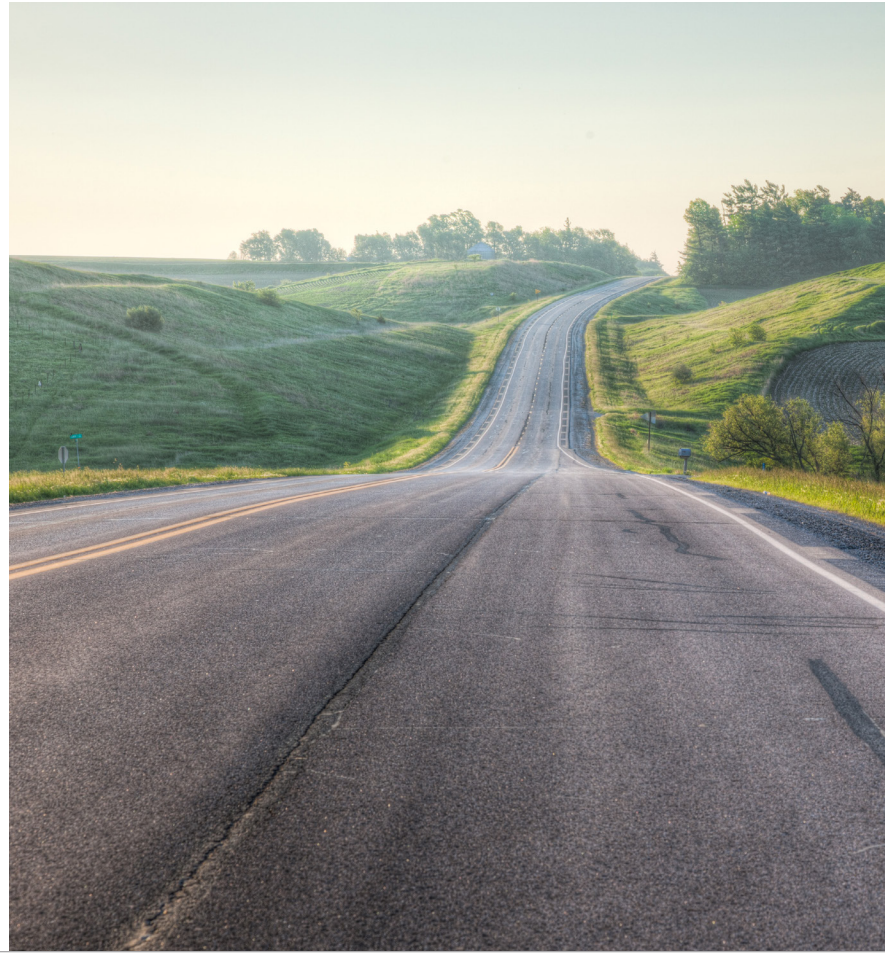
  Criteria for duplicate primary through routes:

  - Interstate routes take precedence over US routes.
  - US routes take precedence over Iowa routes.
  - Lower route numbers take precedence over higher route numbers.

These corridors serve as an analytical tool for evaluating roadways between natural breaks on the primary system. Table 2.4 shows a brief summary of these corridors by the number in each category.

Table 2.8: Corridor distribution by route type

System	Mileage
Interstate (NHS)	1,583.0
Divided, Non-Interstate (NHS)	2,892.0
Non-divided, Non-Interstate (NHS)	2,824.0
Divided (Non-NHS)	51.0
Non-divided (Non-NHS)	3,827.0
Total Mileage	**11,175.0**



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3. CORRIDOR EVALUATION

The following section provides the results of the corridor analysis. Weighted average criteria scores per corridor are displayed.

3.1 Iowa primary corridors by ICE rating

Due to the number of corridors in the analysis, only the lowest performing 25 percent of the Primary network is included within this section of the report (Table 3.2). Corridors are ordered by their Composite ICE rating. A restructured table containing the full list of corridors is contained in Appendix 1.

Table 3.1: Corridor Abbreviation

Abbreviation	Route type
INT	Interstate
DIV	Non-interstate divided
NDIV	Non-divided

The safety column in Table 3.2 shows the weighted crash rate normalization value across each corridor. This normalization value is described in Section 2.3: Safety factor addition and is meant to serve as a corridor level safety indicator.

The route type abbreviations defined in Table 3.1 and used throughout Table 3.2 represent the makeup of the corridor. While there is only one column for passenger AADT, single-unit truck AADT, and combo truck AADT, the same traffic breakouts in Table 2.3 apply to each corresponding route type. PCI, IRI, BCI, and congestion were all measured using the same scale.

Due to the yearly data lag, the 2018 composite ratings and normalizations were calculated using a snapshot of the Iowa DOT's 2018 RAMS and PMIS data. In a few cases, recently completed or ongoing construction work performed by the Iowa DOT is reflected in the final ICE rating by assuming the normalized PCI would have been a '10'

Table 3.2: Lowest 25 percent of Iowa Primary Highway System corridors by ICE rating

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
465	IA 136: IL border to US 67	CLINTON	0.47	NDIV	-2.4	49.2	4	1	1	6	9	6	5	1
464	US 61: US 20 to WI border	DUBUQUE	2.56	DIV	-9.5	54.5	7	2	3	3	3	7	7	7
463	US 30: NE border to I-29	HARRISON	9.25	NDIV	-2.1	55.6	7	5	5	1	1	9	5	7
462	I 80: IA 28 to IA 415	POLK	4.03	INT	-0.9	57.2	9	6	1	1	1	2	7	3
461	US 20: IA 32 to US 52/US 61	DUBUQUE	4.39	DIV	1.1	58.3	7	3	1	1	5	4	6	1
460	IA 22: IA 1 to US 218	WASHINGTON	8.91	NDIV	1.3	58.8	6	2	5	3	7	9	5	5
459	US 20: IA 27 to US 218	BLACK HAWK	7.63	DIV	2.5	59.5	7	5	2	2	1	7	8	9
458	US 34: US 65 to IA 5	LUCAS, MONROE	35.63	NDIV	-15.9	60.3	6	2	7	5	3	10	7	5
457	IA 150: I-380 to US 20	BENTON, BUCHANAN	14.03	NDIV	0.6	60.3	7	5	5	2	1	9	8	7
456	US 34: 0.8 mi W of US 275 to US 59	MILLS	13.97	NDIV	-2.2	60.5	6	5	4	1	3	9	7	7
455	US 52: Jct of IA 32 to Jct of US 61	DUBUQUE	4.39	NDIV	-13.4	60.5	6	2	2	3	6	7	8	1
454	I 80: IA 415 to E mixmaster	POLK	2.14	INT	1.0	61.3	9	6	1	1	2	3	9	1
453	I 80: IA 141 to IA 28	POLK	3.92	INT	-1.9	61.5	9	7	1	1	1	3	7	3
452	I 80: NE border to I-29	POTTAWATTAMIE	3.43	INT	5.7	61.9	8	5	2	6	2	3	8	1
451	I 480: NE border to I-29	POTTAWATTAMIE	0.88	INT	-0.6	62.0	4	1	6	8	10	7	5	1
450	IA 4: IA 3 to US 18	PALO ALTO, POCAHONTAS	26.18	NDIV	-5.1	62.1	6	3	7	7	4	10	7	7
449	US 6: IA 461 to I-74	SCOTT	2.65	DIV	1.4	62.4	5	2	1	8	10	5	7	1
448	US 59: I-80 to US 30	CRAWFORD, POTTAWATTAMIE, SHELBY	35.68	NDIV	-4.7	62.7	7	5	6	5	2	9	7	7
447	IA 39: US 59 to IA 175	CRAWFORD, SAC	24.34	NDIV	-5.1	62.8	6	4	8	6	2	9	7	5
446	IA 136: US 20 to US 52	DUBUQUE	10.12	NDIV	0.6	62.8	6	3	6	3	6	9	7	3
445	US 30: 3.3 mi E of US 63 to US 218	BENTON, TAMA	25.31	NDIV	-5.7	62.9	9	7	3	2	1	8	6	7
444	US 20: I-29 to US 75	WOODBURY	4.57	DIV	-2.6	63.3	7	5	3	5	2	8	8	8
443	IA 461: US 67 to US 6	SCOTT	5.75	NDIV	-2.3	63.4	5	2	1	3	10	7	5	1
442	I 80: US 6 to IA 141	POLK	2.45	INT	4.0	63.7	9	8	1	1	2	2	7	3
441	IA 23: IA 149 to IA 92	KEOKUK, MAHASKA	16.02	NDIV	-6.0	63.7	5	2	7	8	8	10	6	8
440	US 136: US 61 to US 218	LEE	3.04	NDIV	-0.4	63.7	6	2	5	6	6	10	5	1

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
439	US 151: US 30 to IA 13	LINN	8.16	DIV	2.1	64.1	7	5	3	2	4	7	8	7
438	US 30: I-380 to 2.4 mi W of IA 1	LINN	10.88	DIV	2.4	64.2	7	3	4	3	5	7	7	8
437	IA 10: NE border to IA 60	SIOUX	29.9	NDIV	-4.8	64.3	6	3	7	5	5	9	9	5
436	US 61: US 151 to US 20	DUBUQUE	5.01	DIV	1.1	64.4	7	4	5	2	3	8	9	6
435	US 75: IA 60 to US 18	PLYMOUTH, SIOUX	25.52	NDIV	-4.9	64.4	8	5	4	3	1	8	8	5
434	US 30: I-29 to US 59	CRAWFORD, HARRISON	44.91	NDIV	2.4	64.6	8	6	6	4	2	9	7	6
433	US 69: I-235 to I-35/80	POLK	3.73	NDIV	-2.9	64.7	6	2	3	2	8	7		1
432	IA 150: US 218 to I-380	BENTON	13.01	NDIV	-5.5	64.8	5	2	6	5	9	9	7	6
431	US 34: I-35 to US 65	CLARKE, LUCAS	17	NDIV	-13.6	65.0	7	4	7	6	3	9	7	3
430	US 6: IA 28 to US 69	POLK	5.06	NDIV	-1.3	65.1	6	2	2	2	10	7	6	1
429	IA 38: I-80 to US 30	CEDAR	17.71	NDIV	-1.0	65.2	7	4	6	4	6	9	8	5
428	IA 21: IA 92 to I-80	KEOKUK, POWESHIEK	24.85	NDIV	-5.0	65.2	5	4	8	7	6	10	7	7
427	US 59: IA 3 to US 18	CHEROKEE, O'BRIEN	32.53	NDIV	-4.3	65.3	6	2	9	7	5	10	9	7
426	US 218: US 61 to IA 27	LEE	13.6	NDIV	-8.1	65.3	6	2	6	6	6	9	8	2
425	US 67: I-74 to I-80	SCOTT	9.19	NDIV	0.6	65.3	8	4	2	2	4	8	9	2
424	IA 13: US 20 to IA 3	DELAWARE	13.72	NDIV	-2.6	65.4	5	2	5	6	7	9	8	3
423	US 63: US 18 to MN border	CHICKASAW, HOWARD	32.9	NDIV	-3.2	65.5	7	5	6	5	2	9	8	7
422	US 6: IA 38 to I-80	CEDAR, MUSCATINE	5.15	NDIV	-1.4	65.6	8	5	6	7	5	9	6	7
421	US 65: IA 163 to I-80	POLK	4.93	DIV	0.5	65.6	8	5	3	1	2	8	9	9
420	US 77: NE border to I-29	WOODBURY	0.31	DIV	-3.5	65.6	8	3	1	4	9	6	6	1
419	IA 22: IA 70 to US 61	MUSCATINE	9.37	NDIV	-6.1	65.8	8	3	5	6	4	9	8	7
418	IA 150: US 20 to IA 3	BUCHANAN, FAYETTE	16.46	NDIV	-1.9	65.8	7	5	3	2	5	9	7	1
417	IA 2: US 218 to US 61	LEE	8.9	NDIV	-2.8	65.9	6	2	6	6	6	9	8	3
416	IA 92: I-35 to US 65	WARREN	11.98	NDIV	-3.4	65.9	6	4	4	2	9	8	5	2
415	US 218: I-380 terminus to IA 27	BLACK HAWK	7.58	DIV	4.8	66.0	8	5	2	5	3	8	8	8
414	IA 9: SD border to IA 60	LYON, OSCEOLA	43.34	NDIV	-5.9	66.0	5	4	7	6	6	9	8	8

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
413	IA 92: US 218 to US 61	LOUISA, WASHINGTON	17.81	NDIV	-3.4	66.0	8	6	6	4	1	9	8	5
412	IA 5: IA 2 to US 34	APPANOOSE, MONROE	20.5	NDIV	-1.9	66.1	7	5	5	2	4	9	8	4
411	IA 163: US 69 to US 65	POLK	5.33	DIV	-3.2	66.1	6	3	2	3	9	6	6	1
410	US 67: I-80 to US 30	CLINTON, SCOTT	20.82	NDIV	-1.9	66.1	6	4	4	6	6	9	8	5
409	US 30: 2.4 mi W of IA 1 to US 61	CEDAR, CLINTON, LINN	46.92	NDIV	3.5	66.1	8	6	5	4	2	8	7	7
408	US 18: US 75 to IA 60	O'BRIEN, SIOUX	18.44	NDIV	-3.7	66.3	8	5	4	2	2	9	7	5
407	US 61: Burlington N CL to Muscatine Co line	DES MOINES, LOUISA	30.44	NDIV	-2.1	66.3	7	6	4	4	3	9	7	5
406	I 80: I-380 to IA 1	JOHNSON	7.09	INT	-2.0	66.4	9	7	4	3	1	5	8	2
405	IA 187: US 20 to IA 3	BUCHANAN, FAYETTE	15.56	NDIV	-3.9	66.4	5	3	8	7	7	10	8	5
404	IA 22: US 218 to IA 70	JOHNSON, MUSCATINE, WASHINGTON	16.04	NDIV	0.9	66.5	7	3	6	6	3	9	9	7
403	I 80: US 169 to W mixmaster	DALLAS, POLK	12.71	INT	2.7	66.7	8	5	5	8	4	5	7	3
402	IA 14: IA 163 to I-80	JASPER	12.5	NDIV	-5.0	67.0	7	4	5	3	5	9	8	8
401	US 63: US 30 to US 20	BLACK HAWK, TAMA	39.43	NDIV	-2.8	67.2	7	4	6	6	5	9	7	6
400	US 18: US 52 to IA 76	ALLAMAKEE, CLAYTON	24.71	NDIV	-5.9	67.3	8	6	6	2	1	9	7	6
399	IA 92: IA 1 to US 218	WASHINGTON	9.48	NDIV	-3.3	67.3	8	3	3	5	5	9	7	5
398	IA 922: I-380 to IA 100	LINN	4.81	NDIV	3.9	67.3	7	2	2	3	9	7	8	1
397	I 80: I-29 to US 6	POTTAWATTAMIE	5.05	INT	-4.3	67.4	8	5	7	8	4	6	7	2
396	US 18: US 169 to I-35	CERRO GORDO, HANCOCK, KOSSUTH	44.63	NDIV	-0.7	67.4	8	5	5	4	3	9	7	6
395	IA 92: US 65 to IA 5	MARION, WARREN	16	NDIV	-3.2	67.4	5	3	7	5	8	9	8	3
394	I 80: W mixmaster to US 6	POLK	2.41	INT	-2.7	67.5	9	6	4	3	5	3	7	1
393	US 30: IA 922 to I-380	LINN	3.73	DIV	5.3	67.5	8	6	4	2	3	7	8	9
392	IA 14: IA 5 to IA 163	JASPER, MARION	14.48	NDIV	-5.9	67.5	7	5	5	4	6	9	5	2
391	I 80: IA 1 to US 6	CEDAR, JOHNSON	24.61	INT	-0.3	67.6	9	6	7	5	2	5	7	4
390	IA 415: I-35/80 to US 6	POLK	1.56	NDIV	-2.3	67.6	6	3	2	2	10	7		1
389	US 30: US 71 to US 169	BOONE, CARROLL, GREENE	40.9	NDIV	0.1	67.7	8	6	4	3	3	9	7	5
388	IA 160: IA 415 to I-35	POLK	2.45	DIV	-7.4	67.7	7	3	2	4	8	6	8	1

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
387	IA 137: IA 5 to US 63	MONROE, WAPELLO	14.67	NDIV	4.2	67.8	6	4	7	4	6	9	8	7
386	IA 51: US 18 to IA 9	ALLAMAKEE	10.91	NDIV	-7.0	67.9	7	5	8	4	5	10	6	6
385	I 80: US 6 to I-280	CEDAR, SCOTT	18.68	INT	0.5	67.9	9	6	7	6	1	5	7	5
384	US 63: MO border to US 34	DAVIS, WAPELLO	33.71	NDIV	-8.7	67.9	8	6	5	6	3	9	6	5
383	US 218: IA 1 to I-80	JOHNSON	5.4	DIV	4.1	68.0	9	8	1	1	1	6	9	9
382	US 67: US 61 to I-74	SCOTT	4.63	NDIV	0.2	68.0	7	3	2	3	9	6	3	1
381	US 18: IA 60 to US 71	CLAY, O'BRIEN	33.46	NDIV	4.2	68.0	8	7	6	4	3	9	6	8
380	IA 78: US 218 to US 61	HENRY, LOUISA	20.62	NDIV	-3.7	68.1	5	2	9	9	9	10	7	3
379	US 30: US 59 to US 71	CARROLL, CRAWFORD	27.28	NDIV	-2.5	68.2	8	6	5	4	3	9	7	6
378	IA 136: US 151 to US 20	DUBUQUE	14.12	NDIV	8.7	68.3	5	1	8	6	8	10	10	4
377	IA 461: I-280 to US 67	SCOTT	5.25	DIV	-4.3	68.3	5	4	5	6	8	9	5	5
376	US 34: Ottumwa W CL to US 63	WAPELLO	5.2	DIV	-4.1	68.4	6	2	6	7	8	8	8	5
375	IA 4: US 18 to IA 9	EMMET, PALO ALTO	20.11	NDIV	-4.6	68.5	6	4	8	8	7	10	7	2
374	IA 150: IA 3 to US 18	FAYETTE	22.68	NDIV	-5.1	68.5	6	3	7	6	7	9	8	4
373	IA 21: IA 78 to IA 92	KEOKUK	12.38	NDIV	1.4	68.5	4	1	10	9	9	10	9	1
372	IA 9: Decorah E CL to IL border	ALLAMAKEE, WINNESHIEK	32.65	NDIV	-2.1	68.5	6	3	7	4	7	9	8	5
371	US 61: I-80 to US 30	CLINTON, SCOTT	15.48	DIV	-1.9	68.5	8	7	3	3	3	7	8	9
370	IA 946: US 52 to US 61	DUBUQUE	1.03	DIV	-1.0	68.7	7	1	5	6	8	8	9	1
369	US 18: SD state line to US 75	LYON, SIOUX	25.86	NDIV	-7.9	68.8	8	5	6	4	3	9	8	6
368	IA 5: US 34 to E jct of IA 92	MARION, MONROE	26.16	NDIV	-9.6	68.8	7	4	5	6	7	9	7	4
367	US 69: IA 5 to I-235	POLK, WARREN	7.4	DIV	-1.2	68.9	6	3	2	4	10	6	5	1
366	IA 141: US 59 to US 71	CARROLL, CRAWFORD	20.96	NDIV	1.8	68.9	6	3	8	7	6	10	9	8
365	IA 28: Norwalk S CL to IA 5	POLK, WARREN	4.03	DIV	-1.2	69.1	6	2	3	4	10	8	8	4
364	IA 461: US 6 to I-80	SCOTT	3.89	NDIV	-3.6	69.2	7	4	1	2	9	6	6	1
363	IA 14: US 34 to IA 5	LUCAS, MARION	25.24	NDIV	-13.3	69.2	7	2	7	5	7	9	9	6
362	US 75: US 20 to IA 60	PLYMOUTH, WOODBURY	27.21	DIV	-2.8	69.3	8	5	6	5	4	8	7	8

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
361	IA 316: Runnells E CL to IA 5	MARION, POLK, WARREN	5.82	NDIV	-3.2	69.4	5	3	9	9	10	10	7	4
360	US 18: US 71 to US 169	CLAY, KOSSUTH, PALO ALTO	52.4	NDIV	4.1	69.5	8	6	5	5	3	9	6	4
359	US 18: IA 14 to US 63	CHICKASAW, FLOYD	19.76	NDIV	-0.5	69.5	7	4	6	5	7	9	7	3
358	US 218: US 34 to IA 92	HENRY, WASHINGTON	22.06	DIV	-2.1	69.6	8	5	7	6	2	8	9	9
357	I 35: I-80/I-235 to IA 160	POLK	4.02	INT	1.8	69.6	9	7	2	2	6	3	9	2
356	US 20: IA 14 to IA 27	BLACK HAWK, GRUNDY	16.37	DIV	3.9	69.6	8	5	6	5	2	9	9	9
355	US 63: US 218 to Waterloo N CL	BLACK HAWK	5.8	NDIV	3.4	69.7	7	4	3	5	7	8	7	1
354	IA 376: I-29 to IA 12	WOODBURY	4.26	DIV	-2.3	69.7	6	3	5	5	8	8	9	2
353	IA 3: US 65 to US 218	BREMER, BUTLER, FRANKLIN	35.1	NDIV	-2.5	69.7	7	4	7	6	6	10	7	8
352	US 218: IA 57 to IA 3	BLACK HAWK, BREMER	16.63	DIV	-0.9	69.9	9	6	4	5	2	7	9	8
351	US 59: US 34 to I-80	MILLS, POTTAWATTAMIE	34.11	NDIV	-4.1	70.0	6	4	8	6	7	10	7	6
350	US 63: I-80 to US 30	POWESHIEK, TAMA	22.28	NDIV	-0.3	70.1	7	4	7	5	5	10	8	5
349	IA 86: US 71 to IA 9	DICKINSON	7.68	NDIV	-2.0	70.3	7	3	5	5	6	9		7
348	IA 3: I-35 to US 65	FRANKLIN	9.86	NDIV	-1.0	70.4	6	4	6	4	7	9	8	6
347	US 65: IA 5 to IA 163	POLK, WARREN	8.43	DIV	5.7	70.5	9	6	3	1	4	8	9	9
346	US 18: I-35 to US 65	CERRO GORDO	8.2	DIV	-1.7	70.6	8	6	8	7	1	9	9	9
345	IA 922: US 30 to I-380	LINN	4.17	DIV	5.2	70.6	6	2	4	6	9	8	8	1
344	IA 27: US 20 to US 218	BLACK HAWK	6.56	DIV	1.3	70.7	7	4	4	6	8	7	9	2
343	I 380: I-80 to US 30	JOHNSON, LINN	16.26	INT	-4.7	70.7	9	8	3	3	5	2	8	4
342	US 71: US 20 to IA 3	BUENA VISTA, SAC	19.62	NDIV	-1.4	70.7	8	5	6	6	4	9	8	8
341	IA 14: US 30 to US 20	GRUNDY, MARSHALL	38.95	NDIV	3.0	70.8	8	5	5	5	5	9	7	1
340	US 59: MO border to IA 2	FREMONT, PAGE	11.2	NDIV	-0.8	71.1	6	2	8	8	7	10	9	8
339	I 80: E mixmaster to IA 14	JASPER, POLK	26.63	INT	1.7	71.1	9	7	6	5	5	5	8	3
338	IA 415: IA 160 to I-35/80	POLK	3.66	DIV	-1.6	71.2	7	4	1	4	10	5	5	2
337	IA 1: US 6 to I-80	JOHNSON	3.64	NDIV	2.4	71.3	7	3	2	6	10	7	7	1
336	IA 28: IA 92 to Norwalk S CL	WARREN	7.34	NDIV	-7.0	71.3	6	3	6	5	9	9	9	5

RANK	Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
335	I 280: IL border to US 61/IA 146	SCOTT	3.22	INT	-4.2	71.4	8	5	8	5	6	7	7	5
334	IA 38: US 61 to US 6	MUSCATINE	7.86	NDIV	-5.0	71.4	8	6	4	2	4	8	7	7
333	US 18: US 65 to US 218	CERRO GORDO, FLOYD	32	DIV	-0.8	71.4	8	6	7	6	2	9	9	8
332	US 218: IA 3 to US 18	BREMER, CHICKASAW, FLOYD	26.02	DIV	-3.1	71.4	8	7	8	6	1	9	9	8
331	US 218: IA 92 to IA 1	JOHNSON, WASHINGTON	24.43	DIV	2.6	71.6	8	5	5	6	4	8	9	9
330	IA 3: US 71 to US 169	BUENA VISTA, HUMBOLDT, POCAHONTAS	47.68	NDIV	-1.2	71.6	8	7	8	7	3	10	7	8
329	US 6: I-280 to IA 461	SCOTT	6.97	NDIV	2.1	71.6	6	3	3	7	10	8	6	1
328	IA 92: US 169 to I-35	MADISON, WARREN	12.8	NDIV	-4.6	71.7	6	4	7	1	8	9	9	5
327	US 218: IA 27 to US 34	HENRY, LEE	24.68	DIV	-4.1	71.9	7	5	8	9	3	9	9	7
326	IA 22: IL border to US 61	MUSCATINE	2.37	NDIV	2.0	71.9	7	3	4	7	9	8	6	1
325	US 63: IA 149 to IA 92	MAHASKA, WAPELLO	22.58	DIV	-1.3	71.9	8	4	7	6	5	9	8	8
324	US 59: US 18 to MN border	O'BRIEN, OSCEOLA	21.75	NDIV	-4.6	71.9	6	4	9	9	5	10	8	8

3.2 Lowest-rated corridors by individual criterion

To highlight the corridors with the poorest normalization values and raw data values for each of the seven criteria, the "ten lowest-rated" corridor lists were developed to show the bottommost corridors across the entire system. Each table includes a mixture of interstate, non-interstate divided, and non-divided routes across the system. The charts below provide a look at these corridors by each individual criterion, which are sorted by the lowest normalization values first, then by raw values.

