

CIRTPA Accepted on: 5/10/2007  
SEIRPC Accepted on: 4/17/2007  
DMAMPO Accepted on: 4/19/2007  
Area 15 RPC Accepted on: 4/26/2007

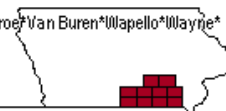
# Trans-Iowa/Illinois Freight Corridor Study



\*Appanoose\*Davis\*Jefferson\*Keokuk\*Lucas\*Mahaska\*Monroe\*Van Buren\*Wapello\*Wayne\*

## Area 15

Regional Planning Commission



## CIRTPA

Central Iowa Regional  
Transportation Planning Alliance

# Trans-Iowa/Illinois Freight Corridor

PREPARED BY:

## AREA 15 REGIONAL PLANNING COMMISSION

651 Indian Hills Drive, Building 17  
PO Box 1110  
Ottumwa, Iowa 52501  
Phone: 641-684-6551  
Fax: 641-684-4894  
URL: [www.area15rpc.com](http://www.area15rpc.com)



## CENTRAL IOWA REGIONAL TRANSPORTATION PLANNING ALLIANCE

Merle Hay Centre  
6200 Aurora Avenue, Suite 300W  
Urbandale, Iowa 50322-2866  
Phone: 515-334-0075  
Fax: 515-334-0098  
URL: <http://www.dmampo.org/CIRTPA/index.html>



## DES MOINES AREA METROPOLITAN PLANNING ORGANIZATION

Merle Hay Centre  
6200 Aurora Avenue, Suite 300W  
Urbandale, Iowa 50322-2866  
Phone: 515-334-0075  
Fax: 515-334-0098  
URL: [www.dmampo.org](http://www.dmampo.org)



## SOUTHEAST IOWA REGIONAL PLANNING COMMISSION

200 Front Street, Suite 400  
Burlington, Iowa 52601  
Phone: 319-753-5107  
Fax: 319-754-4763  
URL: [www.seirpc.com](http://www.seirpc.com)



The preparation of this document was financed in part through federal funds by the U.S. Department of Transportation and the Federal Highway Administrations.

**TABLE OF CONTENTS**

**EXECUTIVE SUMMARY ..... 1**

    INTRODUCTION ..... 1

    STUDY SUMMARY FINDINGS..... 1

**I. INTRODUCTION..... 3**

    A. BACKGROUND ..... 3

    B. GOALS AND OBJECTIVES ..... 4

    C. STUDY AREA ..... 4

**II. EXISTING TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR CONDITIONS (SOCIOECONOMIC DATA, TRAFFIC CONDITIONS, CONNECTIVITY, FREIGHT TRANSPORTATION, LAND USE AND ACCESS MANAGEMENT)..... 7**

    A. SUB-AREA 1: POLK, JASPER, AND MARION COUNTIES, IOWA..... 8

    B. SUB-AREA 2: MAHASKA, MONROE, WAPELLO, AND JEFFERSON COUNTIES, IOWA..... 13

    C. SUB-AREA 3: HENRY, DES MOINES, AND LEE COUNTIES, IOWA..... 18

    D. SUB-AREA 4: HENDERSON, WARREN, AND KNOX COUNTIES, ILLINOIS ..... 23

**III. CORRIDOR COMPARISON: INTERSTATE 74 AND INTERSTATE 80 CORRIDOR TO TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR..... 28**

    A. KEY TRENDS ..... 28

    B. ANALYSIS OF TRENDS..... 28

    C. TRAFFIC CONDITIONS ..... 29

    D. SAFETY ..... 30

    E. TESTED TRAVEL TIME ..... 32

**IV. TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR DEVELOPMENT ..... 34**

    A. TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR MONITORING ..... 34

    B. GENERAL TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR IMPROVEMENTS..... 35

    C. COORDINATED DECISION MAKING..... 36

**V. TECHNICAL REPORTS..... A1**

    A. EXISTING CORRIDOR CONDITIONS ..... A1

    B. CORRIDOR TRAVEL TIMES ..... B1

    C. PERFORMANCE MEASURES ..... C1

    D. CORRIDOR IMPROVEMENTS..... D1

    E. MARKETING OUTLINE ..... E1

    F. SAMPLE LAND USE POLICIES ..... F1

**LIST OF FIGURES AND TABLES**

FIGURE 1.1: MAJOR CORRIDORS FROM UPPER MIDWEST FREIGHT CORRIDOR STUDY.....	3
FIGURE 1.2: TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR STUDY AREA .....	6
FIGURE 2.1: SUB-AREA 1 CONNECTIVITY.....	11
FIGURE 2.2: SUB-AREA 1 FREIGHT GENERATORS.....	12
FIGURE 2.3: SUB-AREA 2 CONNECTIVITY.....	16
FIGURE 2.4: SUB-AREA 2 FREIGHT GENERATORS.....	17
FIGURE 2.5: SUB-AREA 3 CONNECTIVITY.....	21
FIGURE 2.6: SUB-AREA 3 FREIGHT GENERATORS.....	22
FIGURE 2.7: SUB-AREA 4 CONNECTIVITY.....	26
FIGURE 2.8: SUB-AREA 4 FREIGHT GENERATORS.....	27
TABLE 3.1: CURRENT ANNUAL AVERAGE DAILY TRAFFIC (AADT) AND TRUCK AADT.....	29
TABLE 3.2: TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR SAFETY STATISTICS.....	30
FIGURE 3.1: CURRENT AND PROJECTED TRUCK ANNUAL AVERAGE TRAFFIC (TRUCK AADT): 1998 AND 2020 COMPARISON .....	31
TABLE 3.3: CORRIDOR TESTED TRAVEL TIME.....	33
TABLE A1: SUB-AREA 1 POPULATION PROJECTIONS.....	A1
TABLE A2: SUB-AREA 1 EMPLOYMENT PROJECTIONS.....	A1
TABLE A3: SUB-AREA 1 TRAFFIC CONDITIONS .....	A1
TABLE A4: SUB-AREA 1 SAFETY STATISTICS.....	A1
TABLE A5: SUB-AREA 1 ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS .....	A2
TABLE A6: SUB-AREA 1 PROJECTED ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS .....	A4
TABLE A7: SUB-AREA 2 POPULATION PROJECTIONS.....	A6
TABLE A8: SUB-AREA 2 EMPLOYMENT PROJECTIONS.....	A6
TABLE A9: SUB-AREA 2 TRAFFIC CONDITIONS .....	A6
TABLE A10:SUB-AREA 2 SAFETY STATISTICS.....	A6
TABLE A11:SUB-AREA 2 ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS.....	A7
TABLE A12:SUB-AREA 2 PROJECTED ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS .....	A9
TABLE A13:SUB-AREA 3 POPULATION PROJECTIONS.....	A10
TABLE A14:SUB-AREA 3 EMPLOYMENT PROJECTIONS.....	A10
TABLE A15:SUB-AREA 3 TRAFFIC CONDITIONS .....	A10
TABLE A16:SUB-AREA 3 SAFETY STATISTICS.....	A10
TABLE A17:SUB-AREA 3 ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS .....	A12
TABLE A18:SUB-AREA 3 PROJECTED ORIGINATING AND TERMINATING TRUCK FREIGHT SHIPMENTS .....	A13

TABLE A19:SUB-AREA 4 POPULATION PROJECTIONS.....	A15
TABLE A20:SUB-AREA 4 EMPLOYMENT PROJECTIONS.....	A15
TABLE A21:SUB-AREA 4 TRAFFIC CONDITIONS .....	A15
TABLE A22:SUB-AREA 4 SAFETY STATISTICS.....	A15
TABLE B1: CURRENT TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR TRAVEL TIME .....	B2
TABLE B2: FUTURE TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR TRAVEL TIME, IOWA 4 LANES .....	B3
TABLE B3: FUTURE TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR TRAVEL TIME, ALL 4 LANES .....	B3
TABLE B4: CURRENT INTERSTATE 80 AND INTERSTATE 74 TRAVEL TIME .....	B3
TABLE C1: SAFETY PERFORMANCE MEASURES.....	C4
TABLE C2: ECONOMIC DEVELOPMENT PERFORMANCE MEASURES.....	C4
TABLE C3: TRAVEL TIME AND RELIABILITY PERFORMANCE MEASURES.....	C5
TABLE C4: FOUR LANE CORRIDOR PROGRESS PERFORMANCE MEASURES.....	C6
TABLE C5: LAND USE PLANS DEVELOPMENT PERFORMANCE MEASURES .....	C6
TABLE C6: TRUCK/TRAFFIC VOLUME PERFORMANCE MEASURES .....	C7
TABLE C7: OVERALL PERFORMANCE MEASURE SCORES .....	C7

(Blank Page)

# Executive Summary

## Introduction

The Southeast Iowa Regional Planning Commission (SEIRPC), the Area 15 Regional Planning Commission (Area 15), the Central Iowa Regional Transportation Planning Alliance (CIRTPA), and the Des Moines Area Metropolitan Planning Organization (DMAMPO) undertook the Trans-Iowa/Illinois Freight Corridor Study as a response to the Upper Midwest Freight Corridor Study<sup>1</sup> (UMFCS). The four planning agencies noted that the UMFCS did not include the U.S. 34, U.S. 63 and Iowa 163 highway corridor (the Trans-Iowa/Illinois Freight Corridor), stretching from Galesburg, Illinois, northwestward to Pleasant Hill/Des Moines, Iowa. The Iowa Department of Transportation (DOT) currently is improving the Trans-Iowa/Illinois Freight Corridor to a divided four-lane highway facility from Burlington (Des Moines County) to Pleasant Hill/Des Moines (Polk County), Iowa. Once completed, the Trans-Iowa/Illinois Freight Corridor could be poised to experience increased freight traffic due to the corridor's linkage of Interstate 74 (Galesburg (Knox County), Illinois) and Interstates 35 and 80 (Des Moines (Polk County), Iowa, metropolitan area). The Trans-Iowa/Illinois Freight Corridor would provide a viable alternative to the Interstate 74 and Interstate 80 Corridor, particularly for freight shipments between the Midwestern and the Southeastern sections of the United States.

The Trans-Iowa/Illinois Freight Corridor Study seeks to educate the corridor's decision makers and non-decision-makers on information about the corridor's freight-carrying and economic development potential. The study contains data analyses relating to economic and demographic trends, highway safety, highway traffic, freight traffic, intermodal facilities, intermodal "hot-spots", and a comparison of the Interstates 74 and 80 Corridor with the Trans-Iowa/Illinois Corridor.

During the development of this plan, the SEIRPC, the Area 15, the CIRTPA, and the DMAMPO staffs collaborated with the Iowa DOT providing financial support. This partnership and this collaboration resulted in greater amount of public participation than if each of these organizations had studied the Trans-Iowa/Illinois Corridor individually and independently.