Table 3.3: Lowest-rated corridors by PCI

Corridor Description	Route Type	Composite Score	Avg. PCI
IA 136: IL border to US 67	Non-Divided	49.19	32.0
I 480: NE border to I-29	Interstate	62.02	35.0
IA 21: IA 78 to IA 92	Non-Divided	68.48	37.2
IA 187: US 20 to IA 3	Non-Divided	66.44	43.9
IA 92: US 65 to IA 5	Non-Divided	67.43	45.0
US 6: IA 461 to I-74	Divided	62.44	45.9
IA 136: US 151 to US 20	Non-Divided	68.32	45.9
IA 78: US 218 to US 61	Non-Divided	68.11	46.4
IA 316: Runnells E CL to IA 5	Non-Divided	69.38	47.4
IA 461: US 67 to US 6	Non-Divided	63.42	47.9

Table 3.4: Lowest-rated corridors by IRI

Corridor Description	Route Type	Composite Score	Avg. IRI
IA 136: IL border to US 67	Non-Divided	49.19	311.9
IA 21: IA 78 to IA 92	Non-Divided	68.48	224.8
IA 461: US 67 to US 6	Non-Divided	63.42	219.9
US 34: US 65 to IA 5	Non-Divided	60.26	208.7
IA 906: IA 192 to I-80	Divided	75.51	207.8
US 6: IA 461 to I-74	Divided	62.44	200.1
US 69: MO border to US 34	Non-Divided	71.96	199.2
IA 136: US 151 to US 20	Non-Divided	68.32	197.0
US 136: US 61 to US 218	Non-Divided	63.72	192.3
IA 78: US 218 to US 61	Non-Divided	68.11	191.6

Table 3.5: Lowest-rated corridors by BCI

Corridor Description	Route Type	Composite Score	Avg. BCI
IA 12: US 20/US 75 to IA 29	Divided	73.64	22.6
US 67: US 61 to I-74	Non-Divided	67.95	24.8
IA 136: IL border to US 67	Non-Divided	49.19	40.1
I 480: NE border to I-29	Interstate	62.02	40.6
IA 78: IA 149 to IA 1	Non-Divided	79.17	43.3
IA 461: I-280 to US 67	Divided	68.34	43.9
IA 92: I-35 to US 65	Non-Divided	65.94	44.1
IA 22: IA 1 to US 218	Non-Divided	58.77	44.4
IA 14: IA 5 to IA 163	Non-Divided	67.48	45.3
IA 461: US 67 to US 6	Non-Divided	63.42	46.4

Table 3.6: Lowest-rated corridors by passenger AADT

Corridor Description	Route Type	Composite Score	Avg. Pass. AADT
US 20: IA 32 to US 52/US 61	Divided	58.28	15,608.2
US 218: IA 1 to I-80	Divided	67.95	15,316.2
US 6: IA 461 to I-74	Divided	62.44	14,557.0
IA 160: IA 415 to I-35	Divided	67.72	14,429.6
IA 5: IA 28 to I-35	Divided	73.62	14,042.2
IA 415: IA 160 to I-35/80	Divided	71.18	14,003.0
IA 28: US 6 to I-35/80	Divided	72.24	13,272.8
US 77: NE border to I-29	Divided	65.62	13,241.2
US 69: IA 5 to I-235	Divided	68.85	12,337.3
US 6: I-35/80 to IA 28	Divided	78.61	12,266.8
US 6: IA 965 to IA 1	Non-Divided	75.04	20,187.2
IA 922: I-380 to IA 100	Non-Divided	67.29	16,979.4
US 6: IA 28 to US 69	Non-Divided	65.09	15,479.3
IA 461: US 67 to US 6	Non-Divided	63.42	14,983.2
IA 461: US 6 to I-80	Non-Divided	69.19	14,872.8
IA 28: I-235 to US 6	Non-Divided	74.95	14,383.0
IA 415: I-35/80 to US 6	Non-Divided	67.64	14,210.6
US 67: US 61 to I-74	Non-Divided	67.95	13,504.7
US 69: US 30 to Ames N CL	Non-Divided	73.98	12,028.0
US 69: I-235 to I-35/80	Non-Divided	64.69	10,218.7
I 235: IA 28 to US 69	Interstate	72.07	50,247.7
I 235: W mixmaster to IA 28	Interstate	76.94	43,370.7
I 80: US 6 to IA 141	Interstate	63.66	40,903.6
I 80: IA 28 to IA 415	Interstate	57.19	39,809.5
I 80: IA 141 to IA 28	Interstate	61.45	35,185.7
I 80: IA 415 to E mixmaster	Interstate	61.29	34,326.4
I 235: US 69 to E mixmaster	Interstate	72.78	32,576.4
I 35: I-80/I-235 to IA 160	Interstate	69.59	31,877.5
I 380: US 30 to IA 100	Interstate	72.02	30,763.6
I 80: NE border to I-29	Interstate	61.91	28,180.8

Table 3.7: Lowest-rated corridors by single-unit truck AADT

Corridor Description	Route Type	Composite Score	Avg. SU. AADT
US 65: IA 163 to I-80	Divided	65.62	617.5
US 218: IA 1 to I-80	Divided	67.95	604.0
US 30: IA 922 to I-380	Divided	67.47	583.8
US 65: IA 5 to IA 163	Divided	70.46	516.4
US 30: I-380 to 2.4 mi W of IA 1	Divided	64.16	512.9
US 20: IA 32 to US 52/US 61	Divided	58.28	481.9
US 20: IA 27 to US 218	Divided	59.5	444.7
IA 5: IA 28 to I-35	Divided	73.62	441.3
US 61: US 151 to US 20	Divided	64.42	437.2
IA 5: US 65/US 69 to IA 28	Divided	73.61	415.8
IA 415: I-35/80 to US 6	Non-Divided	67.64	587.8
US 69: I-235 to I-35/80	Non-Divided	64.69	548.9
US 67: I-74 to I-80	Non-Divided	65.33	434.5
US 6: IA 28 to US 69	Non-Divided	65.09	410.4
US 67: US 61 to I-74	Non-Divided	67.95	375.0
IA 44: US 169 to IA 141	Non-Divided	72.93	362.6
US 69: I-35/80 to Ankeny N CL	Non-Divided	74.7	343.0
IA 28: I-235 to US 6	Non-Divided	74.95	339.9
US 6: IA 965 to IA 1	Non-Divided	75.04	331.0
IA 1: I-80 to US 30	Non-Divided	75.84	326.4
I 80: US 6 to IA 141	Interstate	63.66	2,503.6
I 80: IA 28 to IA 415	Interstate	57.19	2,289.4
I 80: IA 141 to IA 28	Interstate	61.45	2,141.4
I 80: IA 415 to E mixmaster	Interstate	61.29	1,870.3
I 235: IA 28 to US 69	Interstate	72.07	1,629.4
I 80: W mixmaster to US 6	Interstate	67.45	1,605.6
I 35: I-80/I-235 to IA 160	Interstate	69.59	1,465.8
I 235: US 69 to E mixmaster	Interstate	72.78	1,337.3
I 35: IA 5 to I-80/I-235	Interstate	74.71	1,251.7
I 35: IA 160 to US 30	Interstate	74.09	1,242.1

Table 3.8: Lowest-rated corridors by combo-unit truck AADT

Corridor Description	Route Type	Composite Score	Avg. Combo AADT
US 20: IA 27 to US 218	Divided	59.5	1,140.4
US 18: US 65 to US 218	Divided	71.41	1,092.7
US 18: I-35 to US 65	Divided	70.56	1,060.6
US 218: IA 1 to I-80	Divided	67.95	1,057.3
US 218: IA 3 to US 18	Divided	71.43	1,034.3
US 218: IA 57 to IA 3	Divided	69.85	961.1
US 65: IA 163 to I-80	Divided	65.62	959.6
US 218: US 34 to IA 92	Divided	69.59	957.2
US 20: IA 14 to IA 27	Divided	69.59	935.2
US 20: I-29 to US 75	Divided	63.3	903.0
US 30: 3.3 mi E of US 63 to US 218	Non-Divided	62.9	1,115.5
US 30: NE border to I-29	Non-Divided	55.62	812.0
US 63: US 18 to MN border	Non-Divided	65.47	770.5
US 75: IA 60 to US 18	Non-Divided	64.43	578.7
US 18: US 52 to IA 76	Non-Divided	67.25	576.9
IA 92: US 218 to US 61	Non-Divided	66.04	575.7
IA 150: I-380 to US 20	Non-Divided	60.32	561.8
US 30: I-29 to US 59	Non-Divided	64.56	520.5
US 30: 2.4 mi W of IA 1 to US 61	Non-Divided	66.13	490.7
IA 39: US 59 to IA 175	Non-Divided	62.76	481.7
I 80: IA 28 to IA 415	Interstate	57.19	5,729.7
I 80: IA 141 to IA 28	Interstate	61.45	5,639.3
I 80: US 6 to I-280	Interstate	67.91	5,558.0
I 80: IA 1 to US 6	Interstate	67.62	5,528.3
I 80: I-380 to IA 1	Interstate	66.4	5,509.6
I 80: IA 415 to E mixmaster	Interstate	61.29	5,268.5
I 80: US 6 to IA 141	Interstate	63.66	5,236.9
I 80: NE border to I-29	Interstate	61.91	5,028.6
I 80: I-280 to I-74	Interstate	75.67	3,914.3
I 80: US 6 to US 59	Interstate	73.23	3,805.1

Table 3.9: Lowest-rated corridors by congestion index (V/C ratio)

Corridor Description	Route Type	Composite Score	Avg. Vol./ Capacity
I 235: IA 28 to US 69	Interstate	72.07	0.9
I 80: IA 28 to IA 415	Interstate	57.19	0.89
I 80: US 6 to IA 141	Interstate	63.66	0.89
I 235: W mixmaster to IA 28	Interstate	76.94	0.88
I 80: IA 141 to IA 28	Interstate	61.45	0.86
I 80: W mixmaster to US 6	Interstate	67.45	0.84
I 80: NE border to I-29	Interstate	61.91	0.8
I 380: I-80 to US 30	Interstate	70.72	0.79
I 35: I-80/I-235 to IA 160	Interstate	69.59	0.74
I 235: US 69 to E mixmaster	Interstate	72.78	0.73

Table 3.10 Lowest rated-corridors by average crash rate

Corridor Description	Route Type	Crash Rate
IA 160: IA 415 to I-35	Divided	785
US 69: IA 5 to I-235	Divided	611.7
IA 116: US 218 to IA 3	Divided	566.5
US 6: I-235 to I-80	Divided	542.3
IA 28: US 6 to I-35/80	Divided	500.9
IA 946: US 52 to US 61	Divided	473.2
US 6: IA 461 to I-74	Divided	466
IA 163: US 69 to US 65	Divided	461.7
IA 906: IA 192 to I-80	Divided	434.8
IA 922: US 30 to I-380	Divided	411.7
US 52: Jct of IA 32 to Jct of US 61	Non-Divided	885.6
IA 461: US 67 to US 6	Non-Divided	882.7
IA 1: US 6 to I-80	Non-Divided	751.7
US 69: I-235 to I-35/80	Non-Divided	699.7
US 69: US 30 to Ames N CL	Non-Divided	689.4
US 67: US 30 to Clinton N CL	Non-Divided	661.1
US 6: IA 28 to US 69	Non-Divided	585.6
US 65: US 18 to Mason City N CL	Non-Divided	537.4
IA 922: I-380 to IA 100	Non-Divided	528.3
IA 122: Mason City W CL to Mason City E CL	Non-Divided	514.7
I 129: NE border to I-29	Interstate	240.4
I 480: NE border to I-29	Interstate	149.9
I 74: IL border to I-80	Interstate	112.7
I 29: US 20/I-129 to SD border	Interstate	109.3
I 80: IA 415 to E mixmaster	Interstate	108.2
I 80: W mixmaster to US 6	Interstate	103.2
I 235: IA 28 to US 69	Interstate	100.4
I 80: NE border to I-29	Interstate	88.3
I 235: W mixmaster to IA 28	Interstate	87.5
I 235: US 69 to E mixmaster	Interstate	82.3

3.3 Mapping analysis

The following section offers a series of maps. The maps are broken out by district and urban areas where multiple corridors converge. Upon request, maps can be created for any area within Iowa.

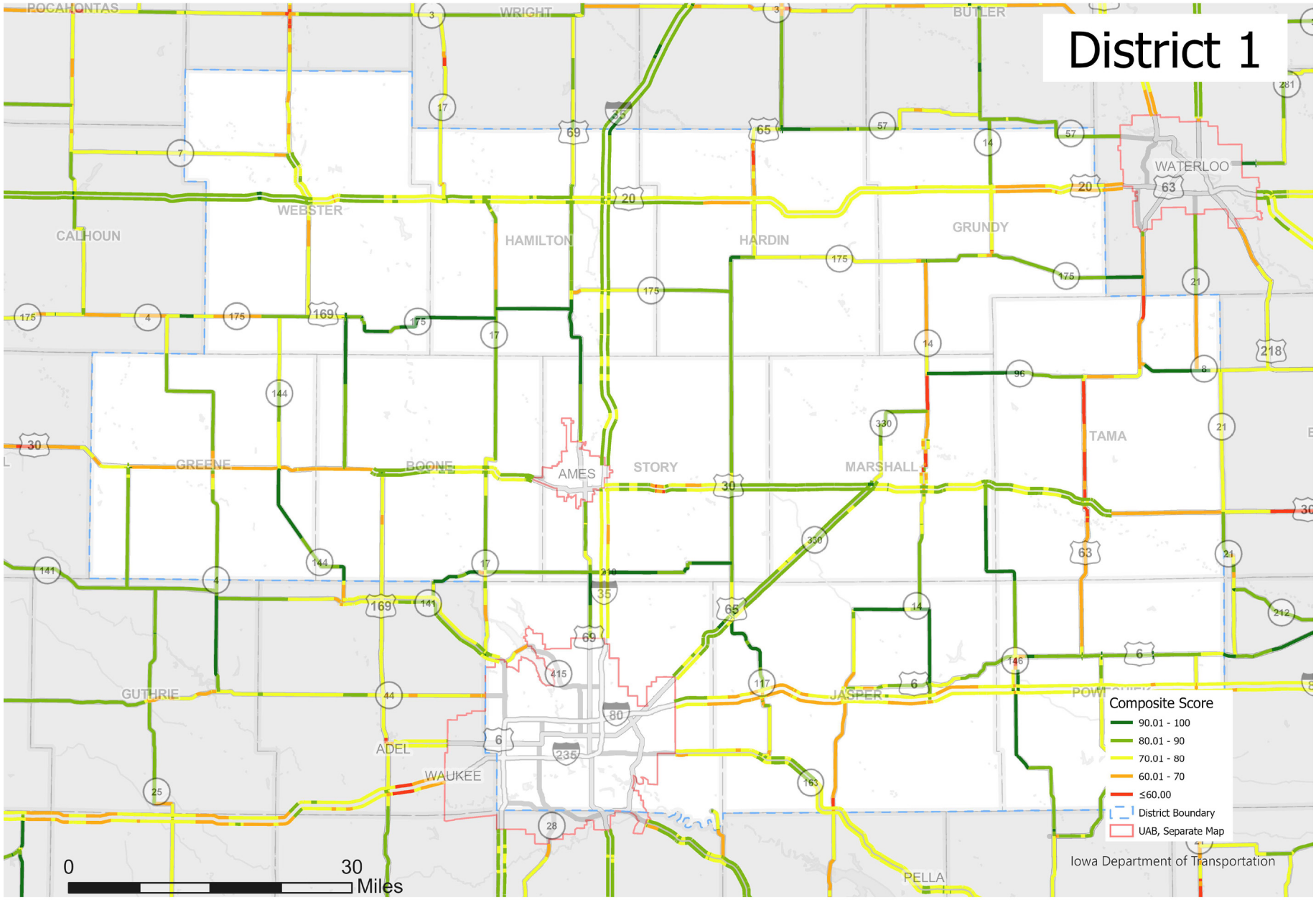
For the sake of the document length, only 15 of the 68 urban areas within the state have been included within this report. They have been selected because they contain the most corridors and the largest number of miles analyzed by the model. No other criteria was used to determine which maps to include within this report. Map series based upon other administrative boundaries may be requested.

Table 3.11: Corridor Count Per District

District	# of Corridors	Segment Miles
District 1	110	1,977.8
District 2	81	1,805.1
District 3	75	1,878.3
District 4	74	1,695.6
District 5	86	1,876.9
District 6	98	1,885.0