## Study Summary Findings

- **The use of the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) as a feasible freight alternative to Interstates 74 and 80**
  - The Interstate 74 and Interstate 80 Corridor carries far more traffic, and particularly truck traffic, than does Trans-Iowa/Illinois Freight Corridor;
  - Both corridors have comparable travel times and roadway lengths. The travel distances between Pleasant Hill/Des Moines and Galesburg are the same on both routes (210 miles), while the travel time on Interstates 74 and 80 Corridor would be 23 minutes less than on Trans-Iowa/Illinois Freight Corridor with current alignments;

---

<sup>1</sup> Midwest Regional University Transportation Center, University of Wisconsin-Madison

- Projected 2020 traffic for Intestates 80 and 74 is at or approaching current capacity by 2020. The Trans-Iowa/Illinois Freight Corridor is project to have a much lower and slower growth in traffic volumes;
- Both corridors have comparable safety characteristics; and,
- The study concludes that, when the Trans-Iowa/Illinois Freight Corridor if fully upgraded to four lanes from Galesburg (Knox County), Illinois, to Pleasant Hill/Des Moines (Polk County), Iowa, the Trans-Iowa/Illinois Freight Corridor will offer a feasible freight alternative to the Interstate 74 and Interstate 80 Corridor.

**□ Suggested Steps to Enhance and to Preserve the Trans-Iowa/Illinois Freight Corridor**

- Encouraging timely expansion of the remaining two-lane section of the Trans-Iowa/Illinois Freight Corridor to four-lanes (U.S. 34, from Monmouth (Warren County), Illinois, to Carman Rd (Henderson County), Illinois;
- Initiating a Trans-Iowa/Illinois Freight Corridor Consortium to gather decision makers from along the corridor to foster coordinated decision making on the corridor's future traffic capacity and development capacity;
- Using coordinated decision-making to have the responsible agencies/jurisdictions develop similar land-use and access-management policies to enhance and preserve the character of the Trans-Iowa/Illinois Freight Corridor;
- Marketing the Trans-Iowa/Illinois Freight Corridor as an alternative to the Interstate 74 and Interstate 80 Corridor for freight movements, particularly from the Midwest to the Southeastern United States; and,
- Utilizing the Trans-Iowa/Illinois Freight Corridor as a stimulus for economic development.



# Section I: Introduction



# I. Introduction

## A. Background

The Southeast Iowa Regional Planning Commission (SEIRPC), the Area 15 Regional Planning Commission (Area 15), the Central Iowa Regional Transportation Planning Alliance (CIRTPA), and the Des Moines Area Metropolitan Planning Organization (DMAMPO) (the Study Team) undertook the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) Study, with the Iowa Department of Transportation (DOT) providing financial support. These agencies worked together and in conjunction with corridor stakeholders to help develop the study.

The study came about as a response to the Upper Midwest Freight Corridor Study<sup>2</sup> (UMFCS). The UMFCS evaluated freight movement in the Upper Midwest and how to utilize the Upper Midwest's freight infrastructure most efficiently for economic benefit. The UMFCS did not include discussion of the Trans-Iowa/Illinois Freight Corridor nor did the UMFCS identify the corridor within the UMFCS' planning area (Figure 1.1). The orange box in Figure 1.1 highlights that part of the UMFCS study area where the Trans-Iowa/Illinois Freight Corridor is located.

Figure 1.1: Major Corridors from Upper Midwest Freight Corridor Study



Local officials felt that the Trans-Iowa/Illinois Freight Corridor had the potential to increase its freight carrying potential with 90 percent of the corridor becoming four-lanes by 2008, and with the corridor's strategic advantage of connecting Interstate 74 in Illinois with Interstate 35 and Interstate 80 in Iowa. The Trans-Iowa/Illinois Freight Corridor Study seeks

<sup>2</sup> Midwest Regional University Transportation Center, University of Wisconsin-Madison

to educate the corridor's decision makers and non-decision-makers information about the corridor's freight-carrying and economic development potential. The study offers a comparison of the Interstate 74 and Interstate 80 Corridor with the Trans-Iowa/Illinois Corridor regarding travel distance, travel time, safety, and capacity.

## B. Goals and Objectives

Trans-Iowa/Illinois Freight Corridor stakeholders developed this study's goal and objectives. The corridor stakeholders included freight carriers, elected officials, and public agency representatives. The study's goal and objectives are:

- **Goal:** To increase the awareness of the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) as a viable transportation corridor for moving goods in Central and Southeast Iowa and West Central Illinois.
- ✓ **Objective:** Evaluate the corridor's viability as a feasible alternative freight route to the Interstate 74 and Interstate 80 Corridor;
- ✓ **Objective:** Examine current land use planning along the corridor to evaluate if that land use planning is conducive both to efficient traffic movement through the corridor and to economic development opportunities; and,
- ✓ **Objective:** Identify potential corridor improvements, enhancements, and development opportunities.

## C. Study Area

The Trans-Iowa/Illinois Freight Corridor Study area includes any county intersecting with the 210-mile corridor, Galesburg (Knox County), Illinois, to Pleasant Hill/Des Moines (Polk County), Iowa. The corridor's study area also includes any adjacent counties that could experience a significant impact from increased freight movement along the corridor. The study area includes three Illinois counties and ten Iowa counties. Figure 1.2 presents the corridor study area.