Table 3.12: Corridor Count Per Urban Area

Urban area	# of Corridors	Segment Miles
Des Moines	44	344.7
Davenport	19	155.2
Waterloo	16	111.2
Cedar Rapids	14	152.6
Iowa City	14	78.2
Sioux City	11	88.0
Council Bluffs	11	60.6
Dubuque	9	50.5
Ottumwa	8	45.0
Ames	8	30.7
Muscatine	6	36.0
Clinton	6	31.6
Oskaloosa	6	24.7
Mason City	6	23.4
Spirit Lake	5	28.1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WRIGHT
BUTLER
WATERLOO
WEBSTER
CALHOUN
HAMILTON
HARDIN
GRUNDY
TAMA
GREENE
BOONE
AMES
STORY
MARSHALL
GUTHRIE
ADEL
WAUKEE
JASPER
PELLA
Composite Score
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60.01 - 70
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Iowa Department of Transportation
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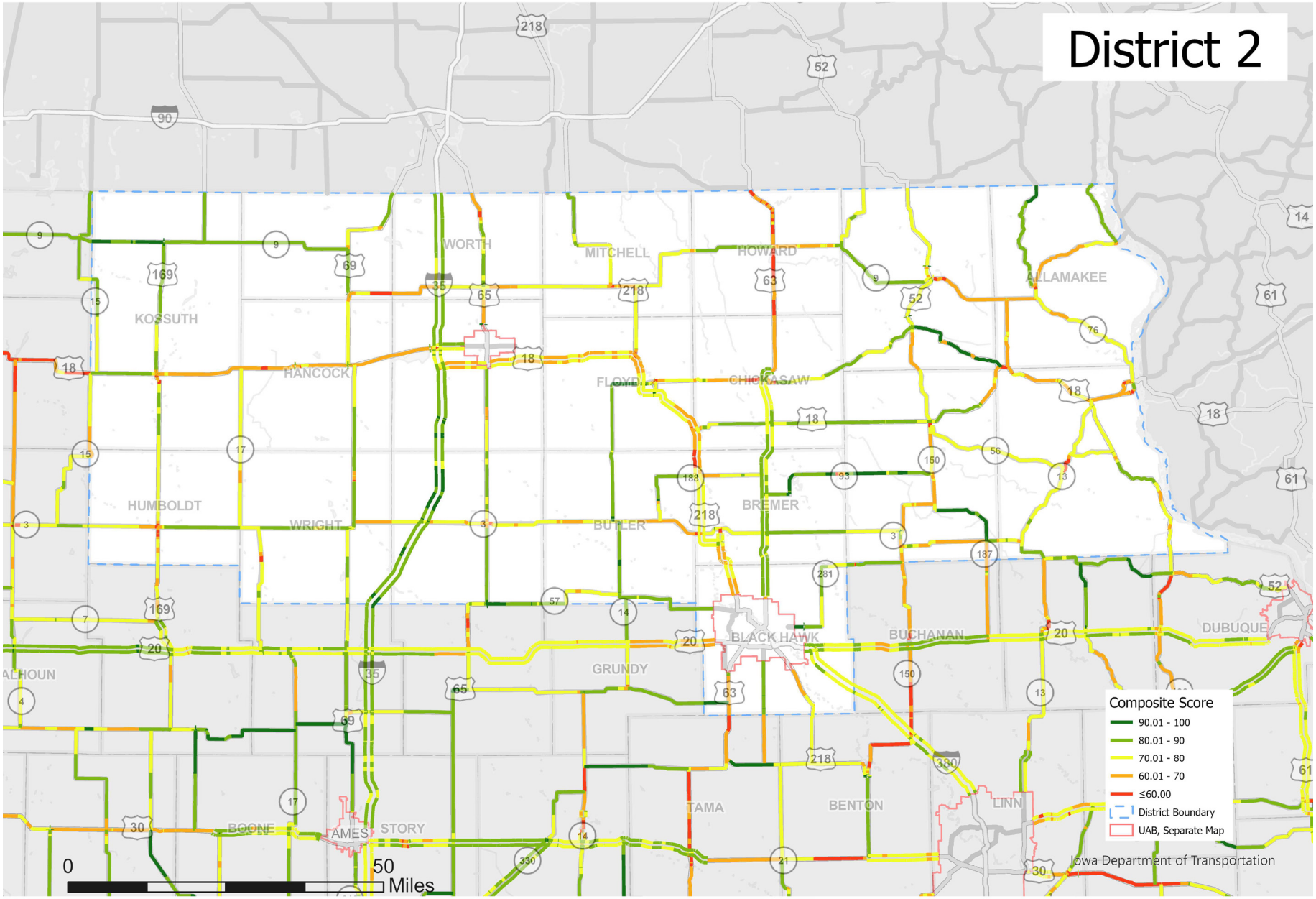
Miles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HOWARD
ALLAMAKEE
KOSSUTH
HANCOCK
FLOYD
CHICKASAW
HUMBOLDT
WRIGHT
BUTLER
BREMER
BLACK HAWK
BUCHANAN
DUBUQUE
GRUNDY
TAMA
BENTON
LINN
BOONE
AMES
STORY
Composite Score
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60.01 - 70
≤60.00
District Boundary
UAB, Separate Map
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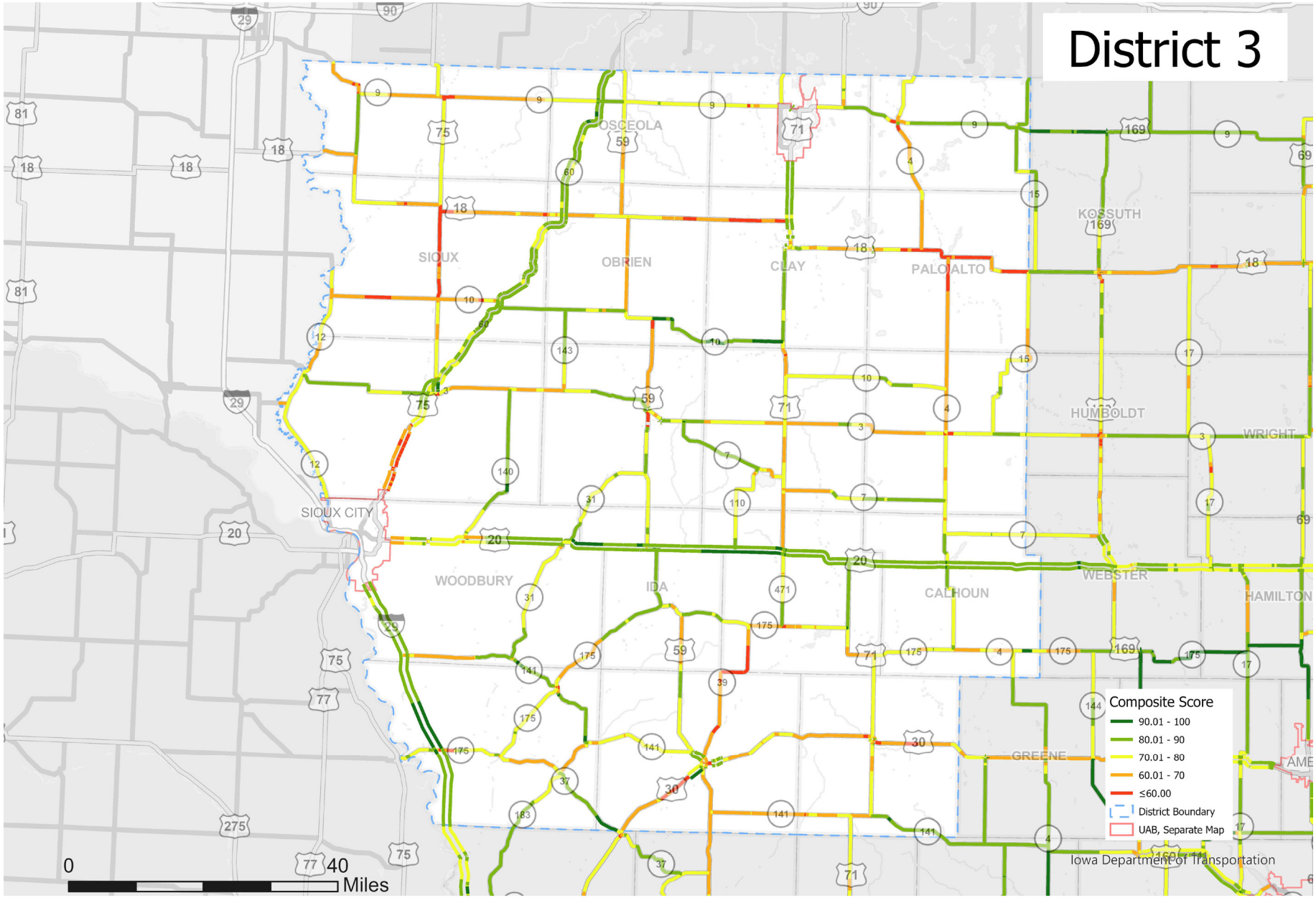
Miles
Iowa Department of Transportation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OBRIEN
CLAY
PALO ALTO
KOSSUTH
HUMBOLDT
WRIGHT
SIOUX CITY
WOODBURY
IDA
CALHOUN
WEBSTER
HAMILTON
GREENE
Composite Score
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70.01 - 80
60.01 - 70
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District Boundary
UAB, Separate Map
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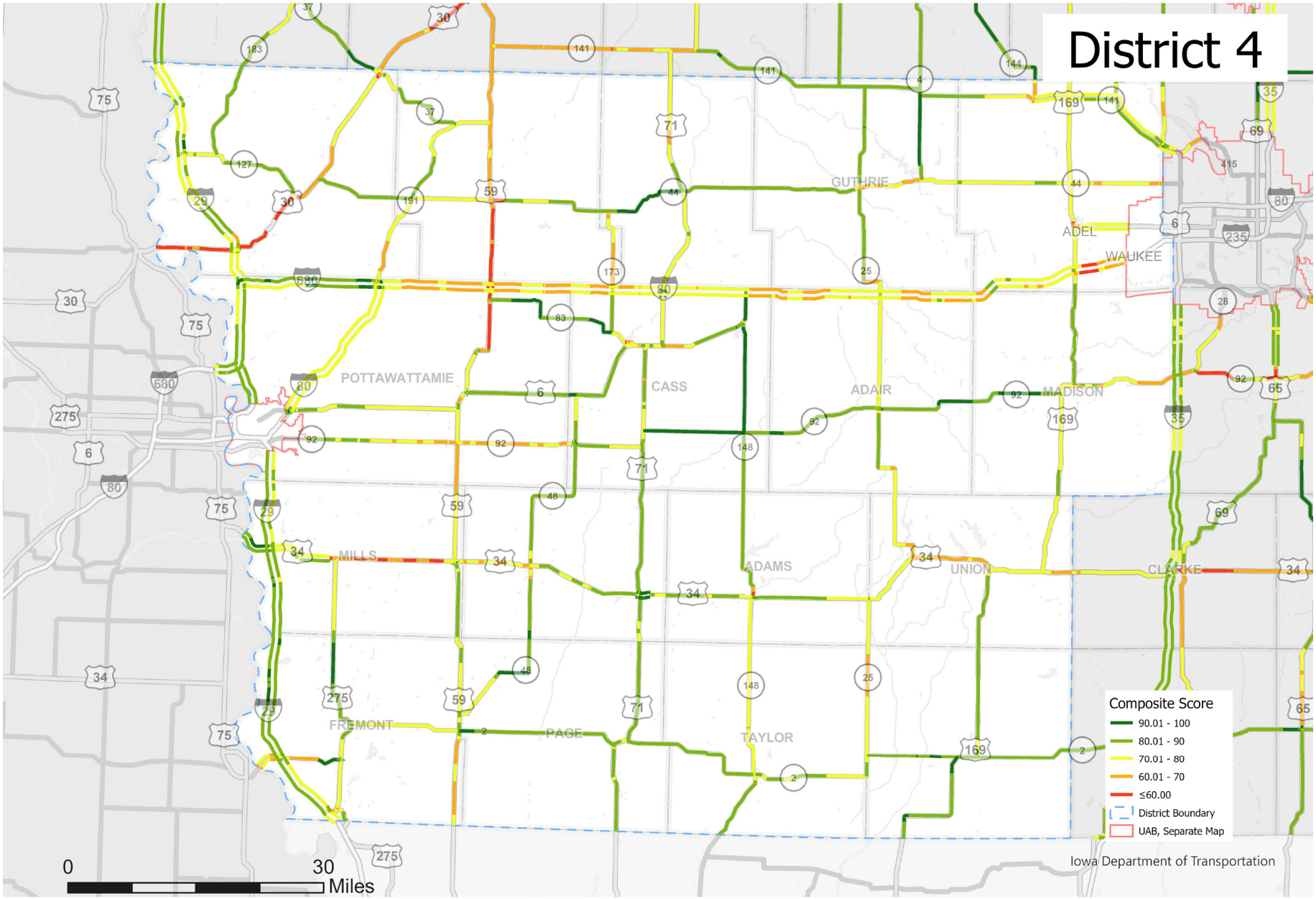
40
Miles
Iowa Department of Transportation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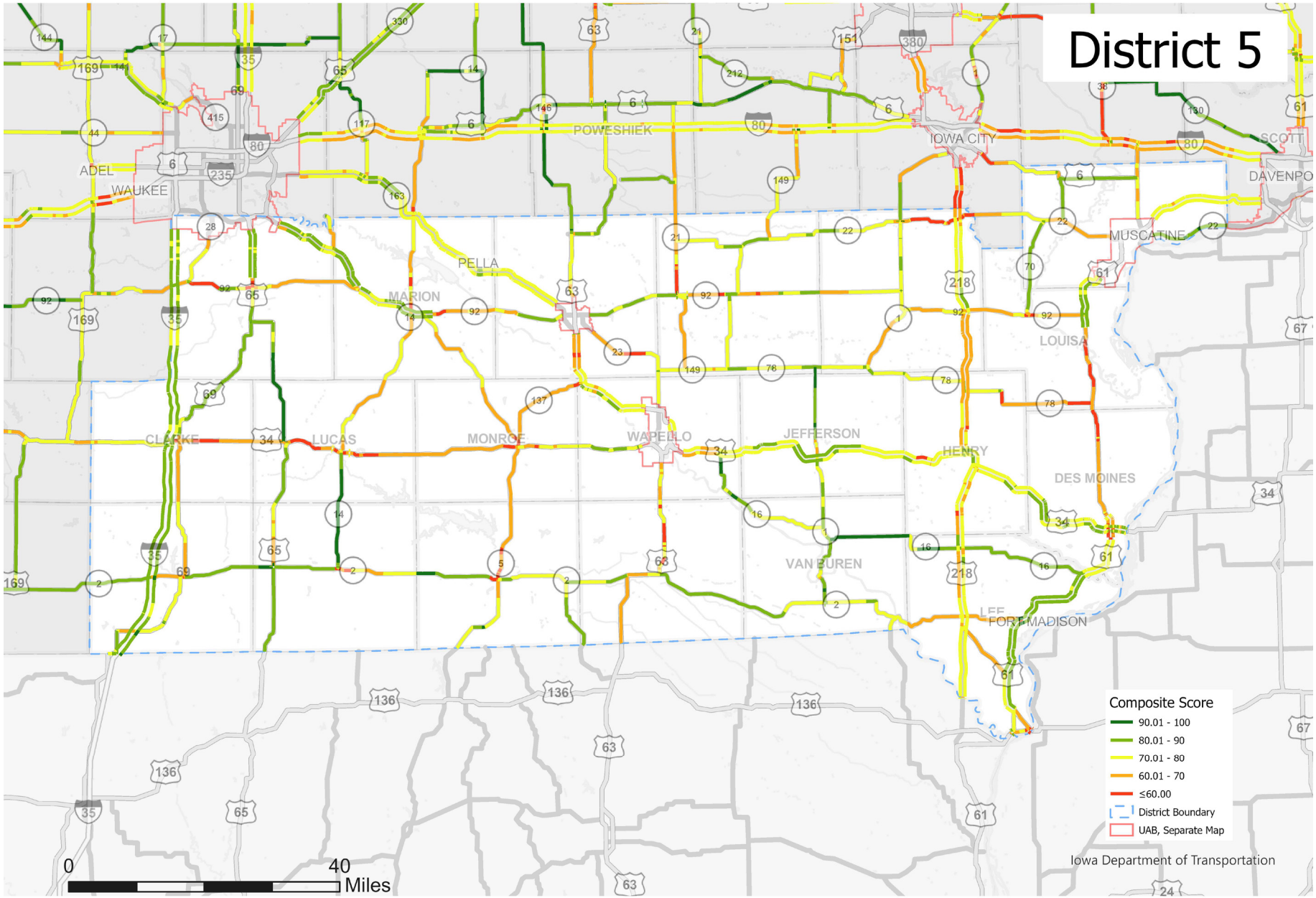
ADEL
WAUKEE
POTTAWATTAMIE
CASS
ADAIR
MADISON
MILLS
ADAMS
UNION
CLARKE
FREMONT
PAGE
TAYLOR
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
UAB, Separate Map
0
30
Miles
Iowa Department of Transportation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POWESHIEK
IOWA CITY
SCOTT
DAVENPO
MUSCATINE
PELLA
MARION
LOUISA
CLARKE
LUCAS
MONROE
WAPELLO
JEFFERSON
HENRY
DES MOINES
VAN BUREN
LEE
FORT MADISON
Composite Score
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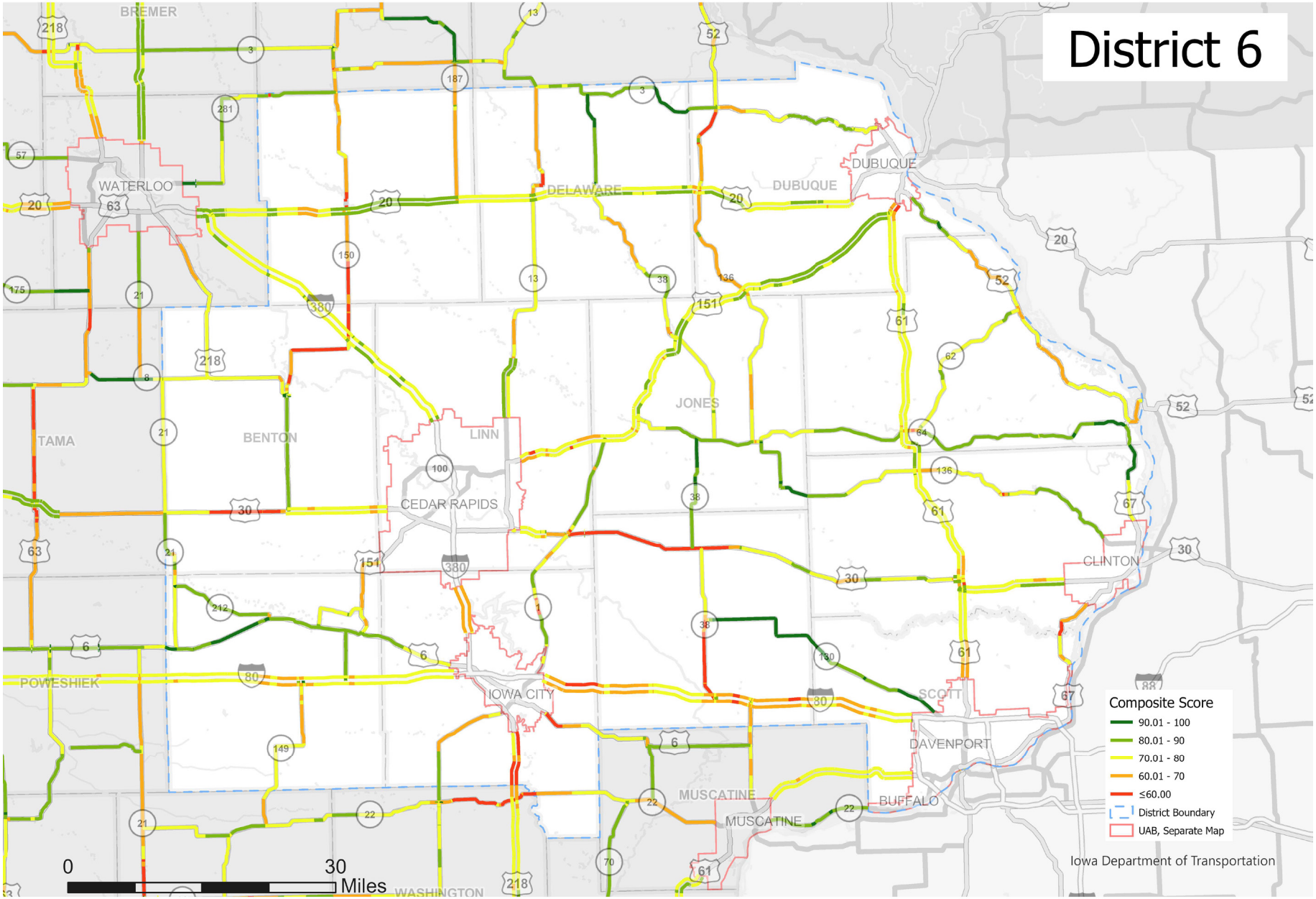
70.01 - 80
60.01 - 70
≤60.00
District Boundary
UAB, Separate Map
Iowa Department of Transportation
0
40
Miles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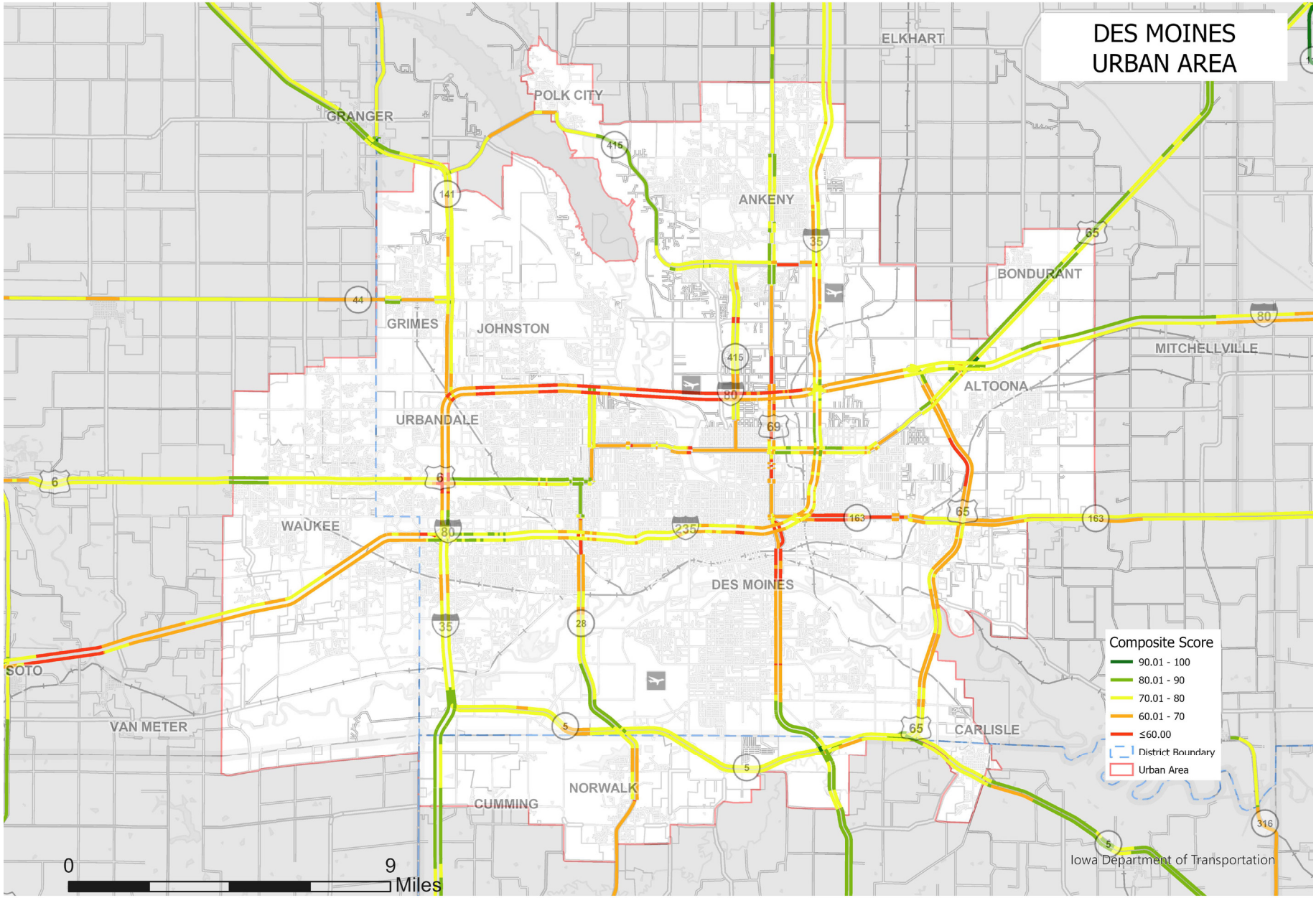
WATERLOO
DELAWARE
DUBUQUE
DUBUQUE
JONES
LINN
CEDAR RAPIDS
TAMA
BENTON
CLINTON
POWESHIEK
IOWA CITY
SCOTT
DAVENPORT
MUSCATINE
MUSCATINE
BUFFALO
WASHINGTON
0
30
Miles
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
UAB, Separate Map
Iowa Department of Transportation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POLK CITY
GRANGER
ANKENY
BONDURANT
GRIMES
JOHNSTON
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ALTOONA
URBANDALE
WAUKEE
DES MOINES
SOTO
VAN METER
CARLISLE
NORWALK
CUMMING
Composite Score
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60.01 - 70
≤60.00
District Boundary
Urban Area
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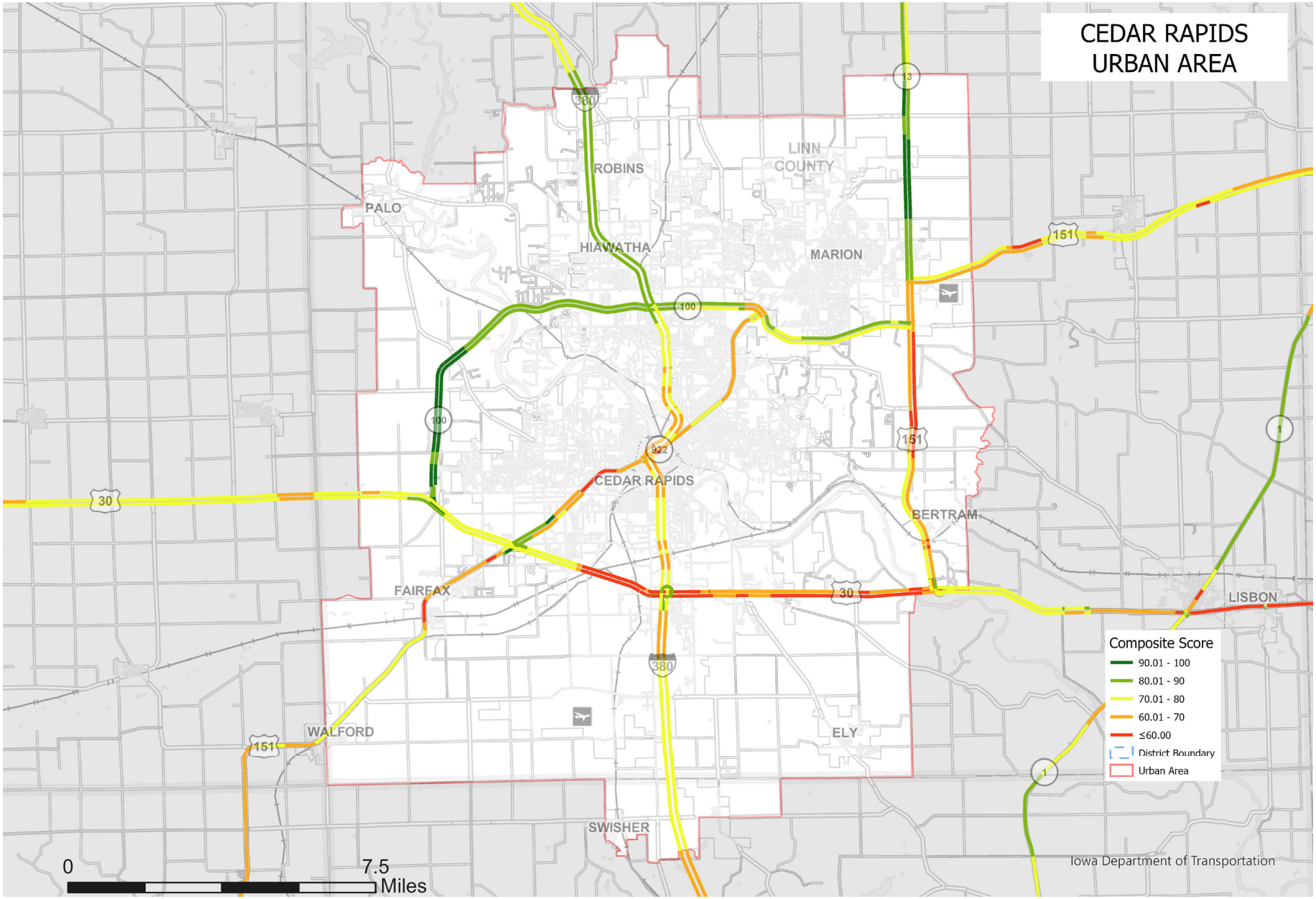
9
Miles