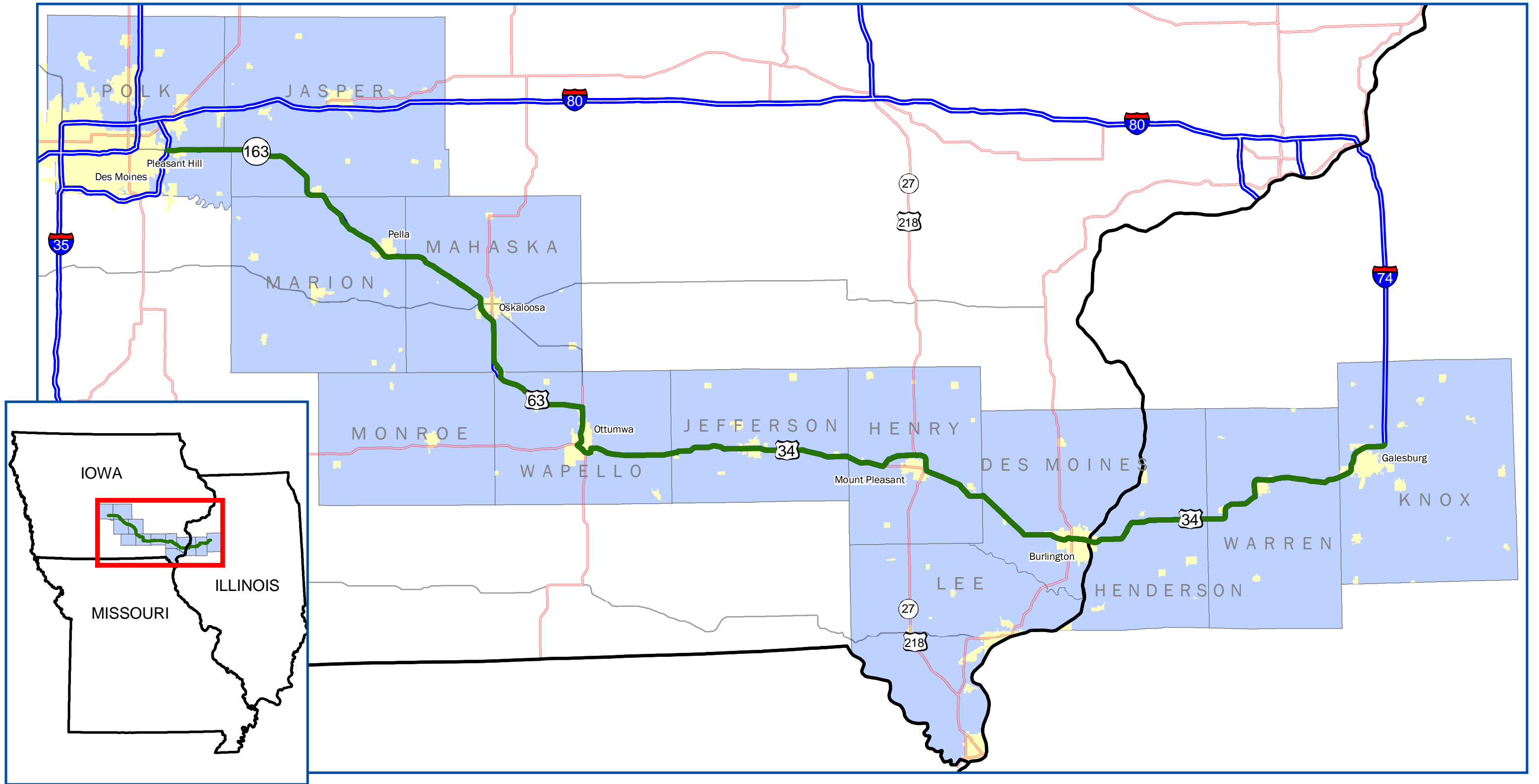
For an in-depth analysis of this corridor, the study team separated the corridor in sub-areas. In undertaking the corridor's evaluation, the corridor's sub-area characteristics became distinctly evident different from characteristics in other areas. The Study Team used the following criteria to determine the sub-area boundaries:

- Population and Employment Characteristics;
- Traffic Volumes; and,
- Regional Planning Jurisdictions.

Using these criteria, the Study Team divided the corridor's study area into four distinct sub-areas:

- Sub-Area 1 (Iowa):** Polk, Jasper, and Marion Counties;
- Sub-Area 2 (Iowa):** Mahaska, Monroe, Wapello, and Jefferson Counties;
- Sub-Area 3 (Iowa):** Henry, Des Moines, and Lee Counties; and,
- Sub-Area 4 (Illinois):** Henderson, Warren, and Knox Counties.

The Iowa DOT is slated to have the corridor's Iowa section completed as a divided four-lane highway in 2008 (U.S. 34 and U.S. 63; Iowa 163 already is four-lanes). The Illinois DOT currently does not have a schedule for completing the Illinois section of U.S. 34 to four-lanes between Monmouth (Warren County), Illinois, and Gulfport (Henderson County), Illinois. Optimistically, the Study Team believes that the full corridor will be a four-lane highway in five to ten years, from Interstate 74 in Galesburg (Knox County), Illinois, to U.S. 65 in Pleasant Hill/Des Moines (Polk County), Iowa.



TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY  
**Study Area Boundaries**

- Trans-Iowa/Illinois Freight Corridor
- Corridor Cities
- Corridor Counties
- State Boundaries
- Interstate
- U.S. Highway
- State Highway

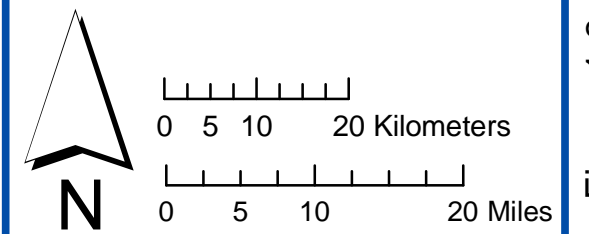


Figure 1.2

(Blank Page)



# Section II: Existing Corridor Conditions



## II. Existing Trans-Iowa/Illinois Freight Corridor Conditions

The Trans-Iowa/Illinois Freight Corridor Study inventoried the following five **KEY AREAS** for each of the four defined corridor sub-areas:

### **KEY AREAS**

#### **Socioeconomic Data**

- Analysis of population and employment trends.

#### **Traffic Conditions**

- Current traffic conditions along the Trans-Iowa/Illinois Freight Corridor, such as Annual Average Daily Traffic (AADT), Truck AADT, Operating Capacity, and Safety Statistics.

#### **Connectivity**

- Connections from the Trans-Iowa/Illinois Freight Corridor to other major transportation routes and other modes of transportation, such as rail, water, and air.

#### **Freight Transportation**

- Key freight trends to and from particular regions across the United States;
- Major freight generator locations.

#### **Land Use and Access Management**

- Existing land use characteristics along the Trans-Iowa/Illinois Freight Corridor; and,
- Access management issues.

The information collected for each corridor sub-area for each **KEY AREA** provides background on current corridor conditions. Analyzing current corridor conditions allowed the Study Team to assess the Trans-Iowa/Illinois Freight Corridor's feasibility as an alternative to the Interstate 74 and Interstate 80 Corridor and to help identify future corridor improvements needed.

As mentioned earlier in the study, the Study Team separated the Trans-Iowa/Illinois Freight Corridor into sub-areas to for a more in-depth analysis. The Study Team has summarized the collected sub-area data by sub-areas' key trends for those selected criteria. The study's Technical Report A contains detailed information on the key area data for each sub-area.



## A. Sub-Area 1: Polk, Jasper, and Marion Counties, Iowa

Sub-Area 1 consists of three counties at the west end of the Trans-Iowa/Illinois Freight Corridor study area. Sub-Area 1's major cities include Des Moines (Polk County), Pleasant Hill (Polk County), Newton (Jasper County), Knoxville (Marion County), and Pella (Marion County), Iowa.

### **SUB-AREA 1 KEY TRENDS**

#### **☐ SOCIOECONOMIC DATA:**

- Population growth of 27% expected through 2030;
- Employment growth of 42% expected through 2030; and,
- Majority of the growth anticipated for Polk County.

#### **☐ TRAFFIC CONDITIONS:**

- Trucks account for 11% of total traffic;
- Highway operating at 29% capacity; and,
- Growth in traffic may create access management problems.

#### **☐ CONNECTIVITY: (REFER TO FIGURE 2.1)**

- Corridor connects to two Interstates, Interstate 80 and Interstate 74, as well as to four-lane U.S. 65 corridor;
- Corridor is proximate to the Des Moines International Airport (Polk County); and,
- Corridor is proximate to three major rail lines (Union Pacific, Burlington Northern Santa Fe, and Iowa Interstate).

#### **☐ FREIGHT TRANSPORTATION: (REFER TO FIGURE 2.2 TO SEE FREIGHT GENERATORS)**

- In 2000, freight transportation in Sub-Area 1 moved about 62 million tons of freight by truck, valued an estimated \$56 billion;
- In 2001, 52% of the weight of truck freight originating in Sub-Area 1 terminated in Iowa and 35% terminating in neighboring states;
- In 2001, 71% of the weight of truck freight terminating in Sub-Area 1 originated in Iowa and 17% originated in neighboring states;
- By 2011, the total of all originating truck freight tonnages in Sub-Area 1 is expected to grow by 23%;
- By 2011, the total of all terminating truck freight tonnages in Sub-Area 1 is expected to grow by 20%;
- Sub-Area 1's most important truck freight origin and destination state, by value and by weight of shipments, was Illinois; and,
- Sub-Area 1's large manufacturing freight generators are located near the Trans-Iowa/Illinois Freight Corridor in east Des Moines (Polk County) and in north Pella (Marion County).

#### **☐ LAND USE AND ACCESS MANAGEMENT:**

- All three counties have implemented land use policies and should update these land use policies to reflect freight corridor preservation; and,
- Access management issues along Iowa 163 in Pleasant Hill/Des Moines (Polk County) may create future traffic bottlenecks.

## **SUB-AREA 1 KEY TRENDS ANALYSIS**

### **SOCIOECONOMIC DATA**

Polk, Jasper, and Marion Counties are experiencing rapid growth in population and in employment. The Study Team believes this trend will continue. With the rapid growth in Sub-Area 1, the Study Team believes that the stakeholders need to work to enhance and to preserve this corridor for freight movements. Preserving this corridor would allow for smooth traffic flowing along the freight corridor in the future, as population, employment, and traffic continues to grow.

### **TRAFFIC CONDITIONS**

Sub-Area 1's rapid growth will have an effect on traffic conditions, adding additional vehicles to the roadway, including more freight traffic. Even with this additional traffic, excess roadway capacity is available to accommodate the new traffic. While capacity is available, the Study Team recommends working to preserve the Trans-Iowa/Illinois Freight Corridor's operational characteristics, using access management, to ensure smooth traffic flow continues in the future.

### **CONNECTIVITY**

Sub-Area 1 possesses connections that include links to Interstate 80 as well as connections to other transportation modes, including air and rail. Trucks have access to Interstate 80 from Iowa 14 in Monroe (Jasper County), from U.S. 65 and from Iowa 117 in Pleasant Hill (Polk County) providing a good transition from the Trans-Iowa/Illinois Freight Corridor to the major east-west route of Interstate 80. Within a few miles of the Trans-Iowa/Illinois Freight Corridor is the Des Moines international Airport, offering air-to-road air cargo activities. Rail connections near the Trans-Iowa/Illinois Freight Corridor include the Union Pacific Railroad mainline and the Iowa Interstate Railroad's regional connection. These connections present an opportunity for multimodal facilities, which would improve the Trans-Iowa/Illinois Freight Corridor's freight flow efficiency.