Iowa Department of Transportation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LINN
COUNTY
ROBINS
PALO
HIAWATHA
MARION
CEDAR RAPIDS
BERTRAM
FAIRFAX
LISBON
WALFORD
ELY
SWISHER
Composite Score
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60.01 - 70
≤60.00
District Boundary
Urban Area
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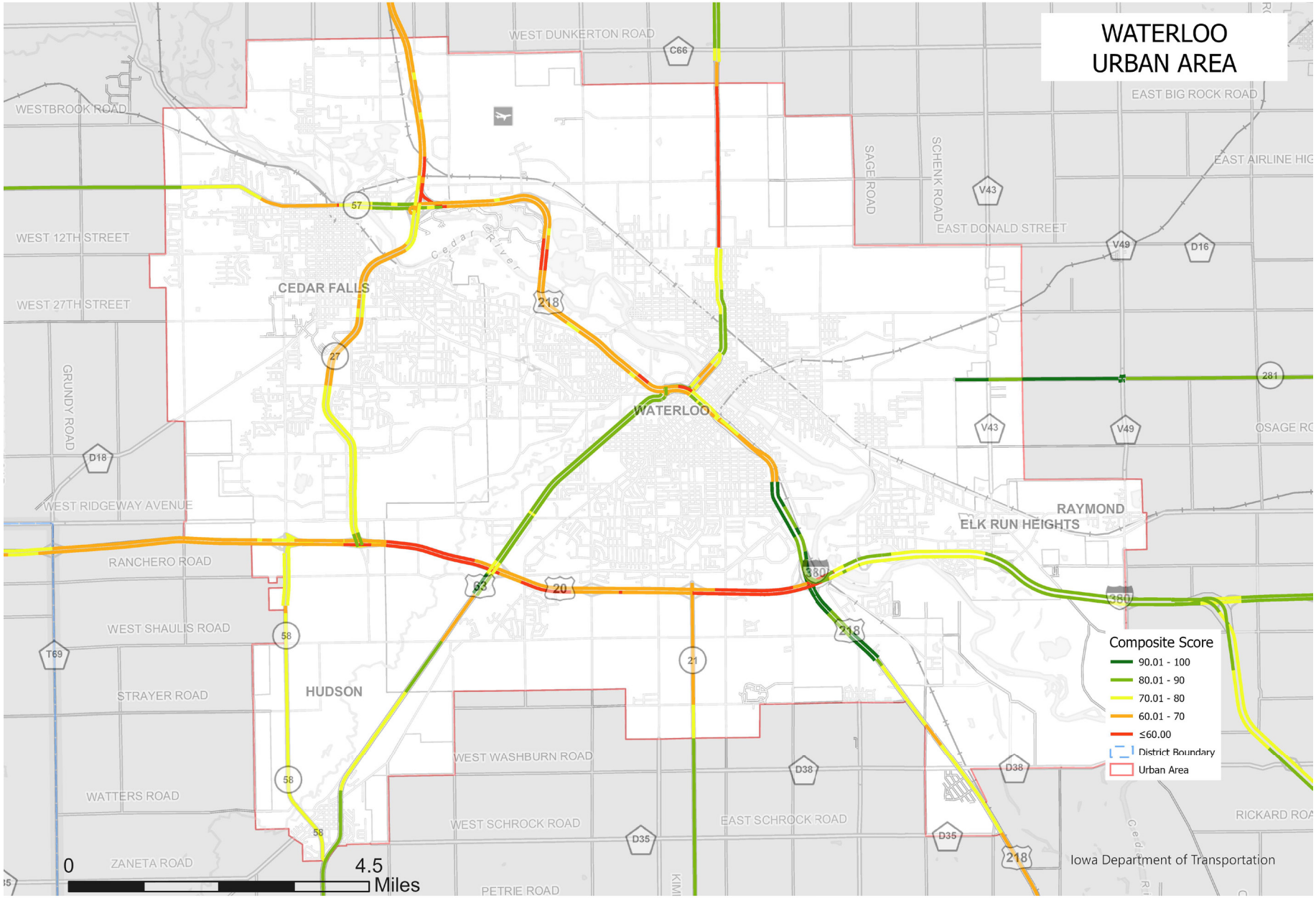
7.5
Miles
Iowa Department of Transportation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URBAN AREA
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C66
WESTBROOK ROAD
EAST BIG ROCK ROAD
EAST AIRLINE HIG
SAGE ROAD
SCHENK ROAD
V43
EAST DONALD STREET
V49
D16
WEST 12TH STREET
57
Cedar River
CEDAR FALLS
WEST 27TH STREET
218
27
281
GRUNDY ROAD
WATERLOO
V43
V49
OSAGE RO
D18
WEST RIDGEWAY AVENUE
RAYMOND
ELK RUN HEIGHTS
RANCHERO ROAD
93
20
380
380
WEST SHAULIS ROAD
58
218
T69
21
STRAYER ROAD
HUDSON
Composite Score
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80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
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D38
D38
WATTERS ROAD
58
WEST SCHROCK ROAD
EAST SCHROCK ROAD
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58
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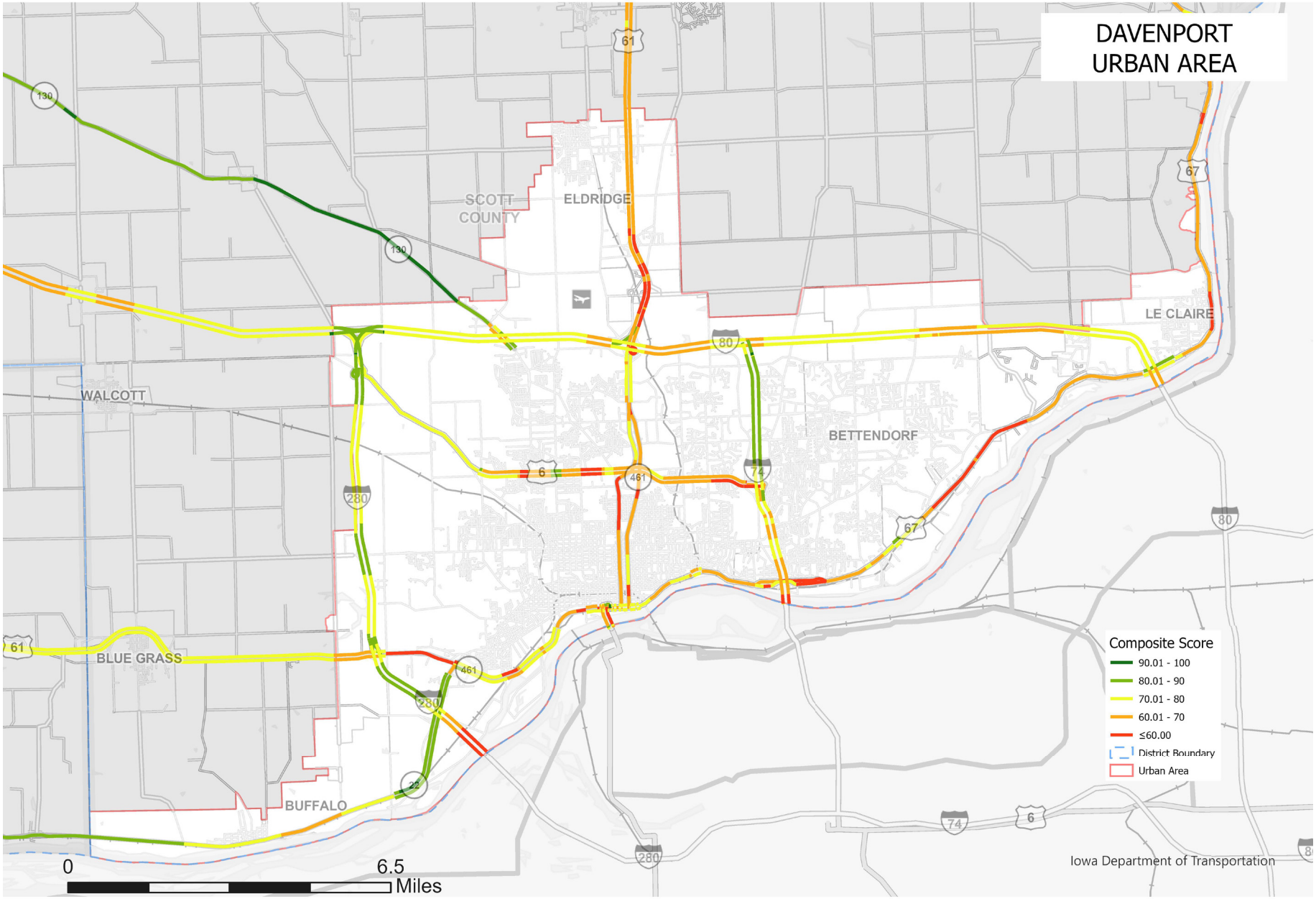
Miles
ZANETA ROAD
218
Iowa Department of Transportation
PETRIE ROAD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SCOTT
COUNTY
ELDRIDGE
LE CLAIRE
WALCOTT
BETTENDORF
BLUE GRASS
BUFFALO
Composite Score
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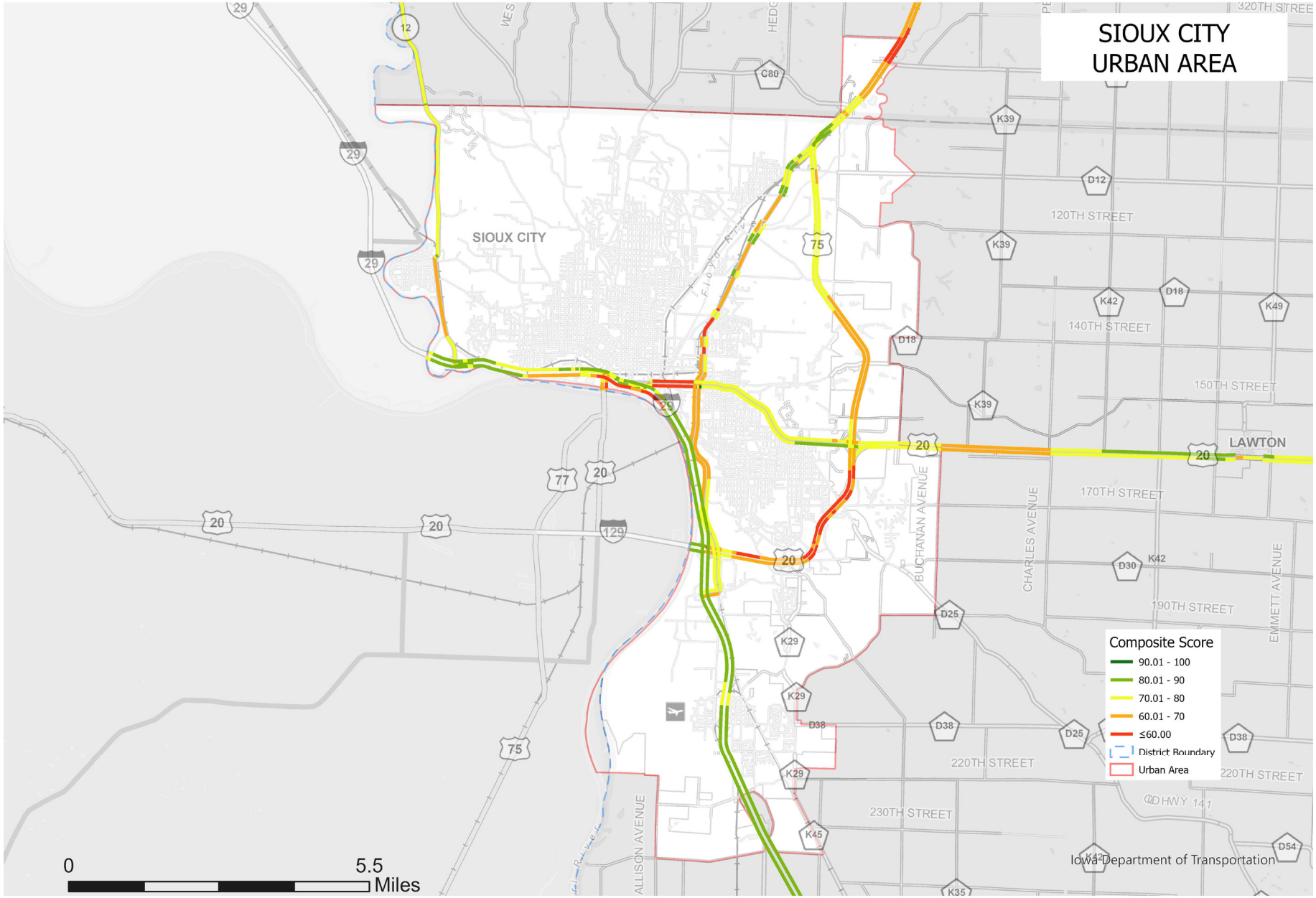
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
6.5
Miles
Iowa Department of Transportation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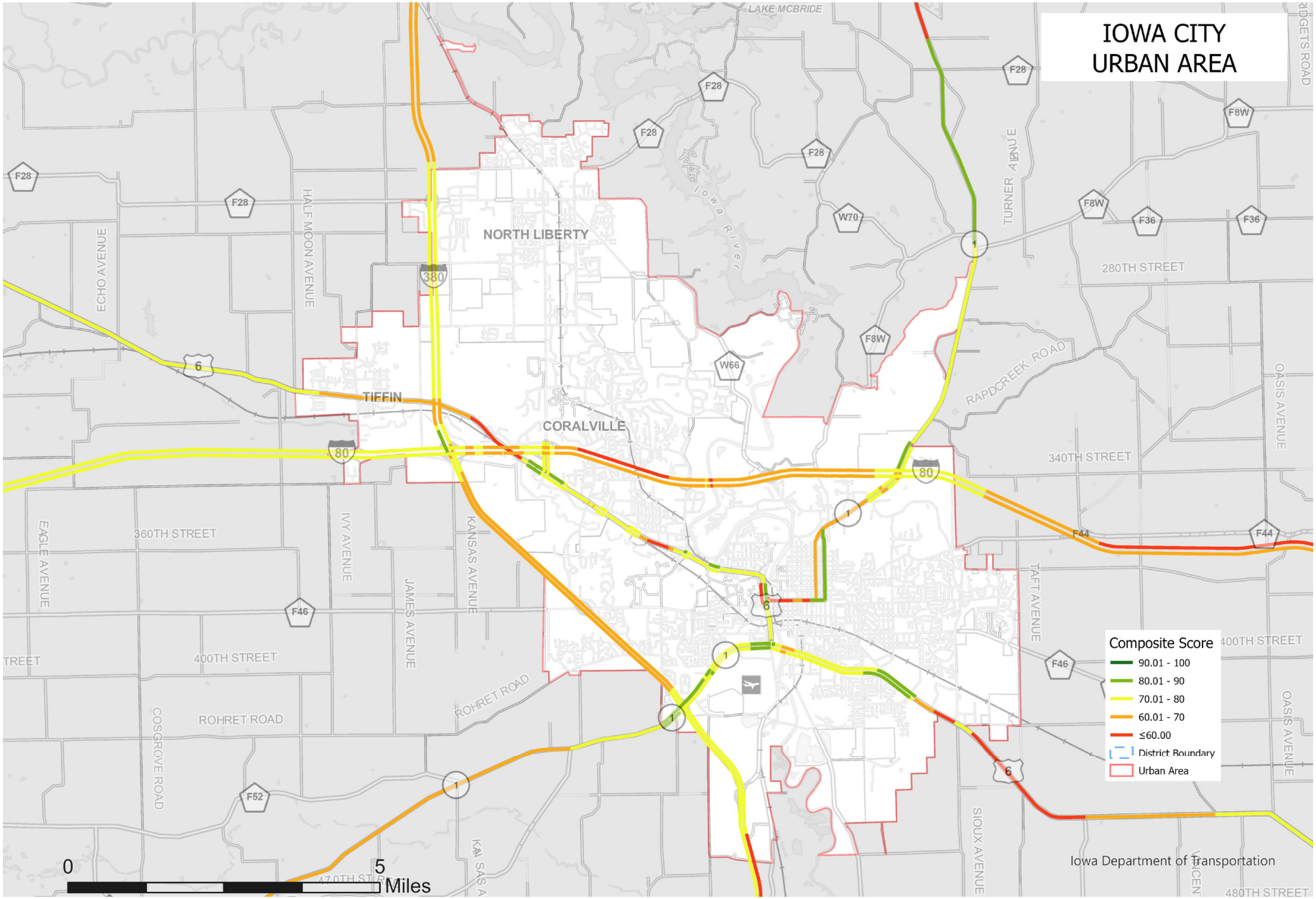
URBAN AREA
SIOUX CITY
LAWTON
120TH STREET
140TH STREET
150TH STREET
170TH STREET
190TH STREET
220TH STREET
230TH STREET
BUCHANAN AVENUE
CHARLES AVENUE
EMMETT AVENUE
ALLISON AVENUE
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
5.5
Miles
Iowa Department of Transportation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URBAN AREA
LAKE MCBRIDE
NORTH LIBERTY
TIFFIN
CORALVILLE
Iowa River
ECHO AVENUE
HALF MOON AVENUE
TURNER AVENUE
RIDGETS ROAD
280TH STREET
RAPDCREEK ROAD
OASIS AVENUE
340TH STREET
360TH STREET
EAGLE AVENUE
IVY AVENUE
JAMES AVENUE
KANSAS AVENUE
TAFT AVENUE
400TH STREET
ROHRET ROAD
COSGROVE ROAD
SIOUX AVENUE
470TH STREET
480TH STREET
F28
F8W
F36
F44
F46
F52
W70
W66
380
80
6
1
Composite Score
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70.01 - 80
60.01 - 70
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District Boundary
Urban Area
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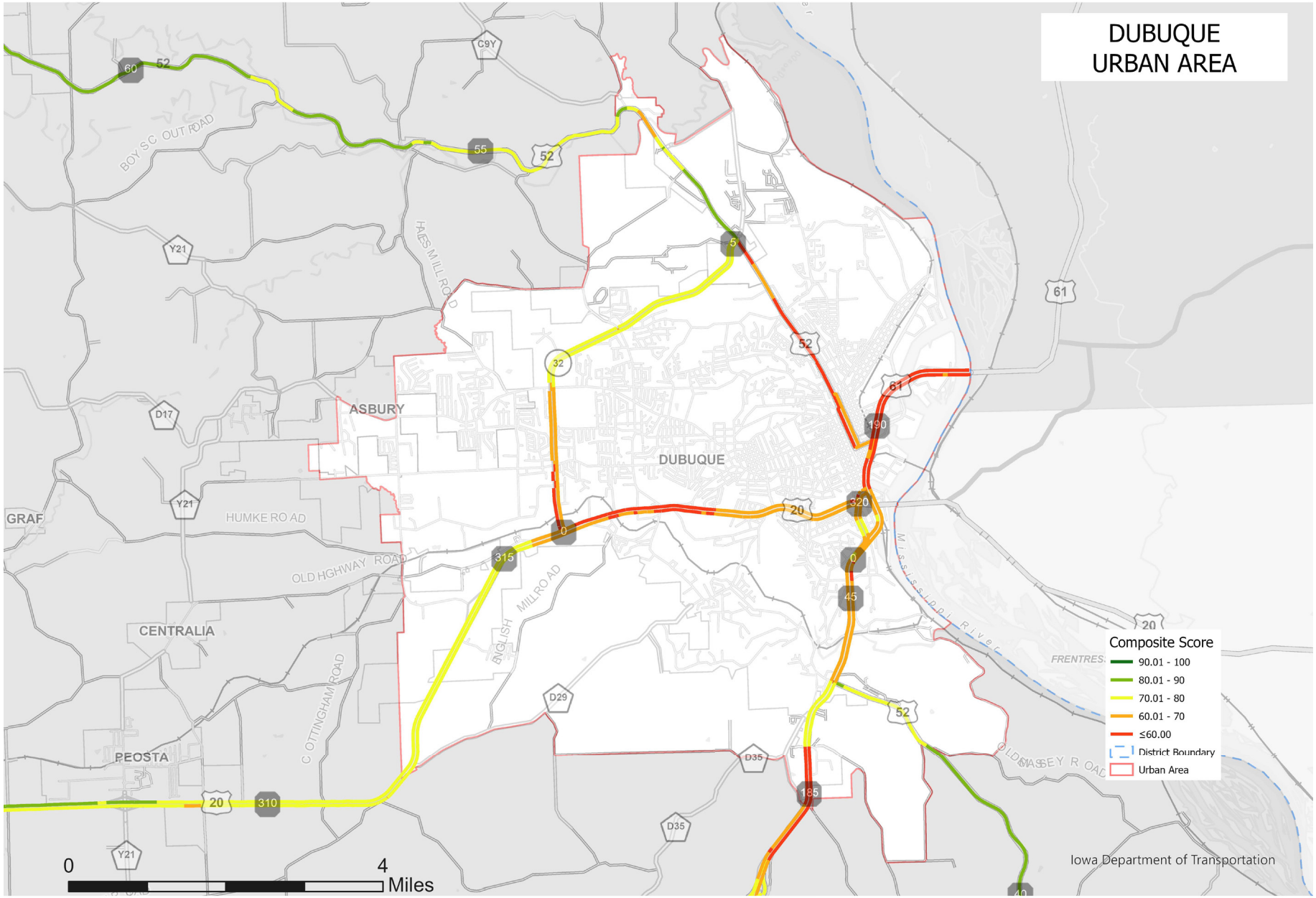
5
Miles
Iowa Department of Transportation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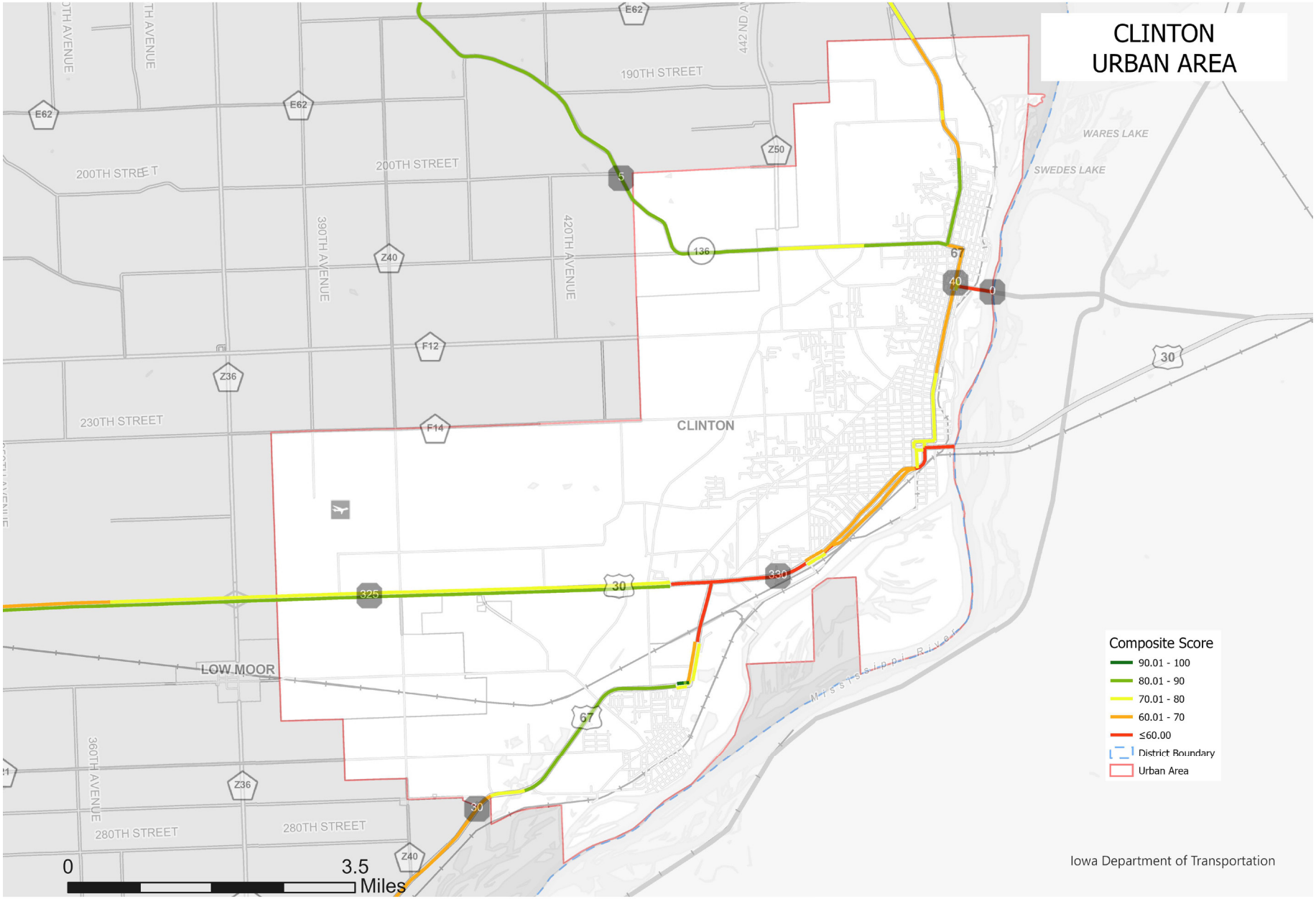
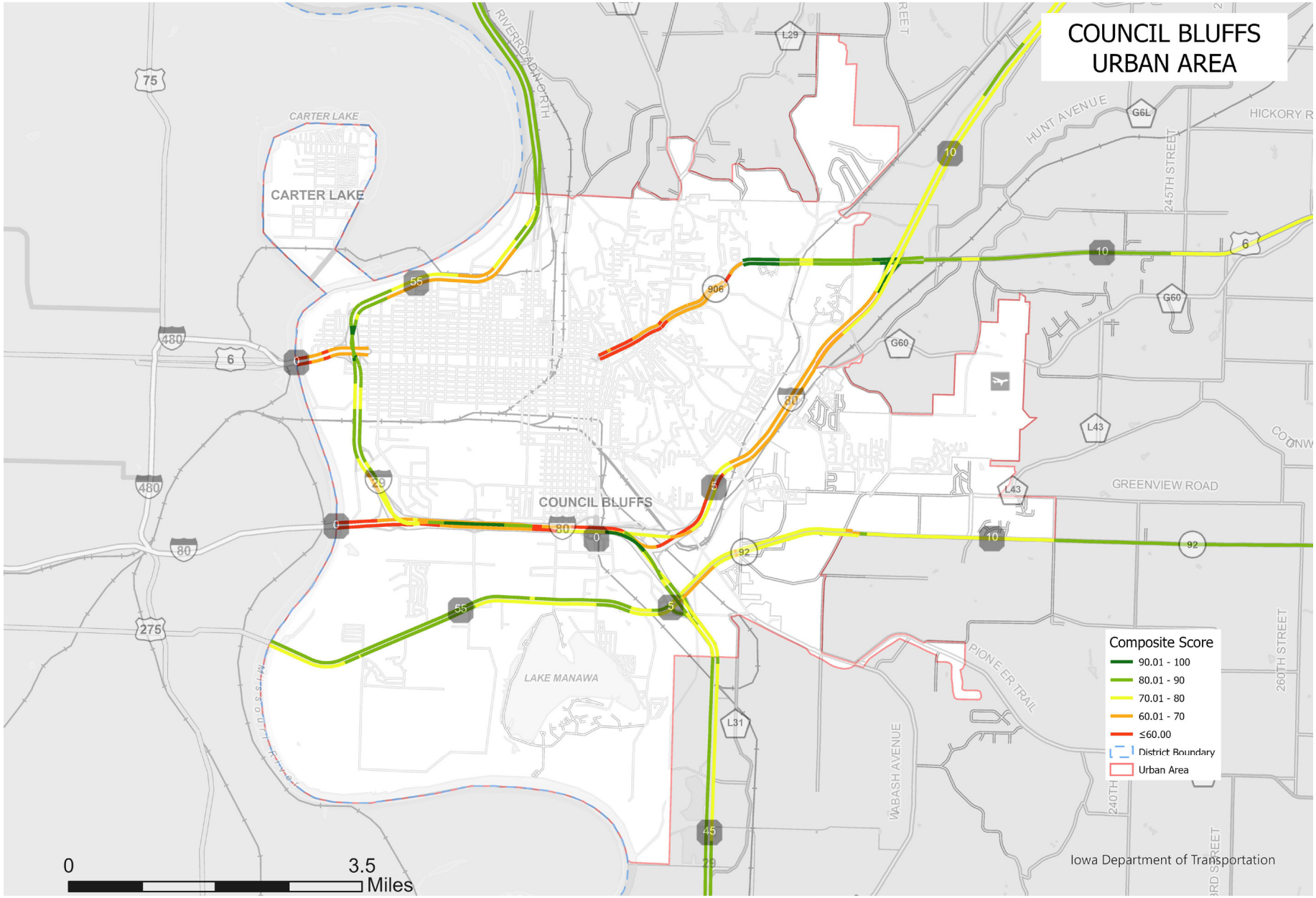
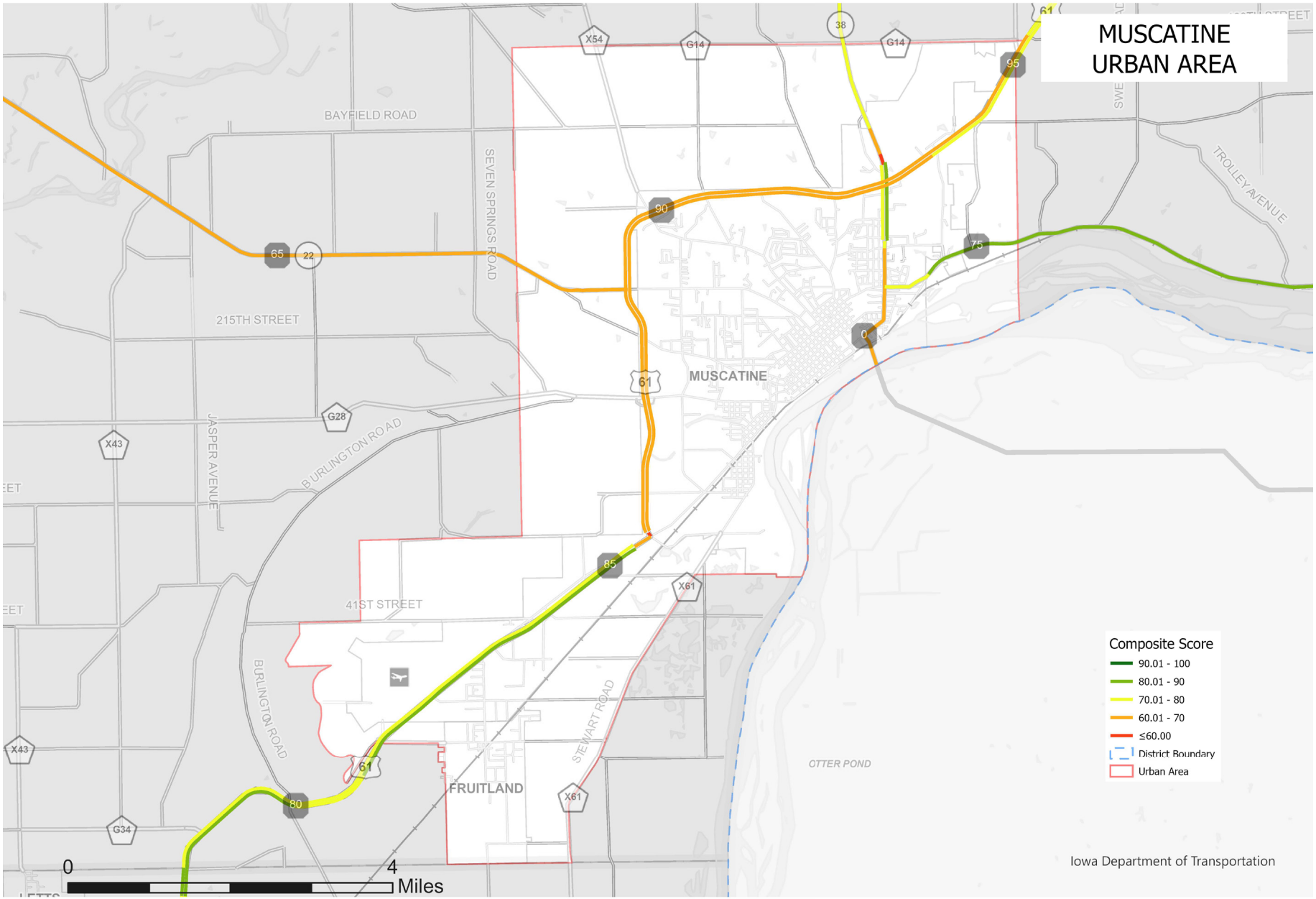
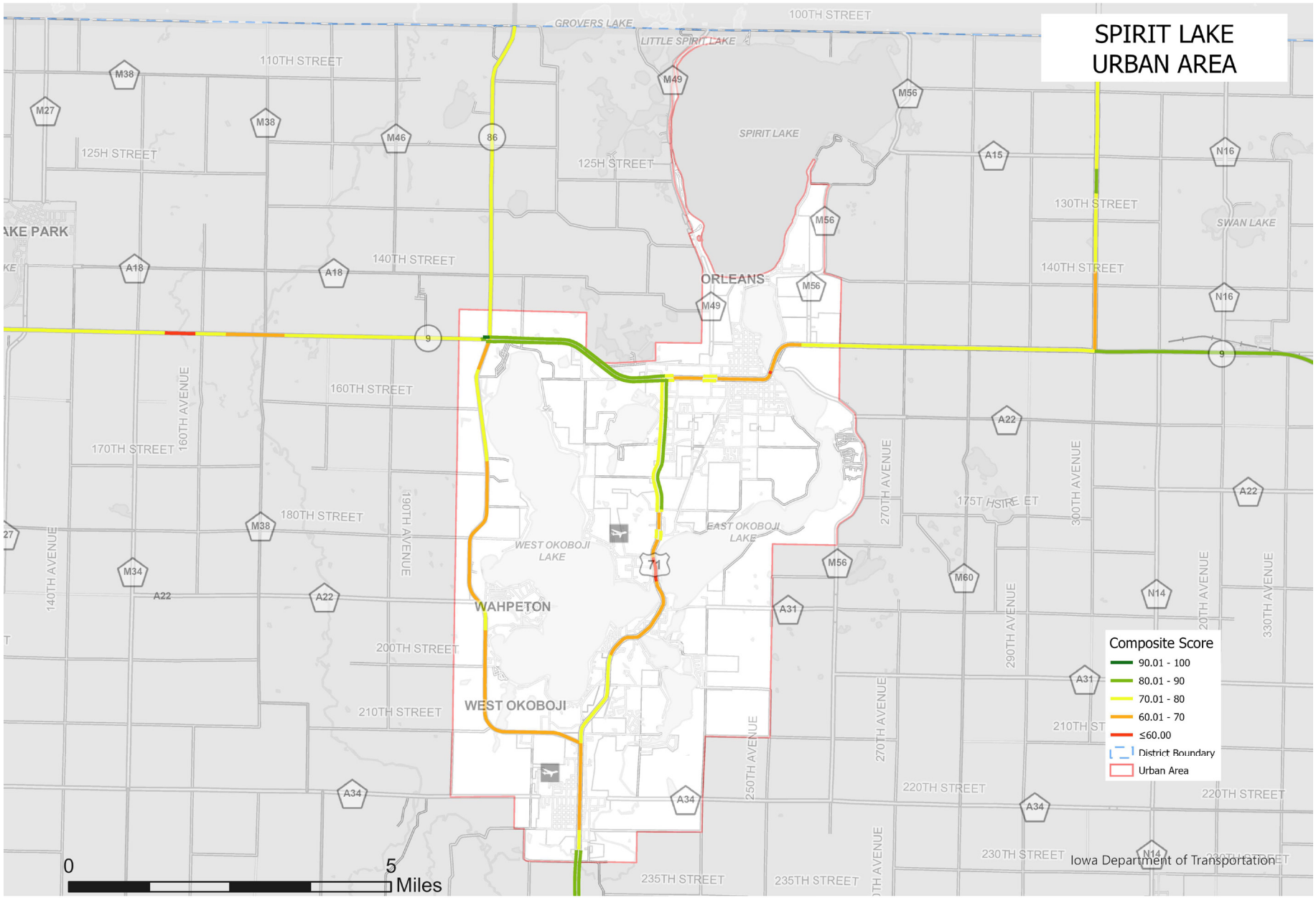
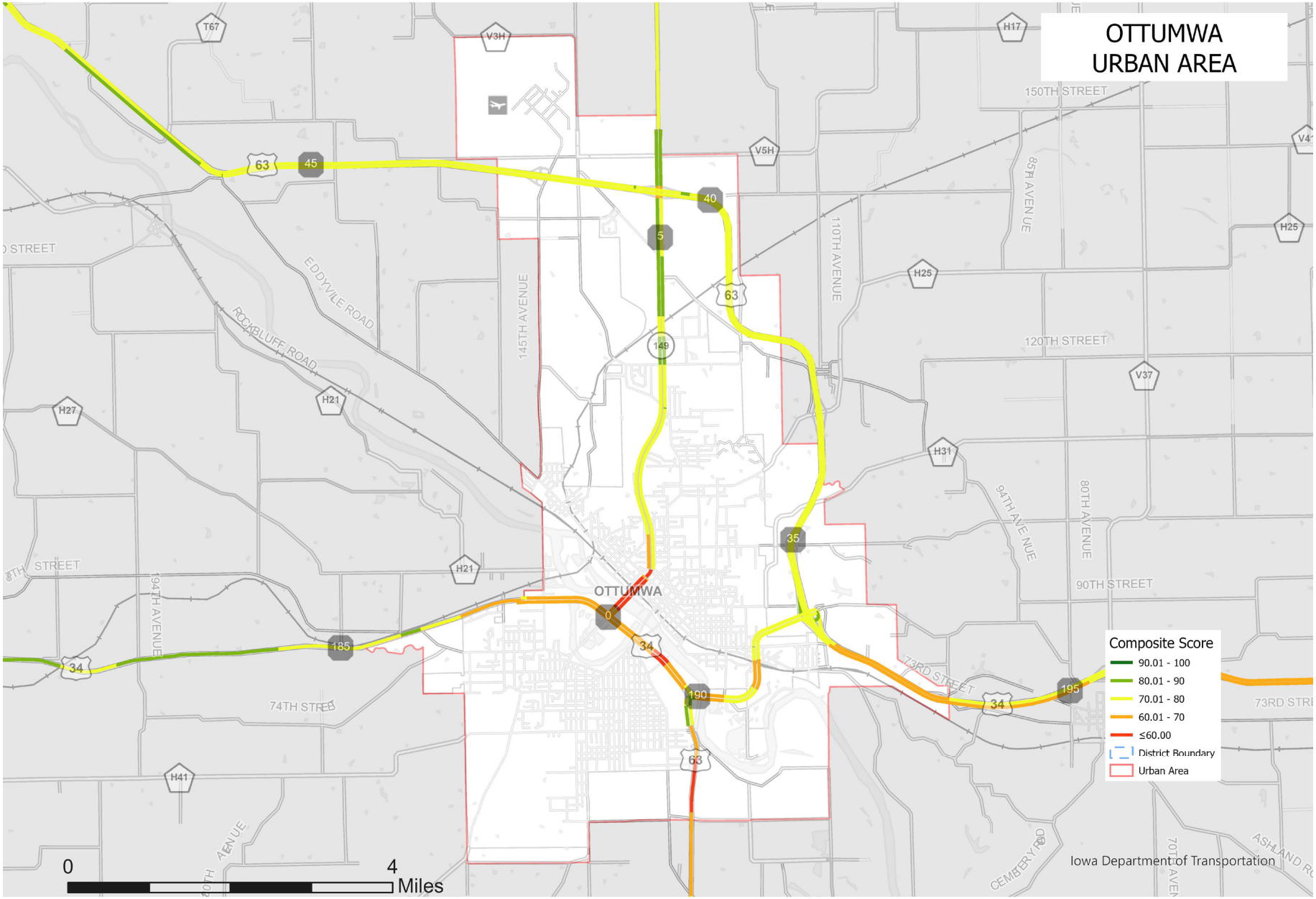
URBAN AREA
ASBURY
DUBUQUE
GRAF
CENTRALIA
PEOSTA
BOY SCOUT ROAD
HAES MILL ROAD
HUMKE ROAD
OLD HIGHWAY ROAD
ENGLISH MILL ROAD
C OTTINGHAM ROAD
OLD MASSEY ROAD
Mississippi River
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
4
Miles
Iowa Department of Transportation