### **FREIGHT TRANSPORTATION**

When examining the freight characteristics along the Trans-Iowa/Illinois Freight Corridor in Sub-Area 1, the Study Team focused on three specific areas. These specific areas include the amount of freight being moved, where that freight is coming from, and where that freight is going. Sub-area 1's statistics indicate that over 60 million tons of freight being shipped by truck to and from the sub-area. Sixty million tons of freight is a significant amount of freight and freight tonnages are expected to continue to grow in the future. The critical factor in this freight movement is where Sub-Area 1 is shipping freight and from where Sub-Area 1 is receiving freight. Sub-Area 1 generates the majority of the freight leaving the sub-area from local manufacturing sites, such as Pella Corporation and Vermeer Manufacturing, while warehousing and retail sites generating a small amount of freight leaving the sub-area. The majority of Sub-Area 1's freight moves within Iowa and being outbound to Illinois. This data indicates that the Trans-Iowa/Illinois Freight Corridor is valuable in the movement of freight in and out of Sub-Area 1, carrying about 60 million tons of goods (93 percent of the total tonnage for all modes) in 2001, that is, worthy about \$56 billion (94 percent of the total value of all shipments). According to Reebie Associates data, Sub-Area 1 highway freight system is estimated to handle about 75 million tons of cargo (21% of growth).

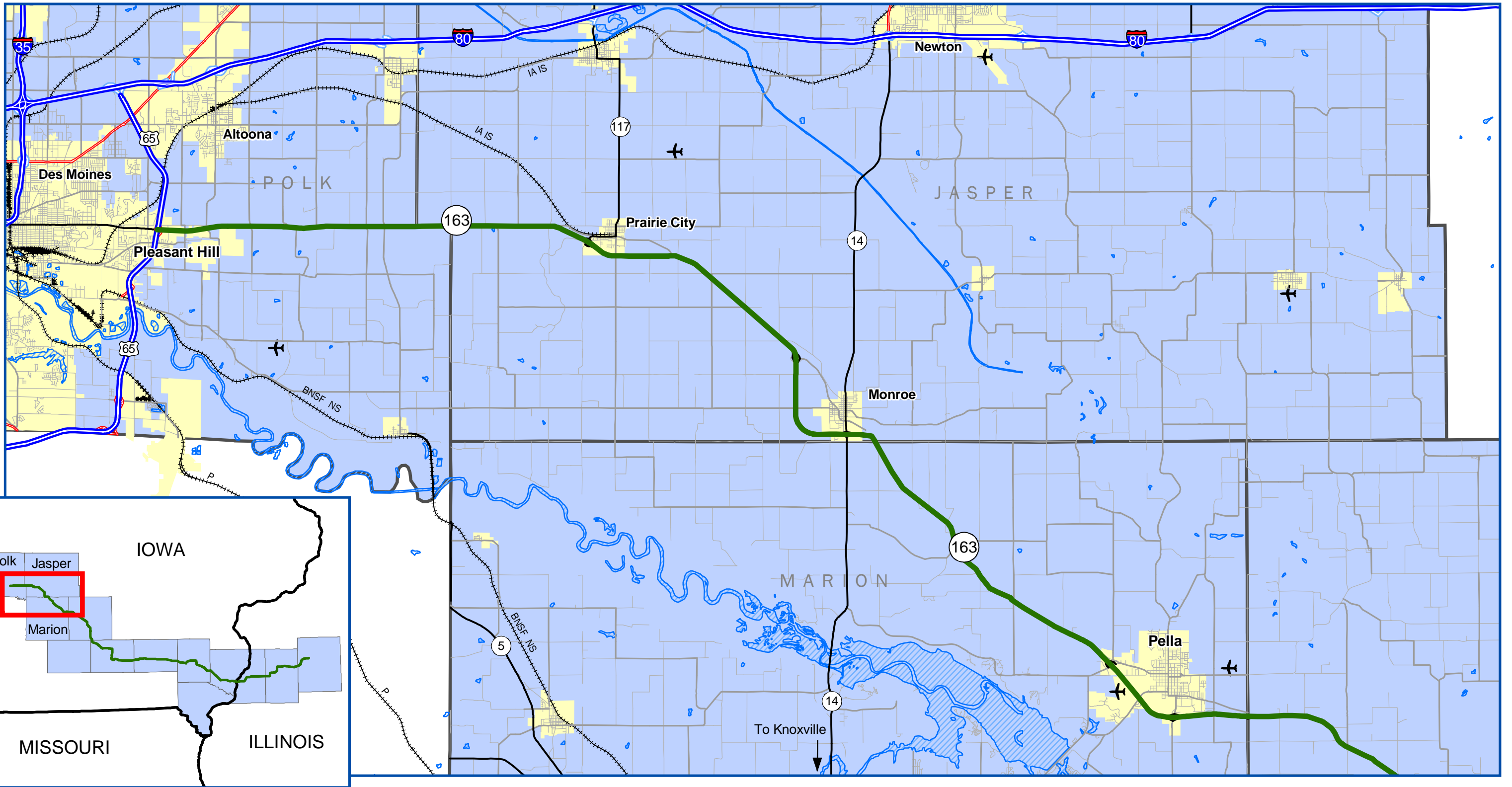
**LAND USE AND ACCESS MANAGEMENT**

With Sub-Area 1's high amount of growth, the Study Team detects access management issues along Iowa 163 in Pleasant Hill (Polk County). The Study Team recommends undertaking implementing access management policies in this Iowa 163-roadway segment. Access Management policies should include updated land use policies, to reflect freight corridor preservation to sustain efficient traffic flows in this Trans-Iowa/Illinois Freight Corridor segment.

**SUMMARY**

Unregulated growth in Sub-Area 1 could inhibit the future freight movements in to and out from Sub-Area 1 and, ultimately, could affect freight movements along the entire Trans-Iowa/Illinois Freight Corridor. Access management and land use policies should be a priority along this Sub-Area 1 corridor segment as Sub-Area 1 continues to grow, ensuring smooth future traffic flows in the Trans-Iowa/Illinois Freight Corridor. In addition, intermodal air/road and rail/road connections should be explored in Sub-Area 1, promoting connections to the Des Moines International Airport (Polk County), to the Union Pacific Railroad, and to the Iowa Interstate Railroad.