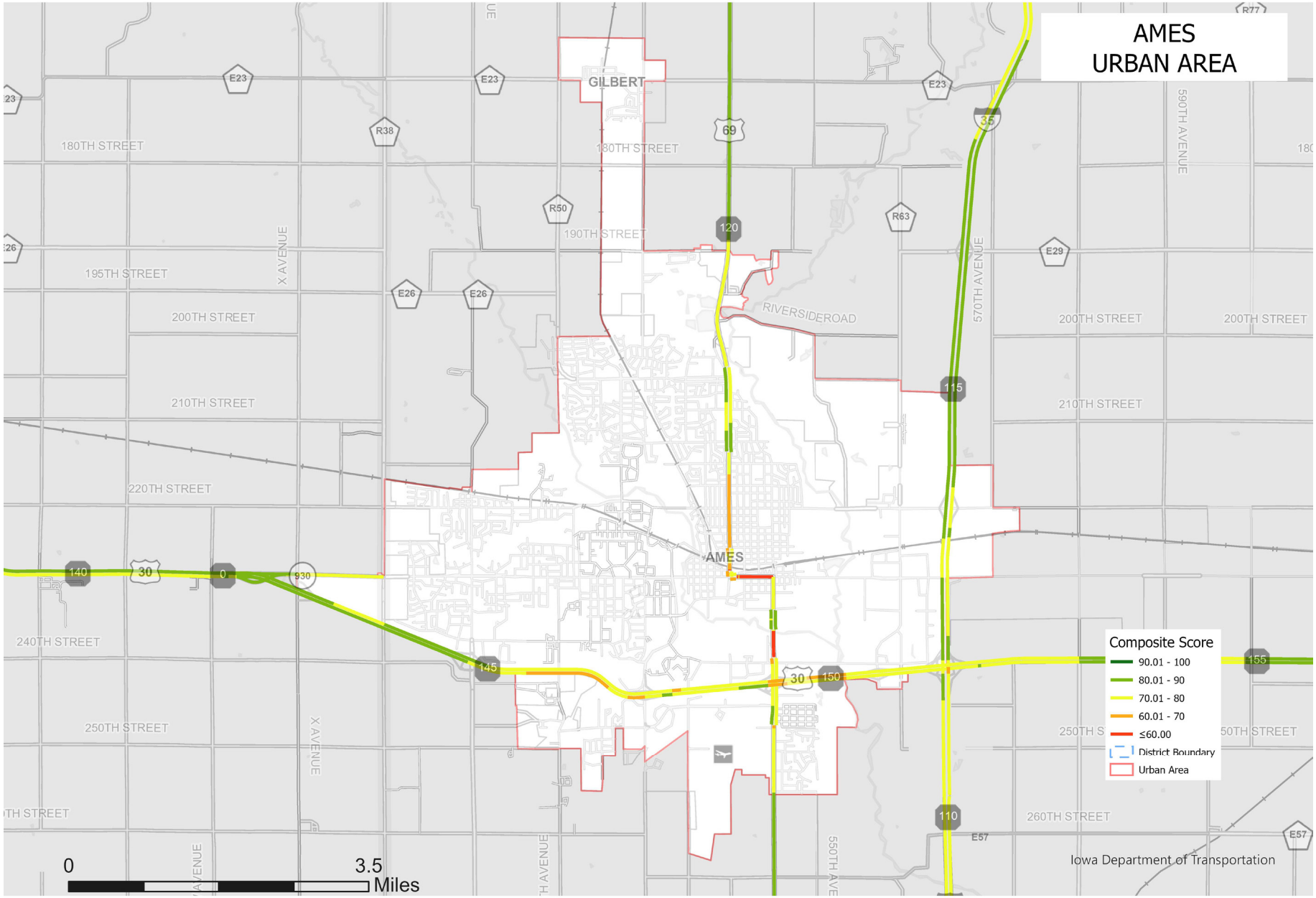

CLINTON
URBAN AREA
190TH STREET
200TH STREET
230TH STREET
280TH STREET
390TH AVENUE
420TH AVENUE
360TH AVENUE
442ND AVENUE
CLINTON
LOW MOOR
WARES LAKE
SWEDES LAKE
Mississippi River
E62
Z50
5
136
67
40
0
30
Z40
F12
Z36
F14
325
330
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
3.5
Miles
Iowa Department of Transportation

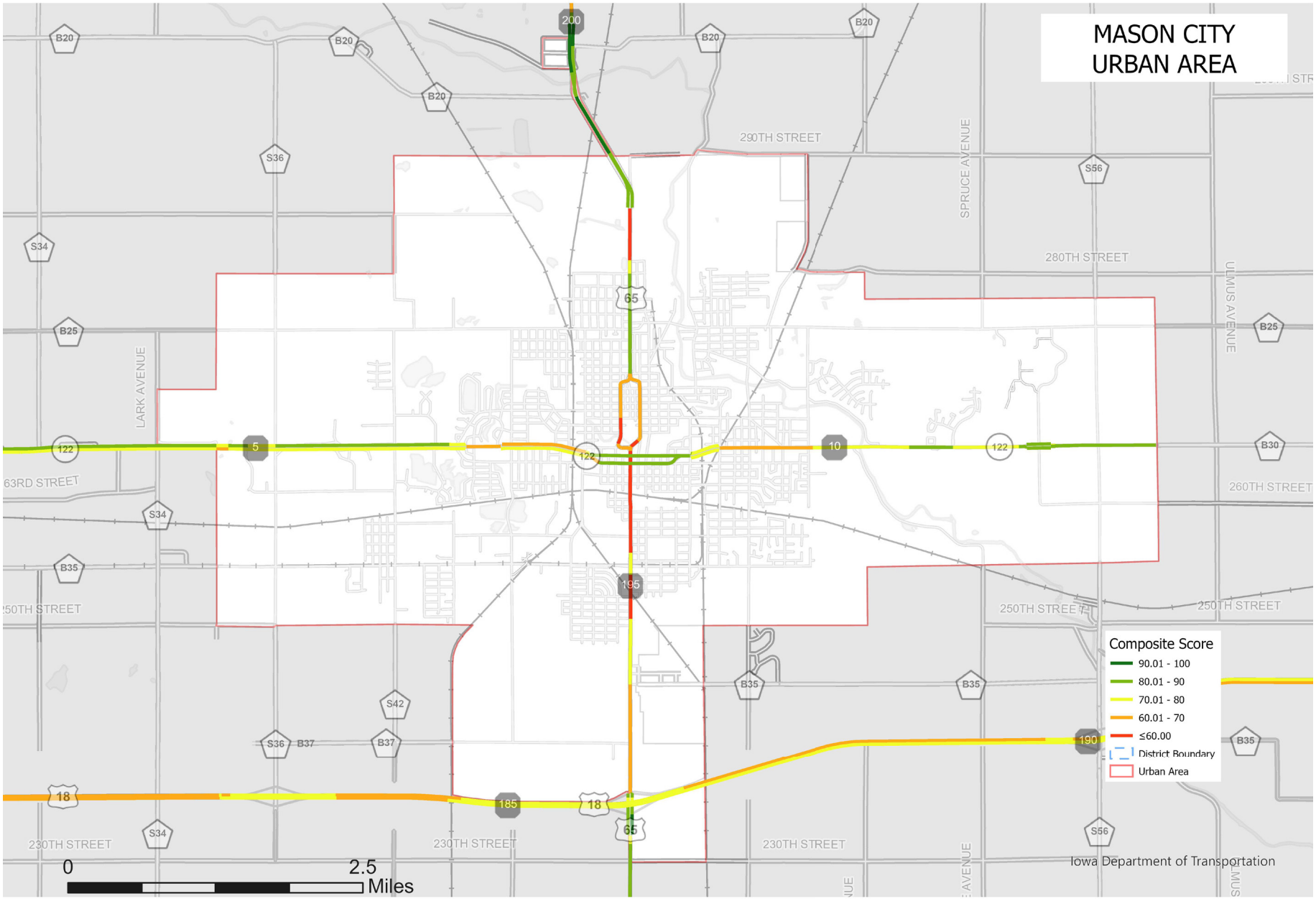

COUNCIL BLUFFS
URBAN AREA
CARTER LAKE
CARTER LAKE
COUNCIL BLUFFS
LAKE MANAWA
HUNT AVENUE
HICKORY R
245TH STREET
GREENVIEW ROAD
PIONEER TRAIL
WABASH AVENUE
260TH STREET
240TH
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
3.5
Miles
Iowa Department of Transportation

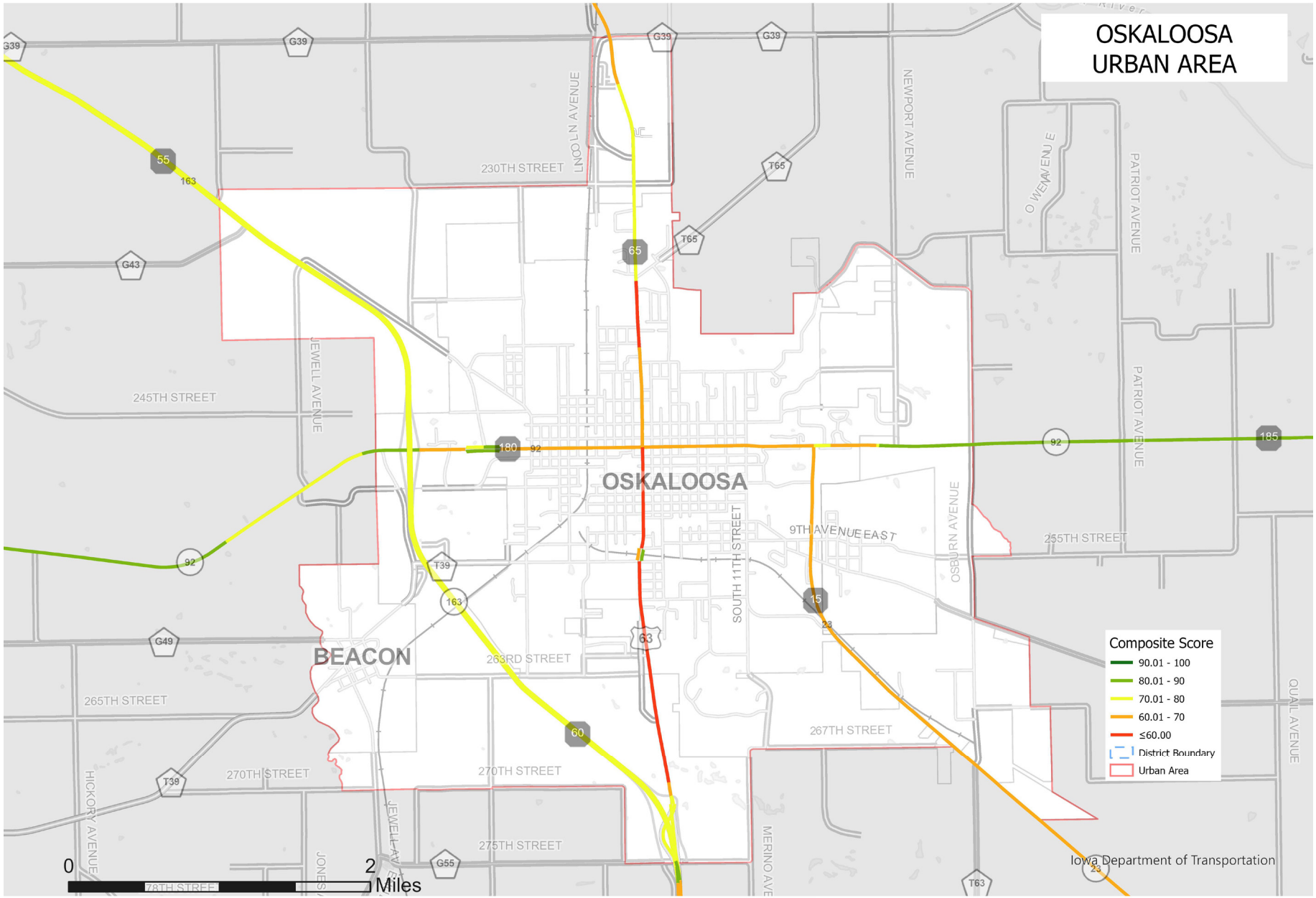

MUSCATINE
URBAN AREA
BAYFIELD ROAD
SEVEN SPRINGS ROAD
215TH STREET
JASPER AVENUE
BURLINGTON ROAD
41ST STREET
STEWART ROAD
TROLLEY AVENUE
MUSCATINE
FRUITLAND
OTTER POND
X54
G14
38
G14
95
90
65
22
75
0
61
G28
X43
85
X61
80
61
X61
X43
G34
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
4
Miles
Iowa Department of Transportation


SPIRIT LAKE
URBAN AREA
GROVERS LAKE
LITTLE SPIRIT LAKE
SPIRIT LAKE
SWAN LAKE
ORLEANS
WAHPETON
WEST OKOBOJI
WEST OKOBOJI LAKE
EAST OKOBOJI LAKE
100TH STREET
110TH STREET
125H STREET
130TH STREET
140TH STREET
160TH STREET
170TH STREET
175T HSTRE ET
180TH STREET
200TH STREET
210TH STREET
220TH STREET
230TH STREET
235TH STREET
160TH AVENUE
170TH AVENUE
190TH AVENUE
140TH AVENUE
250TH AVENUE
270TH AVENUE
290TH AVENUE
300TH AVENUE
330TH AVENUE
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
5
Miles
Iowa Department of Transportation


OTTUMWA
URBAN AREA
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
4
Miles
Iowa Department of Transportation
OTTUMWA
150TH STREET
120TH STREET
90TH STREET
74TH STREET
73RD STREET
EDDYVILE ROAD
ROCKBLUFF ROAD
145TH AVENUE
110TH AVENUE
85TH AVENUE
94TH AVENUE
80TH AVENUE
194TH AVENUE
70TH AVENUE
CEMETERY RD
ASHLAND RD
T67
V3H
H17
V5H
V41
H25
V37
H31
H27
H21
H41
63
45
40
5
149
35
0
34
185
190
195


AMES
URBAN AREA
GILBERT
AMES
180TH STREET
190TH STREET
195TH STREET
200TH STREET
210TH STREET
220TH STREET
240TH STREET
250TH STREET
260TH STREET
X AVENUE
570TH AVENUE
590TH AVENUE
550TH AVENUE
RIVERSIDEROAD
E23
E26
E29
E57
R38
R50
R63
R77
69
35
120
115
110
155
150
145
140
30
0
930
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
3.5
Miles
Iowa Department of Transportation


MASON CITY
URBAN AREA
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
2.5
Miles
Iowa Department of Transportation
290TH STREET
280TH STREET
260TH STREET
250TH STREET
230TH STREET
63RD STREET
LARK AVENUE
SPRUCE AVENUE
ULMUS AVENUE


OSKALOOSA
URBAN AREA
OSKALOOSA
BEACON
230TH STREET
245TH STREET
255TH STREET
263RD STREET
265TH STREET
267TH STREET
270TH STREET
275TH STREET
9TH AVENUE EAST
LINCOLN AVENUE
NEWPORT AVENUE
PATRIOT AVENUE
JEWELL AVENUE
SOUTH 11TH STREET
OSBURN AVENUE
HICKORY AVENUE
MERINO AVE
QUAIL AVENUE
Composite Score
90.01 - 100
80.01 - 90
70.01 - 80
60.01 - 70
≤60.00
District Boundary
Urban Area
0
2
Miles
Iowa Department of Transportation

4. SYSTEM CONDITIONS & TRENDS

This chapter offers a brief summary of Iowa's highway system and examines some of the key trends that have affected the system and are projected to have future impact. This information was evaluated using the ICE results from the five most recent analysis years and is meant to offer trend analysis on system performance for the entire Primary Highway System.

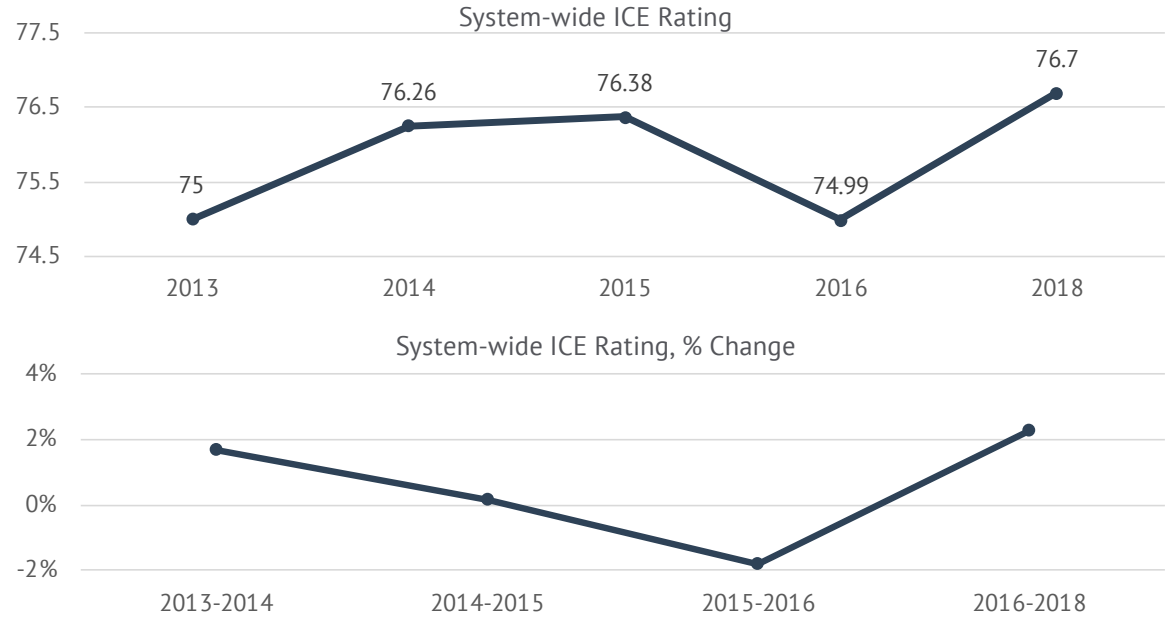
4.1 System condition summary

The overall distribution of segment-level ICE composite ratings in 2018 ranged from a low of 29.5 to 100, with the system-wide average at 76.7.

Table 4.1: Average Composite Scores; Interstate, Divided, Non-Divided; by Area Type

Area Type	Total Mileage	Avg. Score	Total INT	Avg. INT Score	Total DIV	Avg. DIV Score	Total NDIV	Avg. NDIV Score
Urban (within UAB, within CL)	1,244.1	72.2	299.9	74.3	612.3	73.5	331.6	68.1
Sub-Urban (within UAB, outside C)	440.2	74.6	60.5	70.8	257.8	75.8	121.8	73.9
Small City (outside UAB, within CL)	601.2	75.5	32.6	78.7	116.1	77.4	452.5	74.7
Rural (outside UAB, outside CL)	8,890.2	77.5	1,190.7	78.8	1,957.6	78.3	5,741.9	77.0

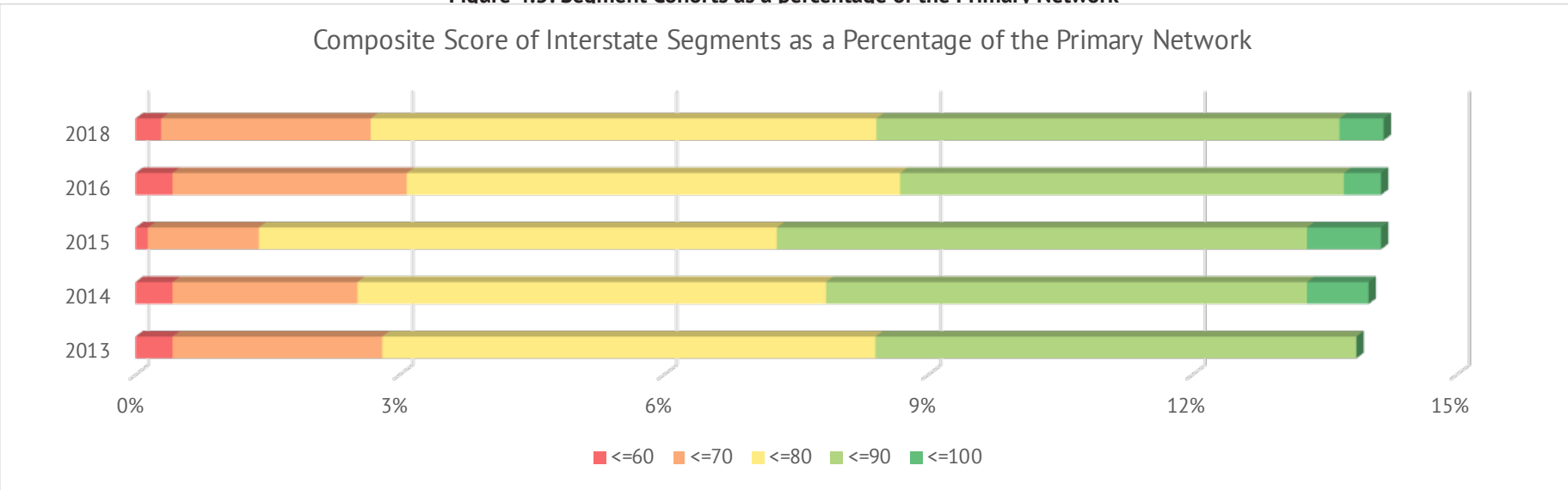
Figure 4.2: System-wide average ICE composite rating

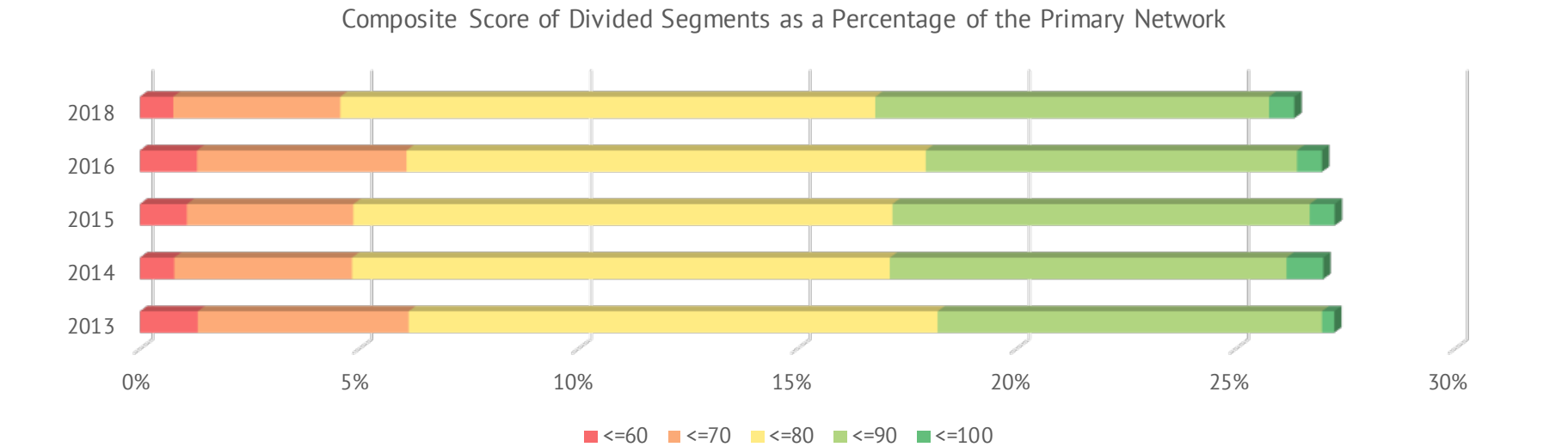


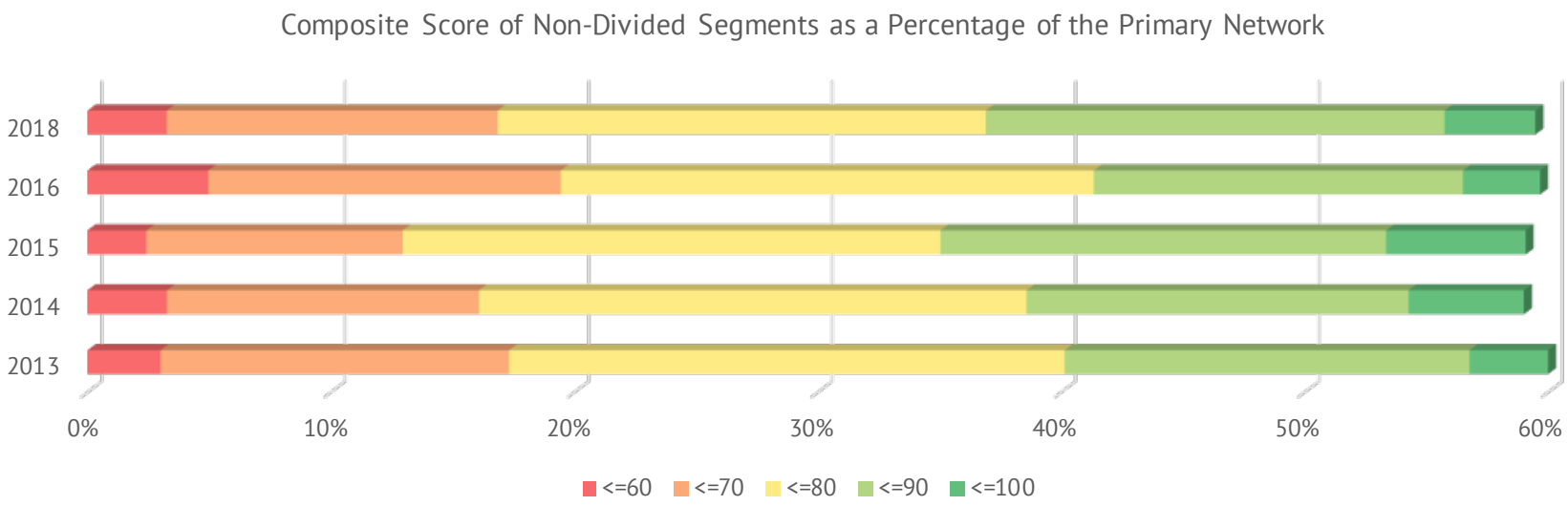
Condition by route type

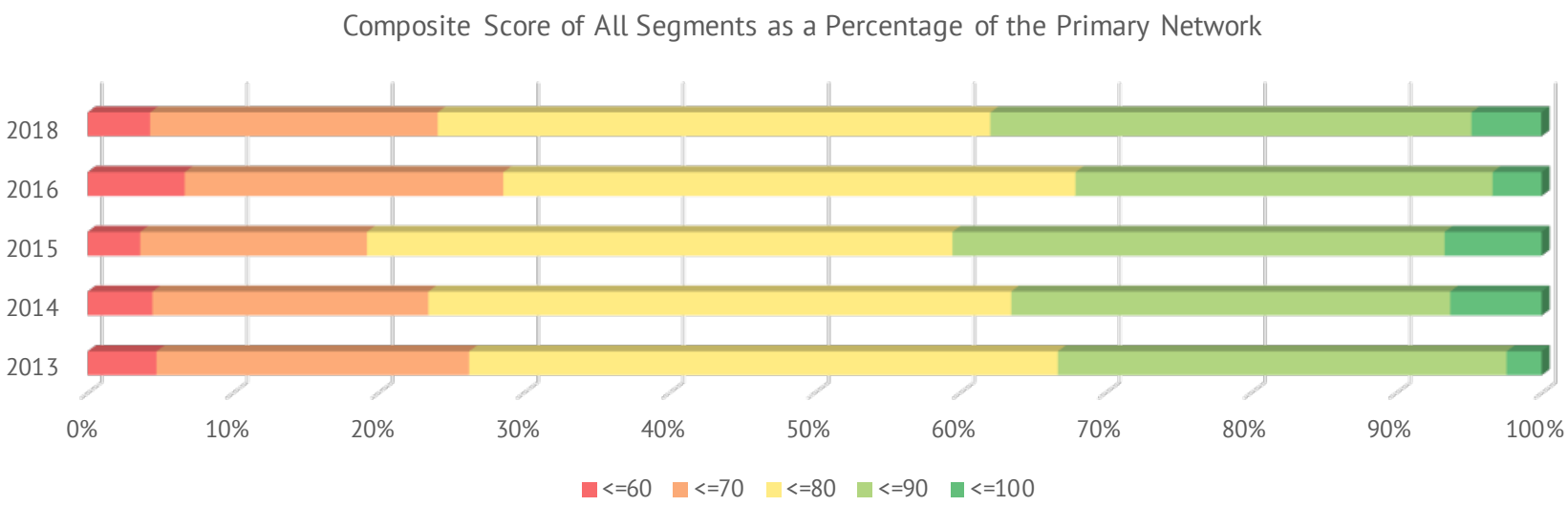
Figure 4.3 shows the distribution of the system by route type and the percentage of segmentation within each ICE composite rating cohort. The conditions of each route type are compared to each other to give some context on how each is performing. The system percentages by route type (Interstate, Divided, Non-Divided) have remained relatively similar since 2013.

Figure 4.3: Segment Cohorts as a percentage of the Primary Network






Composite Score of Non-Divided Segments as a Percentage of the Primary Network
2018
2016
2015
2014
2013
0%
10%
20%
30%
40%
50%
60%
<=60
<=70
<=80
<=90
<=100


Composite Score of All Segments as a Percentage of the Primary Network
2018
2016
2015
2014
2013
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
<=60
<=70
<=80
<=90
<=100

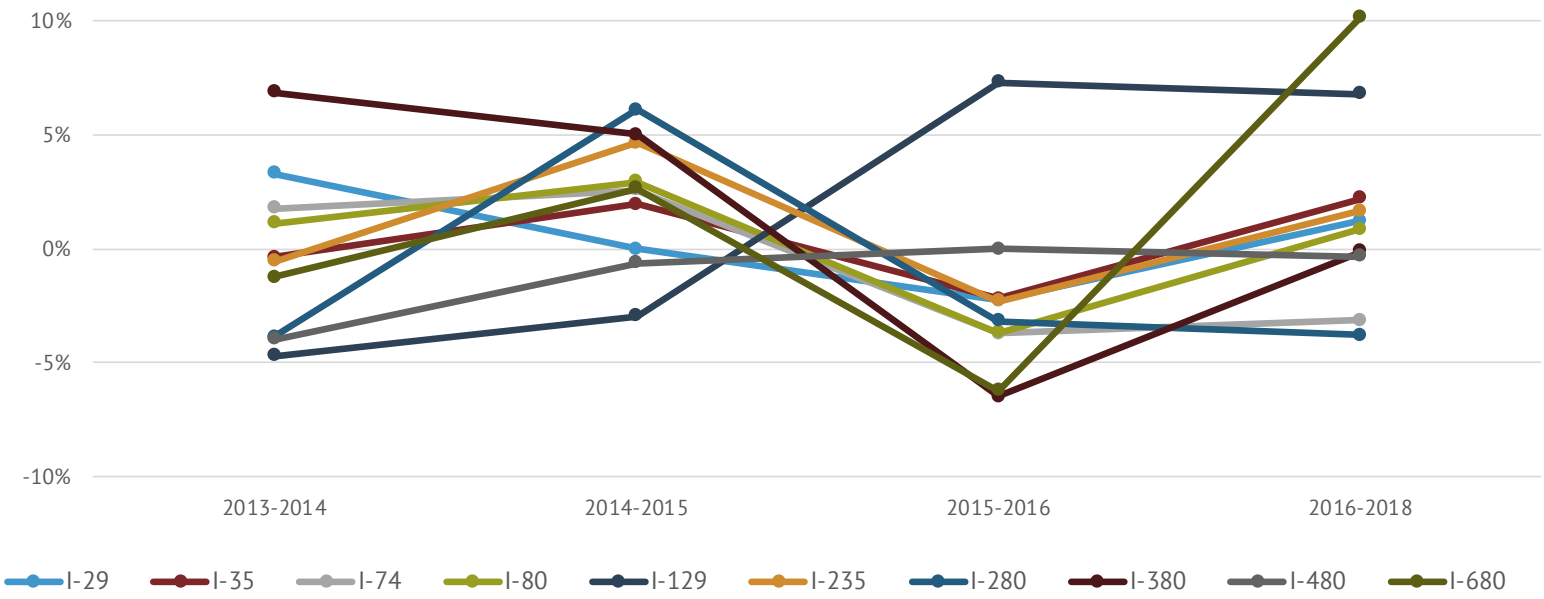
Interstates

Table 4.4 shows the ICE composite ratings across the entire interstate system, organized by route for 2013-2018. While I-480 continues to hold the lowest rating, it accounts for a small amount of mileage on the Interstate system with just under two miles.

Table 4.4: Interstate average ICE composite rating

Route	2013	2014	2015	2016	2018
I-29	81.7	84.4	84.4	82.5	83.5
I-35	81.5	81.2	82.8	81	82.8
I-74	79.6	81	83.1	80	77.5
I-80	70.5	71.3	73.4	70.7	71.3
I-129	78.5	74.8	72.6	77.9	83.2
I-235	71.3	70.9	74.2	72.5	73.7
I-280	80.1	77	81.7	79.1	76.1
I-380	72.9	77.9	81.8	76.5	76.4
I-480	65.2	62.6	62.2	62.2	62
I-680	80.6	79.6	81.7	76.6	84.4

Figure 4.5: Percent Change Over Previous Report Year, Composite Score, Interstates



Condition by district

To compare the condition breakdown by district, Table 4.6 shows the average ICE rating for segments within each Iowa DOT district and the lowest-rated corridor. District 6 continues to hold the lowest average ICE composite rating with an average 74.32. Overall, the average ICE ratings across each transportation district increased from the previous year.

Table 4.6: District-wide average ICE rating

District	2013	2014	2015	2016	2018
District 1	73.5	76.2	75.9	75.6	76.6
District 2	74.8	76.6	75.6	75.5	76.1
District 3	74.2	76.0	76.1	74.0	76.9
District 4	75.4	78.0	77.9	77.0	78.3
District 5	75.2	76.9	76.9	75.4	75.9
District 6	71.8	73.9	73.1	72.7	74.3

Figure 4.7 Percent Change Over Previous Report Year Average Composite Score, Districts

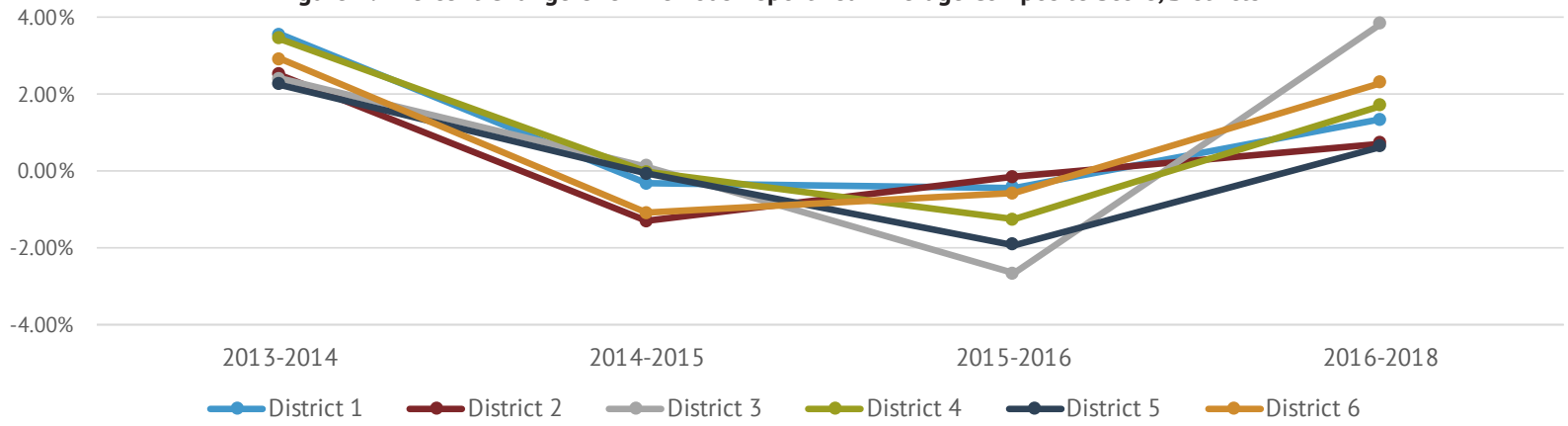


Table 4.8: Lowest Rated Corridor per District

District	ICE Corridor	Composite Score
District 1	I 80: IA 28 to IA 415	57.2
District 2	US 20: IA 27 to US 218	59.5
District 3	IA 4: IA 3 to US 18	62.1
District 4	US 59: I-80 to US 30	55.3
District 5	IA 22: IA 1 to US 218	58.8
District 6	IA 136: IL border to US 67	48.9

5. CONCLUSION

5.1 Periodic re-evaluation

As a planning tool, it is critical that the most recent data available be routinely incorporated into this report. As a result, the working group felt it was necessary to define a set schedule for a periodic reevaluation and update. Since the majority of the data used in the development of this report is updated on an annual basis, an annual update provides a logical time frame.

Input from the involved stakeholders over the past years is reflected in the analysis as well as the report itself. Moving forward, this process will continually seek input to facilitate the annual update and address any new stakeholder needs.

Annual schedule

The re-evaluation process also identified an approximate date when all relevant annual data updates should be expected to be completed. The planning team determined that, in a typical year, all new data could be expected to be available by July 1[1]. Table 5.1 builds from this date, and presents a timeline that ultimately defines when the primary outputs of this report (i.e., maps and corridor listings) would be updated and available for review.

Table 5.1: Annual re-evaluation and update timeline

Milestone	2020					2021
	August	September	October	November	December	January
Updated data available	■					
Update / Modify / Maintain Corridors		■				
Linear overlay process		■	■			
Data processing			■			
Data analysis				■		
Web map update complete					■	
Planning report update			■	■	■	
Final report release						■

With an anticipated data analysis completion date in November, this information would be made available for each new programming cycle in an annual report initiated towards the end of the calendar year. In addition to providing another tool for facilitating programming discussions, the annual update cycle will continue to include trend analysis.

[1] *Due to the shift in software used for analysis and a staffing turnover, the above timeline was not feasible. However, there should be consistency moving forward, reverting back to the typical analysis and production timeline.*

5.2 Future enhancements

Conflation of Current and Previous Data Sets

The Primary Roadway network changes every year. ICE data is maintained, aggregated to corridors, and spatial data, as network segments, is maintained as a separate table. While comparison between aggregated data is currently possible when corridor and corridor identifiers are unchanged between years, determining the past performance of network sections where any realignment has occurred is not feasible. In other words, we can determine changes between corridors year-to-year; but we do not have a method to determine the location of scored criteria within the corridor in a consistent, measured manner.

Safety component

The safety component could be added as the eighth core criterion which would directly influence the final ICE composite rating. However, future discussions with key stakeholders will be needed to decide if there is a need to add a safety factor into the core analysis and composite rating.

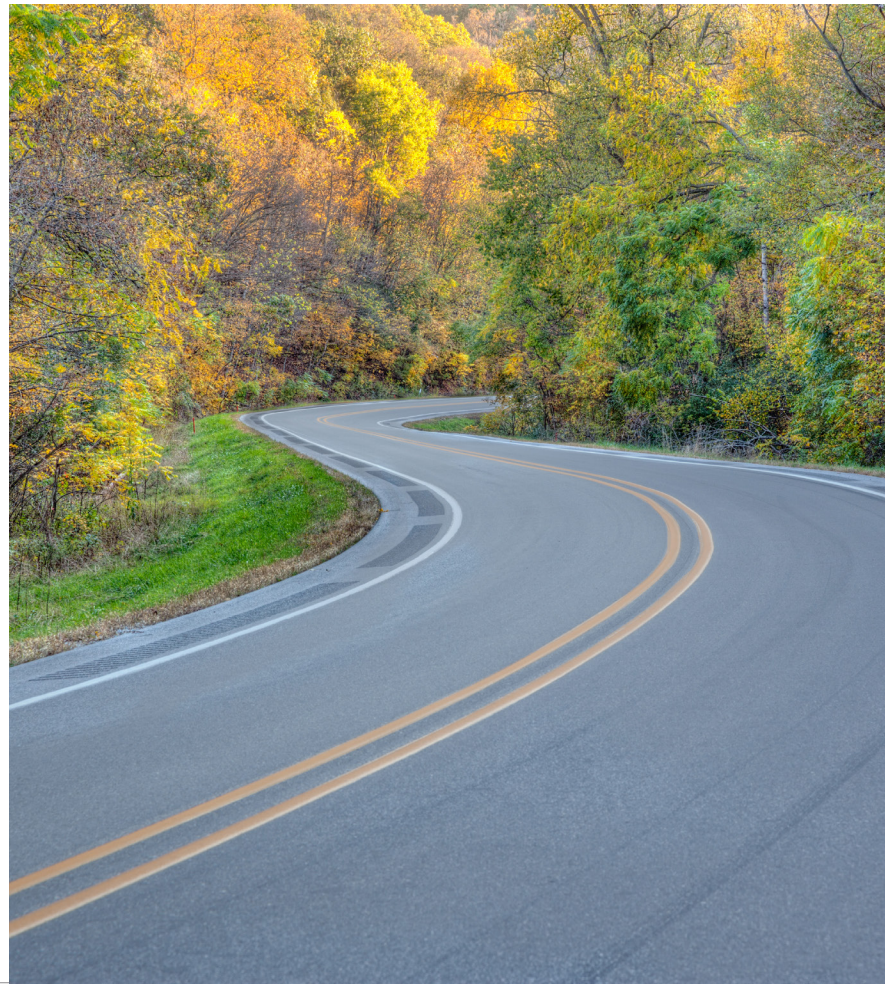
ITRAM data forecasting

With the development of the second generation iTRAM model completed, the idea of forecasting the ICE criteria has been discussed as a potential enhancement. To forecast the future traffic conditions, the ICE segmentation could be integrated into iTRAM, which would then be utilized to perform model runs to estimate AADT on the system in the forecast year.

This is also a possibility for forecasting future pavement condition data, including PCI and IRI. To do so the Iowa DOT will need formulas to help estimate the deterioration of the pavement and structures under various scenarios.

Inclusion of the entire public roadway system

With the adoption of the Iowa DOT's new LRS system, the new linear overlay process allows for a more streamlined approach to reporting the business data that makes up Iowa's roadway network. By including the entire public roadway system, a more granular examination could provide beneficial data capabilities for MPO, RPA's, and local jurisdictions. However, before future ICE iterations can consider the addition of county and local roads, it must be assured that the methods to collect and process data between organizations be rectified to ensure compatibility.



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APPENDIX 1: ICE CORRIDORS

Figure A.1 ICE corridors

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
I 29: MO border to IA 2	FREMONT	9.96	INT	-2.8	81.2	8	8	9	9	7	8	8	8
I 29: IA 2 to US 34	FREMONT, MILLS	25.79	INT	-3.2	86.0	9	8	9	9	8	8	9	7
I 29: US 34 to I-80	MILLS, POTTAWATTAMIE	13.45	INT	-0.5	81.9	9	7	8	8	7	7	9	4
I 29: I-80 to I-480/US 6	POTTAWATTAMIE	2.7	INT	7.2	80.9	10	6	6	6	8	6	7	1
I 29: I-480/US 6 to Council Bluffs N CL	POTTAWATTAMIE	7.87	INT	5.1	82.6	8	6	8	8	9	8	9	4
I 29: IA 192 to I-680	POTTAWATTAMIE	9.49	INT	-4.2	83.1	9	8	8	8	8	7	8	7
I 29: US 30 to IA 175	HARRISON, MONONA, POTTAWATTAMIE	40.85	INT	-0.5	82.0	9	7	9	9	8	8	7	6
I 29: IA 175 to US 20/I-129	MONONA, WOODBURY	32.2	INT	0.5	86.7	9	7	8	9	8	8	9	6
I 29: US 20/I-129 to SD border	WOODBURY	7.3	INT	2.7	77.8	9	6	6	7	7	6	9	1
I 35: MO border to US 34	CLARKE, DECATUR	33.18	INT	1.5	86.7	10	7	9	8	7	8	8	6
I 35: US 34 to IA 92	CLARKE, WARREN	23.59	INT	-1.8	82.3	9	7	8	7	7	8	8	5
I 35: IA 92 to IA 5	POLK, WARREN	11.64	INT	3.2	82.5	9	7	8	6	7	7	9	4
I 35: IA 5 to I-80/I-235	POLK	5.04	INT	1.8	74.7	9	7	3	2	7	5	9	5
I 35: I-80/I-235 to IA 160	POLK	4.02	INT	1.8	69.6	9	7	2	2	6	3	9	2
I 35: IA 160 to US 30	POLK, STORY	20.9	INT	6.6	74.1	9	7	5	2	6	4	8	3
I 35: US 30 to US 20	HAMILTON, STORY	30.71	INT	3.8	81.9	9	7	7	6	7	7	7	4
I 35: US 20 to IA 3	FRANKLIN, HAMILTON, WRIGHT	23.47	INT	1.8	86.0	9	8	9	8	8	8	8	5
I 35: IA 3 to US 18	CERRO GORDO, FRANKLIN	27.98	INT	0.2	86.5	10	8	9	8	8	8	8	6
I 35: US 18 to MN border	CERRO GORDO, WORTH	24.66	INT	-1.2	83.0	10	8	9	6	6	8	8	5
I 74: IL border to I-80	SCOTT	5.4	INT	-3.4	77.5	8	6	5	7	9	5	6	1
I 80: NE border to I-29	POTTAWATTAMIE	3.43	INT	5.7	61.9	8	5	2	6	2	3	8	1
I 80: I-29 to US 6	POTTAWATTAMIE	5.05	INT	-4.3	67.4	8	5	7	8	4	6	7	2
I 80: US 6 to US 59	POTTAWATTAMIE	31.48	INT	-4.3	73.2	8	6	8	8	5	7	8	6
I 80: US 59 to US 6/US 71	CASS, POTTAWATTAMIE	20.93	INT	-2.1	72.6	9	6	8	9	4	7	7	6
I 80: US 6/US 71 to US 169	ADAIR, CASS, DALLAS, MADISON	48.92	INT	1.0	72.5	8	6	8	9	4	7	7	5
I 80: US 169 to W mixmaster	DALLAS, POLK	12.71	INT	2.7	66.7	8	5	5	8	4	5	7	3

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
I 80: W mixmaster to US 6	POLK	2.41	INT	-2.7	67.5	9	6	4	3	5	3	7	1
I 80: US 6 to IA 141	POLK	2.45	INT	4.0	63.7	9	8	1	1	2	2	7	3
I 80: IA 141 to IA 28	POLK	3.92	INT	-1.9	61.5	9	7	1	1	1	3	7	3
I 80: IA 28 to IA 415	POLK	4.03	INT	-0.9	57.2	9	6	1	1	1	2	7	3
I 80: IA 415 to E mixmaster	POLK	2.14	INT	1.0	61.3	9	6	1	1	2	3	9	1
I 80: E mixmaster to IA 14	JASPER, POLK	26.63	INT	1.7	71.1	9	7	6	5	5	5	8	3
I 80: IA 14 to US 63	JASPER, POWESHIEK	27.61	INT	-1.5	72.6	9	7	7	6	5	6	7	4
I 80: US 63 to US 151	IOWA, POWESHIEK	32.82	INT	2.0	75.1	9	6	7	6	5	6	7	5
I 80: US 151 to I-380	IOWA, JOHNSON	14.34	INT	1.4	77.6	9	7	7	6	5	6	7	6
I 80: I-380 to IA 1	JOHNSON	7.09	INT	-2.0	66.4	9	7	4	3	1	5	8	2
I 80: IA 1 to US 6	CEDAR, JOHNSON	24.61	INT	-0.3	67.6	9	6	7	5	2	5	7	4
I 80: US 6 to I-280	CEDAR, SCOTT	18.68	INT	0.5	67.9	9	6	7	6	1	5	7	5
I 80: I-280 to I-74	SCOTT	9.14	INT	4.4	75.7	10	7	6	5	4	5	7	4
I 80: I-74 to IL border	SCOTT	8.93	INT	0.1	74.3	9	6	7	7	5	6	7	5
I 129: NE border to I-29	WOODBURY	0.29	INT	8.4	83.2			8	9	9	8	5	1
I 235: W mixmaster to IA 28	POLK	4.28	INT	3.7	76.9	10	8	1	3	9	2	7	1
I 235: IA 28 to US 69	POLK	5.54	INT	2.3	72.1	9	7	1	1	8	2	8	1
I 235: US 69 to E mixmaster	POLK	4.77	INT	2.9	72.8	9	6	2	2	9	4	9	1
I 280: US 61/IA 146 to I-80	SCOTT	6.64	INT	0.4	78.2	9	7	8	6	6	7	8	6
I 280: IL border to US 61/IA 146	SCOTT	3.22	INT	-4.2	71.4	8	5	8	5	6	7	7	5
I 380: I-80 to US 30	JOHNSON, LINN	16.26	INT	-4.7	70.7	9	8	3	3	5	2	8	4
I 380: US 30 to IA 100	LINN	7.97	INT	4.5	72.0	9	7	2	4	7	4	7	4
I 380: IA 100 to IA 150	BENTON, LINN	19.64	INT	0.1	80.5	9	7	7	7	7	7	9	4
I 380: IA 150 to US 20	BENTON, BLACK HAWK, BUCHANAN	22.24	INT	-3.3	76.2	7	5	9	8	8	8	9	6
I 380: US 20 to end of route	BLACK HAWK	7.2	INT	0.4	83.3	10	8	7	7	7	7	8	2
I 480: NE border to I-29	POTTAWATTAMIE	0.88	INT	-0.6	62.0	4	1	6	8	10	7	5	1

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
I 680: NE border to I-29	POTTAWATTAMIE	3.35	INT	3.1	85.4	9	6	8	10	9	8	7	8
I 680: I-29 to I-80	POTTAWATTAMIE	17.1	INT	5.2	84.3	9	7	10	9	9	10	7	3
US 6: I-80 to US 59	POTTAWATTAMIE	20.19	NDIV	-3.7	79.9	9	7	6	5	7	9	8	4
US 6: US 59 to US 71	CASS, POTTAWATTAMIE	24.77	NDIV	7.2	85.2	9	6	8	7	9	10	8	1
US 6: US 169 to I-35/80	DALLAS, POLK	12.5	DIV	1.8	77.7	7	6	4	4	10	7	8	3
US 6: I-35/80 to IA 28	POLK	5.1	DIV	7.8	78.6	8	5	2	6	10	7	6	1
US 6: IA 28 to US 69	POLK	5.06	NDIV	-1.3	65.1	6	2	2	2	10	7	6	1
US 6: US 69 to I-235	POLK	1.31	DIV	11.2	75.0	8	5	4	2	8	7	7	1
US 6: I-235 to I-80	POLK	5.38	DIV	2.9	76.7	7	4	5	6	9	8	8	1
US 6: I-80 to IA 146	JASPER, POWESHIEK	20.5	NDIV	-3.8	81.0	8	6	5	7	9	9	8	2
US 6: IA 146 to US 151	IOWA, POWESHIEK	41.22	NDIV	10.0	87.1	10	8	7	7	8	10	8	4
US 6: US 151 to IA 965	IOWA, JOHNSON	15.05	NDIV	-2.6	74.5	9	6	4	2	7	8	7	4
US 6: IA 965 to IA 1	JOHNSON	4.3	NDIV	10.7	75.0	8	5	1	4	10	5	7	1
US 6: IA 1 to IA 70	JOHNSON, MUSCATINE	17.51	NDIV	0.6	72.4	8	5	3	4	6	8	8	1
US 6: IA 70 to IA 38	MUSCATINE	11.58	NDIV	-1.8	80.6	8	6	8	8	9	10	8	5
US 6: IA 38 to I-80	CEDAR, MUSCATINE	5.15	NDIV	-1.4	65.6	8	5	6	7	5	9	6	7
US 6: I-280 to IA 461	SCOTT	6.97	NDIV	2.1	71.6	6	3	3	7	10	8	6	1
US 6: IA 461 to I-74	SCOTT	2.65	DIV	1.4	62.4	5	2	1	8	10	5	7	1
US 18: SD state line to US 75	LYON, SIOUX	25.86	NDIV	-7.9	68.8	8	5	6	4	3	9	8	6
US 18: US 75 to IA 60	O'BRIEN, SIOUX	18.44	NDIV	-3.7	66.3	8	5	4	2	2	9	7	5
US 18: IA 60 to US 71	CLAY, O'BRIEN	33.46	NDIV	4.2	68.0	8	7	6	4	3	9	6	8
US 18: US 71 to US 169	CLAY, KOSSUTH, PALO ALTO	52.4	NDIV	4.1	69.5	8	6	5	5	3	9	6	4
US 18: US 169 to I-35	CERRO GORDO, HANCOCK, KOSSUTH	44.63	NDIV	-0.7	67.4	8	5	5	4	3	9	7	6
US 18: I-35 to US 65	CERRO GORDO	8.2	DIV	-1.7	70.6	8	6	8	7	1	9	9	9
US 18: US 65 to US 218	CERRO GORDO, FLOYD	32	DIV	-0.8	71.4	8	6	7	6	2	9	9	8
US 18: IA 14 to US 63	CHICKASAW, FLOYD	19.76	NDIV	-0.5	69.5	7	4	6	5	7	9	7	3