(Blank Page)



TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY  
**Sub-Area 1 Connectivity**

- |                                      |               |                     |
|--------------------------------------|---------------|---------------------|
| Trans-Iowa/Illinois Freight Corridor | State Highway | Major Lake or River |
| Railroad                             | County Road   | Corridor Cities     |
| Interstate Highway                   | Local Road    | Corridor Counties   |
| U.S. Highway                         | Airports      |                     |

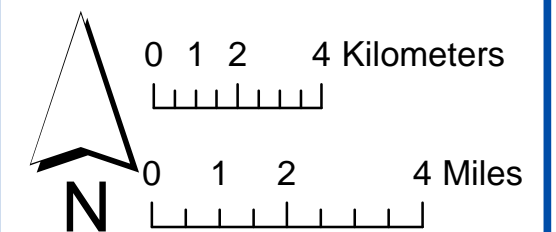
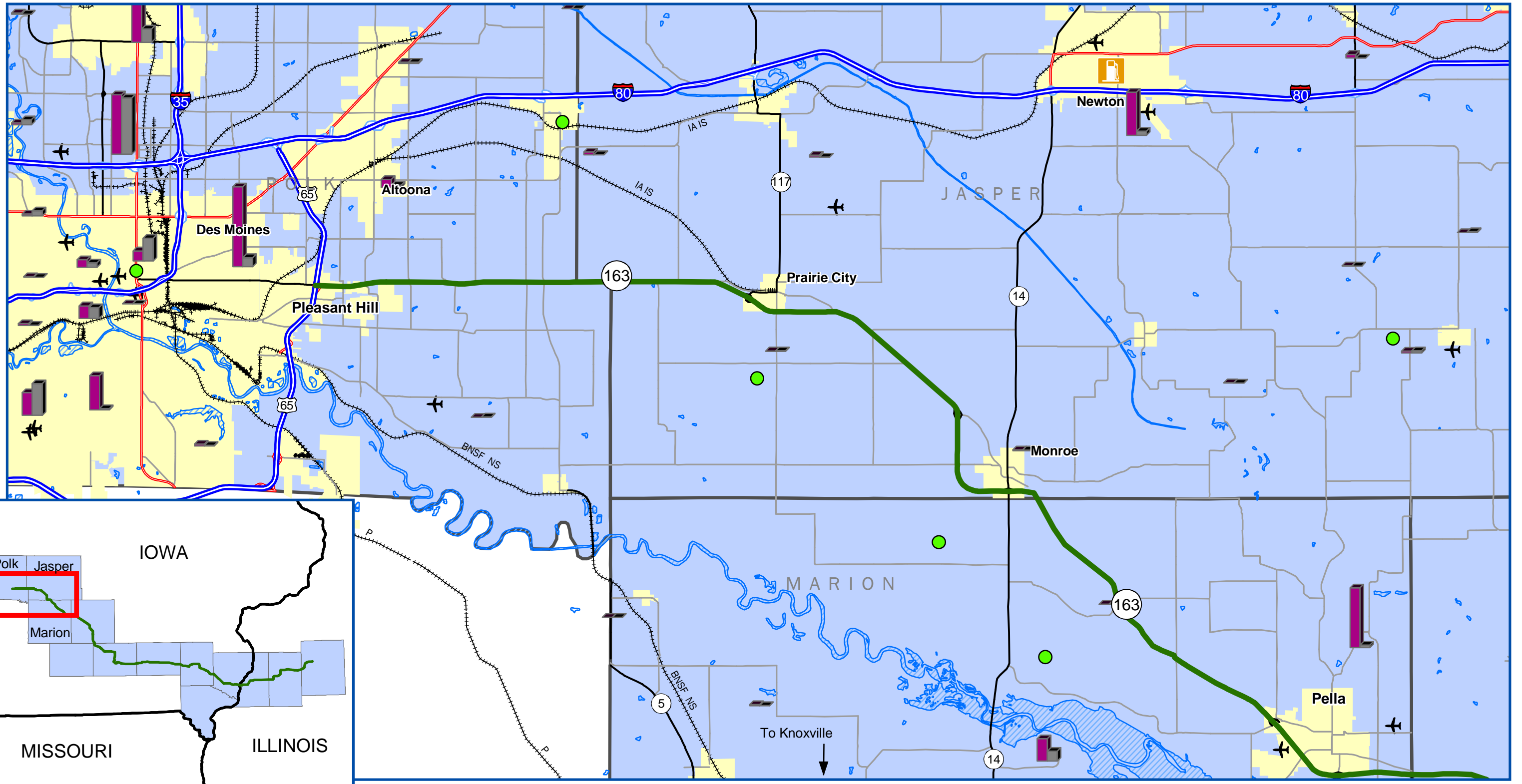


Figure 2.1



TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY  
**Sub-Area 1 Freight Generators**

- Trans-Iowa/Illinois Freight Corridor
- Major Grain Elevators
- Ethanol and Biodiesel
- 1,800 Employment
- Airports
- Manufacturing
- Corridor Cities
- Transportation and Warehousing
- Corridor Counties
- Railroad
- Interstate Highway
- U.S. Highway
- State Highway
- County Road

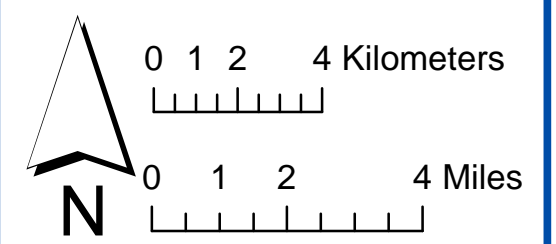


Figure 2.2

## B. Sub-Area 2: Mahaska, Monroe, Wapello, and Jefferson Counties, Iowa

Sub-Area 2 is a four county section located in the west central portion of the Trans-Iowa/Illinois Freight Corridor study area. Sub-Area 2 represents the longest/largest segment of the Trans-Iowa/Illinois Freight Corridor. Sub-Area 2's major cities include Oskaloosa (Mahaska County), Albia (Monroe County), Ottumwa (Wapello County), and Fairfield (Jefferson County), Iowa.