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 18: US 63 to IA 150	CHICKASAW, FAYETTE	32.42	NDIV	4.6	79.9	9	6	8	7	6	10	8	8
US 18: IA 150 to US 52	ALLAMAKEE, CLAYTON, FAYETTE	16.57	NDIV	11.5	76.6	8	5	7	5	6	9	8	2
US 18: US 52 to IA 76	ALLAMAKEE, CLAYTON	24.71	NDIV	-5.9	67.3	8	6	6	2	1	9	7	6
US 20: I-29 to US 75	WOODBURY	4.57	DIV	-2.6	63.3	7	5	3	5	2	8	8	8
US 20: US 75 to 3.5 mi E of IA 140	WOODBURY	12.43	DIV	1.1	75.0	7	5	7	8	7	9	7	7
US 20: 3.5 mi E of IA 140 to US 59	IDA, WOODBURY	27.3	DIV	17.9	84.4	9	6	9	8	7	10	9	7
US 20: US 59 to US 71	IDA, SAC	20.27	DIV	14.2	87.4	9	7	10	9	6	10	10	8
US 20: US 71 to US 169	CALHOUN, SAC, WEBSTER	50.23	DIV	-0.9	86.9	10	8	9	8	5	10	9	9
US 20: US 169 to I-35	HAMILTON, WEBSTER	31.36	DIV	2.4	77.7	9	7	8	7	4	9	8	8
US 20: I-35 to US 65	HAMILTON, HARDIN	15.59	DIV	3.7	77.6	9	7	8	5	3	9	9	8
US 20: US 65 to IA 14	GRUNDY, HARDIN	26.87	DIV	1.6	73.7	8	6	8	5	3	9	9	8
US 20: IA 14 to IA 27	BLACK HAWK, GRUNDY	16.37	DIV	3.9	69.6	8	5	6	5	2	9	9	9
US 20: IA 27 to US 218	BLACK HAWK	7.63	DIV	2.5	59.5	7	5	2	2	1	7	8	9
US 20: I-380 to IA 150	BLACK HAWK, BUCHANAN	16.2	DIV	6.8	77.6	9	7	7	6	4	9	8	9
US 20: IA 150 to IA 13	BUCHANAN, DELAWARE	20.82	DIV	-3.4	80.1	9	8	8	7	5	9	8	8
US 20: IA 13 to IA 136	DELAWARE, DUBUQUE	18.95	DIV	-1.4	77.4	9	7	8	6	4	9	8	8
US 20: IA 136 to IA 32	DUBUQUE	21.85	DIV	4.0	75.8	9	6	5	4	6	8	9	7
US 20: IA 32 to US 52/US 61	DUBUQUE	4.39	DIV	1.1	58.3	7	3	1	1	5	4	6	1
US 30: NE border to I-29	HARRISON	9.25	NDIV	-2.1	55.6	7	5	5	1	1	9	5	7
US 30: I-29 to US 59	CRAWFORD, HARRISON	44.91	NDIV	2.4	64.6	8	6	6	4	2	9	7	6
US 30: US 59 to US 71	CARROLL, CRAWFORD	27.28	NDIV	-2.5	68.2	8	6	5	4	3	9	7	6
US 30: US 71 to US 169	BOONE, CARROLL, GREENE	40.9	NDIV	0.1	67.7	8	6	4	3	3	9	7	5
US 30: US 169 to IA 930	BOONE	19.6	DIV	0.2	80.1	9	6	6	6	7	8	6	7
US 30: IA 930 to I-35	BOONE, STORY	8.71	DIV	-2.7	76.6	9	7	3	3	7	7	7	7
US 30: I-35 to IA 14	MARSHALL, STORY	33.86	DIV	-1.5	80.8	9	6	7	6	7	9	8	8
US 30: IA 14 to 3.3 mi E of US 63	MARSHALL, TAMA	21.01	DIV	-1.5	80.5	9	6	7	7	6	9	9	7

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 30: 3.3 mi E of US 63 to US 218	BENTON, TAMA	25.31	NDIV	-5.7	62.9	9	7	3	2	1	8	6	7
US 30: US 218 to IA 922	BENTON, LINN	15.29	DIV	-1.0	74.4	8	6	7	5	4	9	8	8
US 30: IA 922 to I-380	LINN	3.73	DIV	5.3	67.5	8	6	4	2	3	7	8	9
US 30: I-380 to 2.4 mi W of IA 1	LINN	10.88	DIV	2.4	64.2	7	3	4	3	5	7	7	8
US 30: 2.4 mi W of IA 1 to US 61	CEDAR, CLINTON, LINN	46.92	NDIV	3.5	66.1	8	6	5	4	2	8	7	7
US 30: US 61 to IL state line	CLINTON	24.7	DIV	-1.9	74.6	8	5	6	7	5	9	8	5
US 34: NE border to I-29	MILLS	4.3	DIV	-2.3	88.9	10	7	8	7	8	9	9	9
US 34: I-29 to 0.8 mi W of US 275	MILLS	7.87	DIV	0.1	79.0	8	6	7	6	8	9	8	7
US 34: 0.8 mi W of US 275 to US 59	MILLS	13.97	NDIV	-2.2	60.5	6	5	4	1	3	9	7	7
US 34: US 59 to US 71	MILLS, MONTGOMERY	22.65	NDIV	7.5	76.5	10	6	6	4	4	9	6	7
US 34: US 71 to IA 25	ADAMS, MONTGOMERY, UNION	34.6	NDIV	-0.9	80.5	9	8	7	4	5	9	7	8
US 34: IA 25 to I-35	CLARKE, UNION	30.72	NDIV	-3.4	73.3	9	7	6	3	3	9	7	7
US 34: I-35 to US 65	CLARKE, LUCAS	17	NDIV	-13.6	65.0	7	4	7	6	3	9	7	3
US 34: US 65 to IA 5	LUCAS, MONROE	35.63	NDIV	-15.9	60.3	6	2	7	5	3	10	7	5
US 34: IA 5 to Ottumwa W CL	MONROE, WAPELLO	19.31	NDIV	11.2	74.8	9	7	4	5	5	9	6	5
US 34: Ottumwa W CL to US 63	WAPELLO	5.2	DIV	-4.1	68.4	6	2	6	7	8	8	8	5
US 34: US 63 to IA 1	JEFFERSON, WAPELLO	23.92	DIV	-4.1	75.3	8	5	8	6	5	9	9	8
US 34: IA 1 to US 218	HENRY, JEFFERSON	25.96	DIV	-3.0	77.0	8	6	8	8	5	9	9	7
US 34: US 218 to US 61	DES MOINES, HENRY	25.68	DIV	-0.8	78.9	8	6	8	7	6	9	9	7
US 34: US 61 to IL border	DES MOINES	2.41	DIV	14.6	79.9	10	8	5	5	5	8	7	8
US 52: IA 64 to US 20	DUBUQUE, JACKSON	44.21	NDIV	0.3	74.2	7	3	7	6	9	9	8	5
US 52: Jct of IA 32 to Jct of US 61	DUBUQUE	4.39	NDIV	-13.4	60.5	6	2	2	3	6	7	8	1
US 52: IA 32 to IA 3/IA 136	DUBUQUE	22.84	NDIV	1.7	78.2	8	5	7	5	8	10	7	3
US 52: IA 3/IA 136 to US 18	CLAYTON, DUBUQUE	33.7	NDIV	-3.0	78.3	9	7	7	4	5	9	8	7
US 52: US 18 to IA 9	ALLAMAKEE, WINNESHIEK	26.51	NDIV	12.6	85.3	9	8	7	4	7	9		7
US 52: IA 9 to MN border	WINNESHIEK	15.79	NDIV	1.6	77.2	9	7	7	4	4	9	7	5

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 59: MO border to IA 2	FREMONT, PAGE	11.2	NDIV	-0.8	71.1	6	2	8	8	7	10	9	8
US 59: IA 2 to US 34	FREMONT, MILLS, PAGE	20.15	NDIV	7.1	80.3	8	7	8	7	8	10	6	5
US 59: US 34 to I-80	MILLS, POTTAWATTAMIE	34.11	NDIV	-4.1	70.0	6	4	8	6	7	10	7	6
US 59: I-80 to US 30	CRAWFORD, POTTAWATTAMIE, SHELBY	35.68	NDIV	-4.7	62.7	7	5	6	5	2	9	7	7
US 59: US 30 to US 20	CRAWFORD, IDA	36.22	NDIV	0.6	79.7	9	7	7	7	6	10	6	6
US 59: US 20 to IA 3	CHEROKEE, IDA	20.71	NDIV	-6.3	75.1	9	6	7	6	5	10	7	3
US 59: IA 3 to US 18	CHEROKEE, O'BRIEN	32.53	NDIV	-4.3	65.3	6	2	9	7	5	10	9	7
US 59: US 18 to MN border	O'BRIEN, OSCEOLA	21.75	NDIV	-4.6	71.9	6	4	9	9	5	10	8	8
US 61: MO border to US 218	LEE	9.46	DIV	-1.4	79.0	8	6	7	7	7	9	7	5
US 61: US 218 to IA 2	LEE	8.99	DIV	2.4	87.3	9	7	8	8	9	9	9	4
US 61: IA 2 to Burlington N CL	DES MOINES, LEE	24.12	DIV	-1.0	79.8	8	5	7	8	7	9	9	2
US 61: Burlington N CL to Muscatine Co line	DES MOINES, LOUISA	30.44	NDIV	-2.1	66.3	7	6	4	4	3	9	7	5
US 61: Louisa Co line to IA 38	LOUISA, MUSCATINE	18.75	DIV	-0.1	74.8	8	5	7	7	5	9	9	7
US 61: IA 38 to I-280	MUSCATINE, SCOTT	20.98	DIV	0.4	73.4	8	5	6	6	5	8	9	7
US 61: I-80 to US 30	CLINTON, SCOTT	15.48	DIV	-1.9	68.5	8	7	3	3	3	7	8	9
US 61: US 30 to IA 64	CLINTON, JACKSON	19.26	DIV	0.8	75.7	8	5	7	7	5	9	9	8
US 61: IA 64 to US 151	DUBUQUE, JACKSON	25.13	DIV	-1.6	76.3	8	5	8	6	6	9	8	9
US 61: US 151 to US 20	DUBUQUE	5.01	DIV	1.1	64.4	7	4	5	2	3	8	9	6
US 61: US 20 to WI border	DUBUQUE	2.56	DIV	-9.5	54.5	7	2	3	3	3	7	7	7
US 63: MO border to US 34	DAVIS, WAPELLO	33.71	NDIV	-8.7	67.9	8	6	5	6	3	9	6	5
US 63: US 34 to IA 149	WAPELLO	7.49	DIV	-3.2	75.9	8	5	9	4	5	9	9	6
US 63: IA 149 to IA 92	MAHASKA, WAPELLO	22.58	DIV	-1.3	71.9	8	4	7	6	5	9	8	8
US 63: IA 163 to I-80	MAHASKA, POWESHIEK	33.08	NDIV	-1.6	77.8	9	7	7	5	5	9	8	6
US 63: I-80 to US 30	POWESHIEK, TAMA	22.28	NDIV	-0.3	70.1	7	4	7	5	5	10	8	5
US 63: US 30 to US 20	BLACK HAWK, TAMA	39.43	NDIV	-2.8	67.2	7	4	6	6	5	9	7	6
US 63: US 20 to US 218	BLACK HAWK	4.41	DIV	0.4	80.6	6	6	8	7	10	9	7	1

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 63: US 218 to Waterloo N CL	BLACK HAWK	5.8	NDIV	3.4	69.7	7	4	3	5	7	8	7	1
US 63: Waterloo N CL to IA 3	BLACK HAWK, BREMER	10.87	DIV	1.9	84.0	9	6	7	8	8	9	9	7
US 63: IA 3 to US 18	BREMER, CHICKASAW	18.08	DIV	-0.6	82.7	8	6	9	7	7	10	9	8
US 63: US 18 to MN border	CHICKASAW, HOWARD	32.9	NDIV	-3.2	65.5	7	5	6	5	2	9	8	7
US 65: MO border to US 34	LUCAS, WAYNE	31.93	NDIV	-4.6	79.9	8	6	9	8	8	10	7	7
US 65: US 34 to IA 92	LUCAS, WARREN	26.56	NDIV	13.2	86.9	10	8	6	8	7	9	7	6
US 65: IA 92 to IA 5	WARREN	10.7	DIV	-0.9	79.5	9	7	3	4	9	7	8	4
US 65: IA 5 to IA 163	POLK, WARREN	8.43	DIV	5.7	70.5	9	6	3	1	4	8	9	9
US 65: IA 163 to I-80	POLK	4.93	DIV	0.5	65.6	8	5	3	1	2	8	9	9
US 65: I-80 to IA 330	JASPER, POLK	15.13	DIV	-1.4	80.9	9	6	7	7	7	9	8	7
US 65: IA 330 to US 30	JASPER, STORY	13.82	NDIV	1.6	81.7	8	5	8	9	7	10	9	9
US 65: US 30 to US 20	HARDIN, STORY	32.87	NDIV	3.9	83.3	9	7	8	7	6	10	10	7
US 65: US 20 to IA 3	FRANKLIN, HARDIN	23.18	NDIV	4.2	77.3	9	7	7	6	4	9	8	5
US 65: IA 3 to US 18	CERRO GORDO, FRANKLIN	25.02	NDIV	2.7	77.9	9	7	6	5	7	9	6	6
US 65: US 18 to Mason City N CL	CERRO GORDO	7.63	NDIV	7.8	74.9	7	5	4	6	8	9	7	1
US 65: Mason City N CL to MN border	CERRO GORDO, WORTH	21.2	NDIV	0.6	73.1	8	5	6	5	5	9	9	8
US 67: US 61 to I-74	SCOTT	4.63	NDIV	0.2	68.0	7	3	2	3	9	6	3	1
US 67: I-74 to I-80	SCOTT	9.19	NDIV	0.6	65.3	8	4	2	2	4	8	9	2
US 67: I-80 to US 30	CLINTON, SCOTT	20.82	NDIV	-1.9	66.1	6	4	4	6	6	9	8	5
US 67: US 30 to Clinton N CL	CLINTON	5.67	NDIV	4.9	73.8	7	2	4	6	10	9	8	1
US 67: Clinton N CL to US 52	CLINTON, JACKSON	11.61	NDIV	-3.6	83.7	8	5	9	8	10	10	9	1
US 69: MO border to US 34	CLARKE, DECATUR	40.7	NDIV	-13.3	72.0	6	2	8	8	9	10	7	5
US 69: US 34 to US 65	CLARKE, WARREN	23.51	NDIV	0.5	81.4	8	4	8	7	10	10	9	1
US 69: IA 5 to I-235	POLK, WARREN	7.4	DIV	-1.2	68.9	6	3	2	4	10	6	5	1
US 69: I-235 to I-35/80	POLK	3.73	NDIV	-2.9	64.7	6	2	3	2	8	7		1
US 69: I-35/80 to Ankeny N CL	POLK	8.77	NDIV	2.0	74.7	8	5	2	4	9	7		1

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 69: Ankeny N CL to US 30	POLK, STORY	15.93	NDIV	21.6	84.6	10	8	2	5	9	8	7	5
US 69: US 30 to Ames N CL	STORY	5.18	NDIV	4.2	74.0	7	4	2	4	10	7	7	1
US 69: Ames N CL to US 20	HAMILTON, STORY	26.73	NDIV	2.3	86.9	9	7	6	8	9	9	10	7
US 69: US 20 to IA 3	HAMILTON, WRIGHT	19.88	NDIV	-1.3	78.6	8	6	9	8	6	10	8	8
US 69: IA 3 to US 18	HANCOCK, WRIGHT	24.85	NDIV	3.6	80.2	7	6	8	6	8	10	9	6
US 69: US 18 to MN border	HANCOCK, WINNEBAGO, WORTH	33.8	NDIV	5.4	78.4	8	5	7	7	7	10	9	8
US 71: MO border to US 34	MONTGOMERY, PAGE	29.53	NDIV	-1.4	83.3	9	7	7	6	7	10	8	8
US 71: US 34 to I-80	CASS, MONTGOMERY	38.34	NDIV	1.0	81.8	9	7	8	7	6	10	8	7
US 71: I-80 to US 30	AUDUBON, CARROLL, CASS	44.07	NDIV	6.5	75.0	8	5	7	6	6	9	8	7
US 71: US 30 to US 20	CARROLL, SAC	30.53	NDIV	8.1	77.0	8	5	7	6	6	10	9	7
US 71: US 20 to IA 3	BUENA VISTA, SAC	19.62	NDIV	-1.4	70.7	8	5	6	6	4	9	8	8
US 71: IA 3 to US 18	BUENA VISTA, CLAY	27.04	NDIV	14.3	78.1	9	7	6	6	5	9	8	7
US 71: US 18 to IA 86	CLAY, DICKINSON	10.78	DIV	-2.7	85.3	9	7	7	7	9	9	7	8
US 71: IA 86 to MN border	DICKINSON	18.15	NDIV	1.5	73.7	8	4	4	5	7	8	9	4
US 75: US 20 to IA 60	PLYMOUTH, WOODBURY	27.21	DIV	-2.8	69.3	8	5	6	5	4	8	7	8
US 75: IA 60 to US 18	PLYMOUTH, SIOUX	25.52	NDIV	-4.9	64.4	8	5	4	3	1	8	8	5
US 75: US 18 to MN border	LYON, SIOUX	21.23	NDIV	-5.4	74.0	8	5	8	7	5	9	8	7
US 77: NE border to I-29	WOODBURY	0.31	DIV	-3.5	65.6	8	3	1	4	9	6	6	1
US 136: US 61 to US 218	LEE	3.04	NDIV	-0.4	63.7	6	2	5	6	6	10	5	1
US 151: I-80 to US 30	BENTON, IOWA, LINN	24.8	NDIV	2.9	74.1	9	6	3	5	6	8	8	5
US 151: US 30 to IA 13	LINN	8.16	DIV	2.1	64.1	7	5	3	2	4	7	8	7
US 151: IA 13 to US 61	DUBUQUE, JONES, LINN	56.84	DIV	-1.8	77.9	8	6	7	6	6	9	9	7
US 169: MO border to US 34	RINGGOLD, UNION	40.22	NDIV	-2.2	84.1	8	7	9	7	9	10	8	7
US 169: US 34 to IA 92	MADISON, UNION	23.59	NDIV	-3.0	78.0	7	4	8	7	9	10	8	5
US 169: IA 92 to I-80	DALLAS, MADISON	13.71	NDIV	17.1	82.5	10	8	3	4	9	9	8	6
US 169: I-80 to IA 141	DALLAS	20.93	NDIV	6.2	75.7	7	5	5	4	8	9	9	3

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
US 169: IA 141 to US 30	BOONE, DALLAS	13.83	NDIV	12.5	73.8	9	6	6	5	4	9	8	8
US 169: US 30 to US 20	BOONE, WEBSTER	32.65	NDIV	-0.2	83.5	9	7	7	7	7	10	8	9
US 169: US 20 to IA 3	HUMBOLDT, WEBSTER	20.49	NDIV	1.1	74.7	9	6	5	4	5	9	8	5
US 169: IA 3 to US 18	HUMBOLDT, KOSSUTH	24.57	NDIV	-9.8	74.5	9	7	6	5	4	9	8	6
US 169: US 18 to MN border	KOSSUTH	35.43	NDIV	-0.8	83.6	9	7	8	7	7	10	8	9
US 218: US 61 to IA 27	LEE	13.6	NDIV	-8.1	65.3	6	2	6	6	6	9	8	2
US 218: IA 27 to US 34	HENRY, LEE	24.68	DIV	-4.1	71.9	7	5	8	9	3	9	9	7
US 218: US 34 to IA 92	HENRY, WASHINGTON	22.06	DIV	-2.1	69.6	8	5	7	6	2	8	9	9
US 218: IA 92 to IA 1	JOHNSON, WASHINGTON	24.43	DIV	2.6	71.6	8	5	5	6	4	8	9	9
US 218: IA 1 to I-80	JOHNSON	5.4	DIV	4.1	68.0	9	8	1	1	1	6	9	9
US 218: US 30 to IA 150	BENTON	12.95	NDIV	18.1	85.4	10	9	7	6	6	9	9	8
US 218: IA 150 to I-380	BENTON, BLACK HAWK	31.66	NDIV	0.9	75.7	7	5	7	7	8	9	9	5
US 218: I-380 terminus to IA 27	BLACK HAWK	7.58	DIV	4.8	66.0	8	5	2	5	3	8	8	8
US 218: IA 57 to IA 3	BLACK HAWK, BREMER	16.63	DIV	-0.9	69.9	9	6	4	5	2	7	9	8
US 218: IA 3 to US 18	BREMER, CHICKASAW, FLOYD	26.02	DIV	-3.1	71.4	8	7	8	6	1	9	9	8
US 218: US 18 to MN border	FLOYD, MITCHELL	36.33	NDIV	3.4	76.4	9	7	8	6	4	10	8	7
US 275: MO border to US 34	FREMONT, MILLS	35.11	NDIV	-0.3	81.3	7	5	8	8	9	10	9	7
US 275: I-29 to NE border	POTTAWATTAMIE	5.23	DIV	-1.2	81.7	9	5	6	6	10	8	9	3
IA 1: IA 2 to US 34	JEFFERSON, VAN BUREN	22.92	NDIV	-4.0	81.4	8	5	7	6	9	9	6	7
IA 1: US 34 to IA 92	JEFFERSON, KEOKUK, WASHINGTON	31.8	NDIV	-0.2	77.2	7	5	7	8	8	9	8	5
IA 1: IA 92 to Iowa City S CL	JOHNSON, WASHINGTON	28	NDIV	-2.8	76.2	10	8	4	1	6	8	6	8
IA 1: Iowa City S CL to US 6	JOHNSON	2.31	DIV	14.7	80.6	9	7	3	4	9	6	8	1
IA 1: US 6 to I-80	JOHNSON	3.64	NDIV	2.4	71.3	7	3	2	6	10	7	7	1
IA 1: I-80 to US 30	JOHNSON, LINN	17.95	NDIV	-2.8	75.8	9	7	1	1	7	7	8	7
IA 1: US 30 to US 151	JONES, LINN	11.87	NDIV	5.5	79.5	9	7	4	4	6	9	10	6
IA 2: NE border to I-29	FREMONT	3.13	DIV	0.9	72.8	8	5	8	7	4	9	8	6

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 2: I-29 to US 59	FREMONT	20.15	NDIV	3.6	76.2	8	4	8	8	8	10	7	8
IA 2: US 59 to US 71	FREMONT, PAGE	18.84	NDIV	13.3	88.4	10	8	7	7	8	9	8	7
IA 2: US 71 to US 169	MONROE, PAGE, RINGGOLD, TAYLOR	43.65	NDIV	-1.5	85.4	8	7	9	8	9	10	9	8
IA 2: US 169 to I-35	DECATUR, RINGGOLD	20.48	NDIV	-5.2	84.9	9	7	9	7	8	10	9	8
IA 2: I-35 to US 65	DECATUR, WAYNE	17.7	NDIV	10.7	82.0	9	5	9	8	8	10	8	7
IA 2: US 65 to IA 5	APPANOOSE, WAYNE	33.6	NDIV	9.0	80.7	8	6	8	8	7	10	8	5
IA 2: IA 5 to US 63	APPANOOSE, DAVIS	19.74	NDIV	-5.4	77.6	7	6	7	7	7	10	8	5
IA 2: US 63 to US 218	DAVIS, LEE, VAN BUREN	50.91	NDIV	-2.4	79.3	8	6	9	8	8	10	7	7
IA 2: US 218 to US 61	LEE	8.9	NDIV	-2.8	65.9	6	2	6	6	6	9	8	3
IA 3: NE border to US 75	PLYMOUTH	26.08	NDIV	-0.8	81.3	9	6	9	7	8	10	8	7
IA 3: US 75 to US 59	CHEROKEE, PLYMOUTH	34.37	NDIV	4.3	75.1	8	6	7	6	6	10	7	5
IA 3: US 59 to US 71	BUENA VISTA, CHEROKEE	21.08	NDIV	-4.1	76.1	8	7	9	8	3	10	7	5
IA 3: US 71 to US 169	BUENA VISTA, HUMBOLDT, POCAHONTAS	47.68	NDIV	-1.2	71.6	8	7	8	7	3	10	7	8
IA 3: US 169 to I-35	FRANKLIN, HUMBOLDT, WRIGHT	43.23	NDIV	13.5	79.1	9	7	7	6	5	10	8	6
IA 3: I-35 to US 65	FRANKLIN	9.86	NDIV	-1.0	70.4	6	4	6	4	7	9	8	6
IA 3: US 65 to US 218	BREMER, BUTLER, FRANKLIN	35.1	NDIV	-2.5	69.7	7	4	7	6	6	10	7	8
IA 3: US 218 to US 63	BREMER	10.79	NDIV	1.1	74.7	7	5	4	4	9	8	9	1
IA 3: US 63 to IA 150	BREMER, FAYETTE	21.45	NDIV	5.5	82.1	10	8	8	7	7	10	7	6
IA 3: IA 150 to IA 13	CLAYTON, FAYETTE	27.9	NDIV	-2.8	74.9	7	5	7	7	8	10	7	5
IA 3: IA 13 to IA 136	CLAYTON, DELAWARE, DUBUQUE	22.83	NDIV	-1.6	85.7	9	7	9	7	9	10	8	5
IA 4: IA 44 to IA 141	GUTHRIE	10.25	NDIV	20.6	91.8	10	8	8	5	9	10	10	8
IA 4: IA 141 to US 30	GREENE, GUTHRIE	13.75	NDIV	-0.9	84.7	9	7	7	8	8	10	9	4
IA 4: US 30 to US 20	CALHOUN, GREENE	43.3	NDIV	-2.1	80.0	7	5	9	9	8	10	9	8
IA 4: US 20 to IA 3	CALHOUN, POCAHONTAS	19.77	NDIV	3.8	75.7	8	6	8	7	4	9	8	8
IA 4: IA 3 to US 18	PALO ALTO, POCAHONTAS	26.18	NDIV	-5.1	62.1	6	3	7	7	4	10	7	7
IA 4: US 18 to IA 9	EMMET, PALO ALTO	20.11	NDIV	-4.6	68.5	6	4	8	8	7	10	7	2

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 4: IA 9 to MN border	EMMET	8.21	NDIV	-2.0	73.5	6	2	9	10	8	10		1
IA 5: MO border to IA 2	APPANOOSE	13.62	NDIV	11.3	76.9	9	7	7	3	8	9	6	3
IA 5: IA 2 to US 34	APPANOOSE, MONROE	20.5	NDIV	-1.9	66.1	7	5	5	2	4	9	8	4
IA 5: US 34 to E jct of IA 92	MARION, MONROE	26.16	NDIV	-9.6	68.8	7	4	5	6	7	9	7	4
IA 5: E jct of IA 92 to W jct of IA 92	MARION	10.92	DIV	-1.1	81.8	8	5	8	6	8	9	8	7
IA 5: W jct of IA 92 to US 65/US 69	MARION, POLK, WARREN	19.74	DIV	-0.6	80.5	8	5	7	6	9	9	8	7
IA 5: US 65/US 69 to IA 28	POLK, WARREN	6.1	DIV	1.2	73.6	9	6	2	2	6	7	9	9
IA 5: IA 28 to I-35	POLK	5.28	DIV	-0.5	73.6	9	6	1	2	7	6	9	9
IA 7: IA 3 to US 71	BUENA VISTA, CHEROKEE	19.03	NDIV	16.3	83.4	9	8	5	6	7	9	8	2
IA 7: US 71 to US 169	BUENA VISTA, CALHOUN, POCAHONTAS, WEBSTER	47.84	NDIV	-2.8	76.8	8	5	8	7	6	9	8	7
IA 8: US 63 to US 218	BENTON, TAMA	13.96	NDIV	-1.2	82.7	8	6	8	7	8	10	7	7
IA 9: SD border to IA 60	LYON, OSCEOLA	43.34	NDIV	-5.9	66.0	5	4	7	6	6	9	8	8
IA 9: IA 60 to US 71	DICKINSON, OSCEOLA	29.65	NDIV	-2.5	77.7	8	5	7	8	7	9	8	8
IA 9: US 71 to US 169	DICKINSON, EMMET, KOSSUTH	40.03	NDIV	-1.2	84.5	9	7	7	8	7	10	8	6
IA 9: US 169 to I-35	KOSSUTH, WINNEBAGO, WORTH	38.46	NDIV	-7.2	76.2	8	6	8	6	5	10	7	9
IA 9: I-35 to US 63	HOWARD, MITCHELL, WORTH	54.12	NDIV	0.0	76.3	8	6	8	6	6	10	8	8
IA 9: US 63 to Decorah E CL	HOWARD, WINNESHIEK	32.62	NDIV	1.7	77.8	9	7	6	4	6	9	6	5
IA 9: Decorah E CL to IL border	ALLAMAKEE, WINNESHIEK	32.65	NDIV	-2.1	68.5	6	3	7	4	7	9	8	5
IA 10: NE border to IA 60	SIOUX	29.9	NDIV	-4.8	64.3	6	3	7	5	5	9	9	5
IA 10: IA 60 to US 71	CLAY, O'BRIEN, SIOUX	40.42	NDIV	7.9	86.0	9	8	9	8	7	10	8	8
IA 10: US 71 to IA 4	BUENA VISTA, POCAHONTAS	24.4	NDIV	-4.9	75.1	6	4	9	8	8	10	8	8
IA 12: US 20/US 75 to IA 29	WOODBURY	5.49	DIV	-1.2	73.6	7	4	5	7	10	7	3	1
IA 12: IA 29 to Sioux City N CL	WOODBURY	5.28	NDIV	4.4	73.5	7	5	6	7	8	9	7	1
IA 12: Sioux City N CL to IA 10	PLYMOUTH, SIOUX, WOODBURY	29.02	NDIV	-2.7	72.7	6	5	9	8	7	10	8	4
IA 13: US 151 to E16	LINN	12.28	DIV	4.3	86.3	9	7	8	7	9	9	8	6
IA 13: E16 to US 20	DELAWARE, LINN	19.53	NDIV	1.2	73.1	9	7	4	4	4	9	8	7

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 13: US 20 to IA 3	DELAWARE	13.72	NDIV	-2.6	65.4	5	2	5	6	7	9	8	3
IA 13: IA 3 to US 52	CLAYTON	26.26	NDIV	-1.7	74.5	7	5	8	5	6	9	8	3
IA 14: IA 2 to US 34	LUCAS, WAYNE	17.34	NDIV	22.0	91.2	10	8	8	8	9	10	9	7
IA 14: US 34 to IA 5	LUCAS, MARION	25.24	NDIV	-13.3	69.2	7	2	7	5	7	9	9	6
IA 14: IA 5 to IA 163	JASPER, MARION	14.48	NDIV	-5.9	67.5	7	5	5	4	6	9	5	2
IA 14: IA 163 to I-80	JASPER	12.5	NDIV	-5.0	67.0	7	4	5	3	5	9	8	8
IA 14: US 6 to US 30	JASPER, MARSHALL	28.42	NDIV	4.5	82.6	9	7	7	6	8	9	9	5
IA 14: US 30 to US 20	GRUNDY, MARSHALL	38.95	NDIV	3.0	70.8	8	5	5	5	5	9	7	1
IA 14: US 20 to IA 3	BUTLER, GRUNDY	20.41	NDIV	-3.6	86.1	9	7	8	8	8	10	9	7
IA 14: IA 3 to US 18	BUTLER, FLOYD	28.82	NDIV	-4.7	86.2	9	7	8	7	9	10	8	5
IA 15: US 20 to US 18	HUMBOLDT, KOSSUTH, POCAHONTAS	29.41	NDIV	-2.4	77.1	7	3	9	8	9	10	8	8
IA 15: US 18 to MN border	EMMET, KOSSUTH	33.06	NDIV	0.0	83.4	8	6	9	9	9	10	8	6
IA 16: US 218 to US 34	DAVIS, LEE, VAN BUREN, WAPELLO	43.56	NDIV	2.3	85.0	8	5	9	8	9	10	9	6
IA 16: US 61 to US 218	LEE	19.72	NDIV	4.4	86.4	8	6	9	8	9	10	9	3
IA 17: IA 141 to US 30	BOONE, POLK	20.15	NDIV	-1.9	79.4	9	7	3	5	7	8	8	7
IA 17: US 30 to US 20	BOONE, HAMILTON	30.64	NDIV	4.1	79.9	9	6	7	7	7	9	8	7
IA 17: US 20 to IA 3	HAMILTON, WRIGHT	20.76	NDIV	4.9	76.1	9	6	8	7	4	10	7	5
IA 17: IA 3 to US 18	HANCOCK, WRIGHT	25.22	NDIV	-4.2	75.1	7	5	10	8	6	10	9	9
IA 21: IA 78 to IA 92	KEOKUK	12.38	NDIV	1.4	68.5	4	1	10	9	9	10	9	1
IA 21: IA 92 to I-80	KEOKUK, POWESHIEK	24.85	NDIV	-5.0	65.2	5	4	8	7	6	10	7	7
IA 21: I-80 to US 30	BENTON, IOWA, POWESHIEK	19.41	NDIV	-0.3	79.6	8	5	9	7	8	10	8	4
IA 21: US 30 to US 20	BENTON, BLACK HAWK, TAMA	33.86	NDIV	3.4	75.5	7	5	8	7	8	10	8	7
IA 22: IA 21 to IA 1	KEOKUK, WASHINGTON	34.86	NDIV	-3.5	79.1	7	4	8	7	9	10	9	7
IA 22: IA 1 to US 218	WASHINGTON	8.91	NDIV	1.3	58.8	6	2	5	3	7	9	5	5
IA 22: US 218 to IA 70	JOHNSON, MUSCATINE, WASHINGTON	16.04	NDIV	0.9	66.5	7	3	6	6	3	9	9	7
IA 22: IA 70 to US 61	MUSCATINE	9.37	NDIV	-6.1	65.8	8	3	5	6	4	9	8	7

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 22: IL border to US 61	MUSCATINE	2.37	NDIV	2.0	71.9	7	3	4	7	9	8	6	1
IA 22: IA 38 to Buffalo E CL	MUSCATINE, SCOTT	19.84	NDIV	17.2	83.7	9	6	7	7	8	10	9	3
IA 22: Buffalo E CL to US 61	SCOTT	3.26	DIV	11.3	84.8	8	6	9	8	9	10		4
IA 23: IA 149 to IA 92	KEOKUK, MAHASKA	16.02	NDIV	-6.0	63.7	5	2	7	8	8	10	6	8
IA 24: US 63 to US 52	CHICKASAW, WINNESHIEK	27.49	NDIV	-3.9	79.9	9	7	7	5	7	9	9	5
IA 25: IA 2 to US 34	RINGGOLD, UNION	18.42	NDIV	-4.7	74.2	6	3	9	8	9	10	8	8
IA 25: US 34 to I-80	ADAIR, UNION	34.89	NDIV	1.4	78.3	6	6	8	6	8	10	10	4
IA 25: I-80 to US 30	ADAIR, GREENE, GUTHRIE	42.46	NDIV	-4.7	84.3	8	7	9	8	8	10	9	6
IA 26: IA 9 to MN border	ALLAMAKEE	11.31	NDIV	-4.9	86.5	9	7	9	7	9	10	9	6
IA 27: MO border to US 218	LEE	10.72	DIV	-2.2	74.5	8	5	9	7	4	9	8	8
IA 27: US 20 to US 218	BLACK HAWK	6.56	DIV	1.3	70.7	7	4	4	6	8	7	9	2
IA 28: IA 92 to Norwalk S CL	WARREN	7.34	NDIV	-7.0	71.3	6	3	6	5	9	9	9	5
IA 28: Norwalk S CL to IA 5	POLK, WARREN	4.03	DIV	-1.2	69.1	6	2	3	4	10	8	8	4
IA 28: IA 5 to I-235	POLK	5.86	DIV	0.8	74.4	8	4	3	5	9	7	7	2
IA 28: I-235 to US 6	POLK	1.47	NDIV	11.8	75.0	8	4	2	3	10	6		1
IA 28: US 6 to I-35/80	POLK	1.62	DIV	-4.4	72.2	7	4	2	4	10	6		1
IA 31: IA 141 to US 20	WOODBURY	20.37	NDIV	-4.1	78.5	7	4	9	9	9	10	8	6
IA 31: US 20 to US 59	CHEROKEE, IDA, WOODBURY	17.88	NDIV	-1.7	79.3	8	5	9	8	8	10	8	4
IA 32: Jct of US 20 to Jct of US 52	DUBUQUE	5.1	DIV	-1.0	72.3	7	3	4	5	10	7	9	1
IA 37: US 30 to IA 175	CRAWFORD, HARRISON, MONONA	23.1	NDIV	-4.2	79.6	7	5	10	9	9	10	8	5
IA 37: US 59 to US 30	HARRISON, SHELBY	16.88	NDIV	-3.8	80.4	8	4	10	9	10	10	8	7
IA 38: US 61 to US 6	MUSCATINE	7.86	NDIV	-5.0	71.4	8	6	4	2	4	8	7	7
IA 38: I-80 to US 30	CEDAR	17.71	NDIV	-1.0	65.2	7	4	6	4	6	9	8	5
IA 38: US 30 to US 151	CEDAR, JONES	27.67	NDIV	6.9	82.2	9	5	9	8	9	10	7	5
IA 38: US 151 to US 20	DELAWARE, JONES	22.41	NDIV	5.3	74.6	7	4	8	6	9	10	8	4
IA 38: US 20 to IA 3	DELAWARE	11.56	NDIV	18.2	88.0	10	8	9	7	9	10	7	6

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 39: US 59 to IA 175	CRAWFORD, SAC	24.34	NDIV	-5.1	62.8	6	4	8	6	2	9	7	5
IA 44: US 30 to US 59	HARRISON, SHELBY	20.88	NDIV	-4.5	78.9	7	5	9	7	9	10	8	5
IA 44: US 59 to US 71	AUDUBON, SHELBY	24.35	NDIV	-0.6	83.3	8	6	8	8	9	10	9	6
IA 44: US 71 to US 169	AUDUBON, DALLAS, GUTHRIE	46.36	NDIV	-2.1	79.7	8	5	7	7	9	9	9	7
IA 44: US 169 to IA 141	DALLAS, POLK	12.93	NDIV	0.9	72.9	8	5	3	2	7	8	9	5
IA 48: US 59 to US 34	MONTGOMERY, PAGE	23.16	NDIV	11.6	84.6	9	6	7	7	9	10	9	6
IA 48: US 34 to US 6	CASS, MONTGOMERY	24.75	NDIV	0.8	84.6	9	6	9	8	9	10	8	8
IA 51: US 18 to IA 9	ALLAMAKEE	10.91	NDIV	-7.0	67.9	7	5	8	4	5	10	6	6
IA 56: IA 150 to IA 13	CLAYTON, FAYETTE	24.44	NDIV	-1.2	76.6	7	2	10	9	10	10	8	4
IA 57: US 65 to Cedar Falls W CL	BLACK HAWK, BUTLER, GRUNDY, HARDIN	38.53	NDIV	3.0	83.0	8	7	8	8	9	10	8	8
IA 57: Cedar Falls W CL to US 218	BLACK HAWK	3.81	NDIV	3.2	75.9	8	4	3	5	10	8	6	1
IA 58: US 63 to US 20	BLACK HAWK	5.28	NDIV	-1.8	73.5	6	3	7	9	9	9	9	4
IA 60: US 75 to US 18	O'BRIEN, PLYMOUTH, SIOUX	35.02	DIV	-1.9	82.1	9	6	9	8	6	9	9	7
IA 60: US 18 to MN border	O'BRIEN, OSCEOLA	24.07	DIV	-1.9	84.9	9	7	9	9	6	10	9	8
IA 62: IA 64 to US 52	JACKSON	19.64	NDIV	4.3	73.9	7	4	8	8	10	10	7	6
IA 64: US 151 to US 61	JACKSON, JONES	30.92	NDIV	-1.3	81.5	8	6	8	6	8	10	9	6
IA 64: US 61 to IL border	JACKSON	27.21	NDIV	8.3	85.3	9	6	8	7	9	10	9	5
IA 70: IA 92 to IA 22	LOUISA, MUSCATINE	14.81	NDIV	3.3	84.6	8	6	8	9	9	10	9	5
IA 70: IA 22 to US 6	MUSCATINE	6.26	NDIV	-3.7	86.1	10	8	6	6	7	9	8	6
IA 76: US 18 to IA 9	ALLAMAKEE, CLAYTON	27.25	NDIV	-3.5	72.4	6	4	8	7	6	10	9	4
IA 76: IA 9 to MN border	ALLAMAKEE	19.6	NDIV	2.9	85.8	9	8	9	7	8	10	7	3
IA 78: IA 149 to IA 1	KEOKUK	12.98	NDIV	5.0	79.2	9	7	8	8	7	10	5	5
IA 78: IA 1 to US 218	HENRY, JEFFERSON, WASHINGTON	17.38	NDIV	-2.7	78.0	7	4	9	8	9	10	8	5
IA 78: US 218 to US 61	HENRY, LOUISA	20.62	NDIV	-3.7	68.1	5	2	9	9	9	10	7	3
IA 81: MO border to IA 2	VAN BUREN	2.2	NDIV	-1.5	75.0	6	2	10	9	10	10	9	6
IA 83: US 59 to IA 148	CASS, POTTAWATTAMIE	30.61	NDIV	4.0	86.4	9	6	8	8	10	10	9	7

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 85: US 63 to IA 21	POWESHIEK	8.41	NDIV	-4.8	84.0	8	7	9	9	9	10	7	7
IA 86: US 71 to IA 9	DICKINSON	7.68	NDIV	-2.0	70.3	7	3	5	5	6	9		7
IA 86: IA 9 to MN border	DICKINSON	4.94	NDIV	-5.9	79.1	9	6	8	7	4	9		8
IA 92: I-29 to US 59	POTTAWATTAMIE	23.01	NDIV	2.9	74.5	7	5	5	6	8	9	8	5
IA 92: US 59 to US 71	CASS, POTTAWATTAMIE	21.8	NDIV	-3.1	73.0	6	4	9	8	8	10	6	7
IA 92: US 71 to US 169	ADAIR, CASS, MADISON	51.2	NDIV	6.2	88.4	10	8	8	7	9	10	8	6
IA 92: US 169 to I-35	MADISON, WARREN	12.8	NDIV	-4.6	71.7	6	4	7	1	8	9	9	5
IA 92: I-35 to US 65	WARREN	11.98	NDIV	-3.4	65.9	6	4	4	2	9	8	5	2
IA 92: US 65 to IA 5	MARION, WARREN	16	NDIV	-3.2	67.4	5	3	7	5	8	9	8	3
IA 92: IA 5 to US 63	MAHASKA, MARION	23.26	NDIV	3.9	74.6	8	6	6	6	5	9	8	2
IA 92: US 63 to IA 1	KEOKUK, MAHASKA, WASHINGTON	48.96	NDIV	6.0	76.0	8	5	7	7	7	10	7	6
IA 92: IA 1 to US 218	WASHINGTON	9.48	NDIV	-3.3	67.3	8	3	3	5	5	9	7	5
IA 92: US 218 to US 61	LOUISA, WASHINGTON	17.81	NDIV	-3.4	66.0	8	6	6	4	1	9	8	5
IA 93: US 63 to IA 150	BREMER, FAYETTE	29.54	NDIV	10.7	87.9	9	6	8	8	10	10	8	4
IA 96: IA 14 to US 63	MARSHALL, TAMA	16.63	NDIV	9.4	90.5	10	8	9	8	8	10	9	6
IA 100: US 30 to I-380	LINN	9.37	DIV		87.8	10	7	7	3	10	9	9	10
IA 100: I-380 to US 151	LINN	6.77	DIV	4.6	79.0	9	5	3	6	10	7	9	1
IA 110: US 20 to IA 7	BUENA VISTA, SAC	14.77	NDIV	1.0	77.5	6	4	8	7	9	10	8	6
IA 116: US 218 to IA 3	BREMER	2.77	DIV	7.4	73.4	7	2	6	6	9	8	10	1
IA 117: IA 163 to I-80	JASPER	8.33	NDIV	-2.6	74.0	7	3	7	7	8	10	9	4
IA 117: I-80 to US 65	JASPER	10.76	NDIV	-3.5	89.8	10	8	9	9	7	10	10	7
IA 122: I-35 to Mason City W CL	CERRO GORDO	4.59	DIV	1.8	78.5	7	5	5	7	9	8	7	6
IA 122: Mason City W CL to Mason City E CL	CERRO GORDO	7.77	NDIV	4.1	77.9	7	4	4	8	10	8	8	1
IA 127: I-29 to US 30	HARRISON	15.97	NDIV	-4.8	83.6	8	6	9	9	10	10	9	3
IA 128: IA 13 to US 52	CLAYTON	6.98	NDIV	-5.6	73.8	7	4	9	1	7	10	9	4
IA 130: IA 38 to I-80	CEDAR, SCOTT	32	NDIV	-2.4	89.9	9	7	9	8	9	10	9	5

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 136: IL border to US 67	CLINTON	0.47	NDIV	-2.4	49.2	4	1	1	6	9	6	5	1
IA 136: US 67 to US 61	CLINTON	29.32	NDIV	-3.4	79.5	7	4	8	9	10	10	6	1
IA 136: US 61 to US 151	CLINTON, DUBUQUE, JONES	42.09	NDIV	0.2	78.2	7	4	9	8	10	10	8	5
IA 136: US 151 to US 20	DUBUQUE	14.12	NDIV	8.7	68.3	5	1	8	6	8	10	10	4
IA 136: US 20 to US 52	DUBUQUE	10.12	NDIV	0.6	62.8	6	3	6	3	6	9	7	3
IA 137: IA 5 to US 63	MONROE, WAPELLO	14.67	NDIV	4.2	67.8	6	4	7	4	6	9	8	7
IA 139: IA 9 to MN border	WINNESHIEK	11.43	NDIV	1.9	78.2	7	3	9	9	9	10	9	4
IA 140: US 20 to IA 3	PLYMOUTH, WOODBURY	25.32	NDIV	9.7	85.2	9	7	9	8	9	10	7	6
IA 141: I-29 to US 59	CRAWFORD, MONONA, WOODBURY	52.87	NDIV	5.4	77.0	7	6	8	8	7	10	8	6
IA 141: US 59 to US 71	CARROLL, CRAWFORD	20.96	NDIV	1.8	68.9	6	3	8	7	6	10	9	8
IA 141: US 71 to IA 4	CARROLL, GUTHRIE	24.76	NDIV	8.5	85.5	9	7	8	8	6	10	10	7
IA 141: IA 4 to IA 144	DALLAS, GUTHRIE	13.36	NDIV	-2.2	81.5	9	8	6	5	6	9	8	8
IA 141: IA 144 to US 169	DALLAS	4.42	DIV	-1.2	73.4	6	2	8	7	9	9	8	7
IA 141: US 169 to I-35/80	DALLAS, POLK	22.38	DIV	0.4	76.7	7	5	5	6	9	8	9	6
IA 143: IA 3 to IA 10	CHEROKEE, O'BRIEN	12.05	NDIV	-4.3	77.7	8	5	9	8	6	10	7	7
IA 144: IA 141 to US 30	BOONE, DALLAS, GREENE	18.02	NDIV	10.0	86.4	9	6	8	6	9	10	8	2
IA 144: US 30 to IA 175	GREENE, WEBSTER	16.02	NDIV	-2.1	80.0	8	5	10	9	8	10	8	3
IA 146: US 63 to I-80	MAHASKA, POWESHIEK	18.5	NDIV	0.8	91.0	10	9	8	8	9	10	7	6
IA 146: I-80 to US 30	MARSHALL, POWESHIEK, TAMA	24.66	NDIV	14.7	86.0	9	6	7	8	10	9	10	3
IA 148: MO border to US 34	ADAMS, TAYLOR	29.94	NDIV	-2.1	78.2	7	5	9	8	8	10	8	8
IA 148: US 34 to I-80	ADAMS, CASS	36.89	NDIV	3.0	86.4	9	6	9	8	9	10	8	7
IA 149: US 34 to US 63	WAPELLO	5.52	DIV	1.1	76.4	7	4	6	7	10	9	6	2
IA 149: US 63 to IA 92	KEOKUK, WAPELLO	27.32	NDIV	2.8	76.1	7	5	8	7	8	10	8	7
IA 149: IA 92 to I-80	IOWA, KEOKUK	27.7	NDIV	0.8	74.4	6	2	8	8	10	10	8	6
IA 150: US 218 to I-380	BENTON	13.01	NDIV	-5.5	64.8	5	2	6	5	9	9	7	6
IA 150: I-380 to US 20	BENTON, BUCHANAN	14.03	NDIV	0.6	60.3	7	5	5	2	1	9	8	7

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 150: US 20 to IA 3	BUCHANAN, FAYETTE	16.46	NDIV	-1.9	65.8	7	5	3	2	5	9	7	1
IA 150: IA 3 to US 18	FAYETTE	22.68	NDIV	-5.1	68.5	6	3	7	6	7	9	8	4
IA 150: US 18 to US 52	FAYETTE, WINNESHIEK	16.21	NDIV	-0.8	73.4	7	3	7	6	8	10	8	5
IA 160: IA 415 to I-35	POLK	2.45	DIV	-7.4	67.7	7	3	2	4	8	6	8	1
IA 163: US 69 to US 65	POLK	5.33	DIV	-3.2	66.1	6	3	2	3	9	6	6	1
IA 163: US 65 to IA 14	JASPER, POLK	24.25	DIV	-1.3	75.7	8	6	6	5	5	8	9	7
IA 163: IA 14 to US 63	JASPER, MAHASKA, MARION	31.67	DIV	1.3	77.3	8	5	7	7	5	9	9	9
IA 173: IA 83 to IA 44	AUDUBON, CASS, SHELBY	14.68	NDIV	-2.8	75.9	6	3	8	8	9	10	9	7
IA 175: NE border to US 59	IDA, MONONA, WOODBURY	49.81	NDIV	-0.8	75.9	7	5	8	7	7	10	8	6
IA 175: US 59 to US 71	IDA, SAC	25.26	NDIV	-6.7	73.7	6	5	8	8	7	10	8	7
IA 175: US 71 to US 169	CALHOUN, SAC, WEBSTER	26.98	NDIV	2.2	75.5	7	5	8	7	7	10	8	6
IA 175: US 169 to I-35	HAMILTON, WEBSTER	29.72	NDIV	-1.5	91.6	9	7	9	9	10	10	8	5
IA 175: I-35 to IA 14	GRUNDY, HAMILTON, HARDIN	31.81	NDIV	-1.7	79.0	7	6	8	7	8	10	9	6
IA 175: IA 14 to US 63	BLACK HAWK, GRUNDY	16.5	NDIV	15.2	88.1	10	6	8	6	9	10	8	4
IA 182: US 18 to IA 9	LYON	9.05	NDIV	-3.1	82.6	9	8	7	7	7	10	8	7
IA 183: IA 127 to IA 141	HARRISON, MONONA	29.47	NDIV	-0.1	79.6	6	4	10	9	10	10	9	4
IA 187: US 20 to IA 3	BUCHANAN, FAYETTE	15.56	NDIV	-3.9	66.4	5	3	8	7	7	10	8	5
IA 187: IA 3 to IA 150	FAYETTE	12.84	NDIV	3.3	90.9	10	7	9	9	9	10	9	5
IA 188: IA 3 to US 218	BREMER, BUTLER	13.59	NDIV	-6.3	85.0	9	6	9	9	9	10	7	8
IA 188: US 218 to US 63	BREMER	10.65	NDIV	-1.9	73.7	6	3	9	8	9	10	8	7
IA 191: I-680 to IA 37	HARRISON, POTTAWATTAMIE, SHELBY	22.8	NDIV	2.7	75.5	7	3	9	9	8	10	9	8
IA 202: MO border to IA 2	APPANOOSE, DAVIS	10.46	NDIV	-8.0	82.5	8	4	9	9	9	10		5
IA 210: IA 141 to I-35	BOONE, DALLAS, STORY	20.33	NDIV	6.5	85.0	9	7	6	7	9	9	8	7
IA 210: I-35 to US 65	STORY	14.37	NDIV	-1.0	91.5	10	8	8	9	10	10	9	5
IA 212: IA 21 to US 6	IOWA	12.15	NDIV	-3.8	84.3	9	6	9	8	10	10	8	2
IA 220: US 6 to US 151	IOWA	7.23	NDIV	3.6	77.5	7	4	6	6	10	9	8	1

Corridor Description	Counties	Centerline Mileage	Route Type	5 Year Change	2018 Composite	PCI	IRI	PASS	SU	COMBO	V/C	BCI	SAFETY
IA 224: I-80 to IA 14	JASPER	10.58	NDIV	22.5	92.1	10	8	9	8	9	10	9	7
IA 281: Waterloo E CL to IA 150	BLACK HAWK, BUCHANAN	28.15	NDIV	-1.5	82.8	9	7	8	7	8	10	8	6
IA 316: Runnells E CL to IA 5	MARION, POLK, WARREN	5.82	NDIV	-3.2	69.4	5	3	9	9	10	10	7	4
IA 330: US 65 to US 30	JASPER, MARSHALL, STORY	20.42	DIV	0.0	82.3	9	5	8	8	8	9	9	8
IA 330: US 30 to IA 14	MARSHALL	12.77	NDIV	9.9	80.1	9	8	7	6	7	9	7	4
IA 346: US 218 to US 63	CHICKASAW	12.36	NDIV	-4.8	80.3	8	7	8	7	7	10	9	4
IA 376: I-29 to IA 12	WOODBURY	4.26	DIV	-2.3	69.7	6	3	5	5	8	8	9	2
IA 376: IA 12 to US 75	WOODBURY	5.52	DIV	1.6	72.1	8	4	5	5	6	9	7	1
IA 404: IA 3 to US 75	PLYMOUTH	1.63	DIV	17.0	87.3	9	5	8	9	9	10	8	6
IA 415: I-35/80 to US 6	POLK	1.56	NDIV	-2.3	67.6	6	3	2	2	10	7		1
IA 415: IA 160 to I-35/80	POLK	3.66	DIV	-1.6	71.2	7	4	1	4	10	5	5	2
IA 415: Ankeny W CL to IA 160	POLK	4.05	NDIV	3.6	79.4	8	6	3	3	10	7	9	1
IA 415: IA 141 to Ankeny W CL	POLK	7.6	NDIV	11.3	75.6	9	6	1	1	10	6	6	6
IA 461: I-280 to US 67	SCOTT	5.25	DIV	-4.3	68.3	5	4	5	6	8	9	5	5
IA 461: US 67 to US 6	SCOTT	5.75	NDIV	-2.3	63.4	5	2	1	3	10	7	5	1
IA 461: US 6 to I-80	SCOTT	3.89	NDIV	-3.6	69.2	7	4	1	2	9	6	6	1
IA 471: IA 175 to US 20	SAC	10.97	NDIV		79.1	7	5	9	9	8	10	9	7
IA 906: IA 192 to I-80	POTTAWATTAMIE	4	DIV	9.4	75.5	6	4	6	7	10	8	7	1
IA 922: US 30 to I-380	LINN	4.17	DIV	5.2	70.6	6	2	4	6	9	8	8	1
IA 922: I-380 to IA 100	LINN	4.81	NDIV	3.9	67.3	7	2	2	3	9	7	8	1
IA 930: US 30 to 1.1 mi E of US 30	BOONE	1.9	NDIV	-7.5	82.2	8	5	5	8	10	9	8	3
IA 946: US 52 to US 61	DUBUQUE	1.03	DIV	-1.0	68.7	7	1	5	6	8	8	9	1
IA 965: US 6 to I-80	JOHNSON	0.53	DIV	-0.9	73.5	8	4	1	4	9	7		1

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