### **SUB-AREA 2 KEY TRENDS**

#### **☐ SOCIOECONOMIC:**

- Population decline of 1.2% expected through 2030; and,
- Employment growth of 9.4% expected through 2030.

#### **☐ TRAFFIC:**

- Trucks account for 9% of total traffic; and,
- Highway operates at 22% capacity.

#### **☐ CONNECTIVITY: (REFER TO FIGURE 2.3)**

- Corridor connects with U.S. 63 north to Interstate 80;
- Corridor connects with U.S. 63 south to Interstate 70 in Columbia, Missouri;
- Corridor connects to Iowa 92 west to Omaha, Nebraska, and Council Bluffs, Iowa; and,
- Corridor connects to Burlington Northern Santa Fe Railroad mainline in Ottumwa.

#### **☐ FREIGHT TRANSPORTATION: (REFER TO FIGURE 2.4 TO SEE FREIGHT GENERATORS)**

- In 2000, freight transportation in Sub-Area 2 moved an estimated 9 million tons of freight, valued at an estimated \$5 billion;
- In 2001, 55% of the truck freight tonnage that originated in Sub-Area 2 terminated in Iowa, 34% of the tonnage moving in to neighboring states;
- In 2001, 91% of the truck freight tonnage terminating in Sub-Area 2 originated in Iowa, 6% of the tonnage terminating in Sub-Area 2 coming from neighboring states;
- By 2011, Sub-Area 2's total originating truck freight tonnage is expected to grow by 7%;
- By 2011, Sub-Area 2's total terminating truck freight tonnage is expected to grow by 15%;
- Sub-Area 2's most important truck freight destination state, by value and by tonnage, was Missouri;
- Sub-Area 2's most important truck freight origination state, by value and by tonnage, was Illinois; and,
- Sub-Area 2's corridor segment possesses large manufacturing facilities as freight generators nearby, in Oskaloosa (Mahaska County), Ottumwa (Wapello County), and Fairfield (Jefferson County), Iowa;

**□ LAND USE AND ACCESS MANAGEMENT:**

- Only one of Sub-Area 2's four counties has land use policies;
- The Study Team recommends that land use policies should be implemented, or updated, in all Sub-Area 2 counties to reflect preservation of the Trans-Iowa/Illinois Freight Corridor; and,
- Sub-Area 2's corridor segment possesses fully access controlled bypasses the Iowa DOT has built around Oskaloosa (Mahaska County) and Eddyville (Wapello County);
- Sub-Area 2's corridor segment is where the Iowa DOT is constructing fully access controlled bypasses around Ottumwa (Wapello County) and Fairfield (Jefferson County), Iowa.

**SUB-AREA 2 KEY TRENDS ANALYSIS****SOCIOECONOMIC DATA**

The Study Team expects that Sub-Area 2's counties would reflect a slight population decline through 2030. In terms of employment, Sub-Area 2's counties anticipate growth of approximately 10% through 2030. With anticipated Sub-Area 2 employment growth, the Study Team expects an associated growth in freight traffic in the Trans-Iowa/Illinois Freight Corridor and the Sub-Area 2 segment of that corridor. The Study Team believes updating local land uses policies very important for accommodating this future growth conducive to supporting moving freight efficiently through the Trans-Iowa/Illinois Freight Corridor in the future.

**TRAFFIC CONDITIONS**

The Sub-Area 2 segment of the Trans-Iowa/Illinois Freight Corridor currently runs at approximately 22% capacity. Only 9% of that current traffic is truck traffic, allowing the Study Team to anticipate ample corridor capacity to accommodate additional freight traffic through this corridor. While extra capacity is available, the Study Team believes that local governments must work to preserve the Trans-Iowa/Illinois Freight Corridor functionally and operationally, through access management and through land use policies, to ensure traffic flows move smoothly through the Trans-Iowa/Illinois Freight Corridor in the future.

**CONNECTIVITY**

Major connections in Sub-Area 2 include links to Interstate 80 and to Interstate 70, as well as a major rail connection to the Burlington Northern Santa Fe Railroad. Trucks can utilize Sub-Area 2's U.S. 63 in Oskaloosa (Mahaska County) to move northward to Interstate 80, or U.S. 63 in Ottumwa (Wapello County) to move southward to Interstate 70, and providing a connection with this national east-west transportation route. Also, within miles of the Trans-Iowa/Illinois Freight Corridor is a connection to the Burlington Northern Santa Fe Railroad mainline. With this rail connection, the Study Team promotes Sub-Area 2 evaluating potential road/rail intermodal facilities.

**FREIGHT TRANSPORTATION**

When examining the Trans-Iowa/Illinois Freight Corridor's freight characteristics, the Study Team focused on three factors of that freight data. Those three factors include amount of freight transported, where that freight originates, and where the freight is destined. Sub-Area 2's statistics reflect approximately 9 million tons of freight being shipped by truck in to



and out from Sub-Area 2. While Sub-Area 2's tonnage is not nearly as much as for Sub-Area 1, the Study Team anticipates Sub-Area 2's freight volume to reflect continued growth and expansion through 2011. The most important of the three freight movement factors is the freight's source and the freight's destination. The majority of Sub-Area 2' freight is generated by Sub-Area 2's large manufacturing companies, with some freight being generated by grain elevators, warehousing, and retail markets. The Sub-Area 2 freight generated is moving within Iowa and to Illinois and to Missouri. The Study Team believes that this data reinforces the Trans-Iowa/Illinois Freight Corridor's value for moving freight corridor to and from Sub-Area 2.

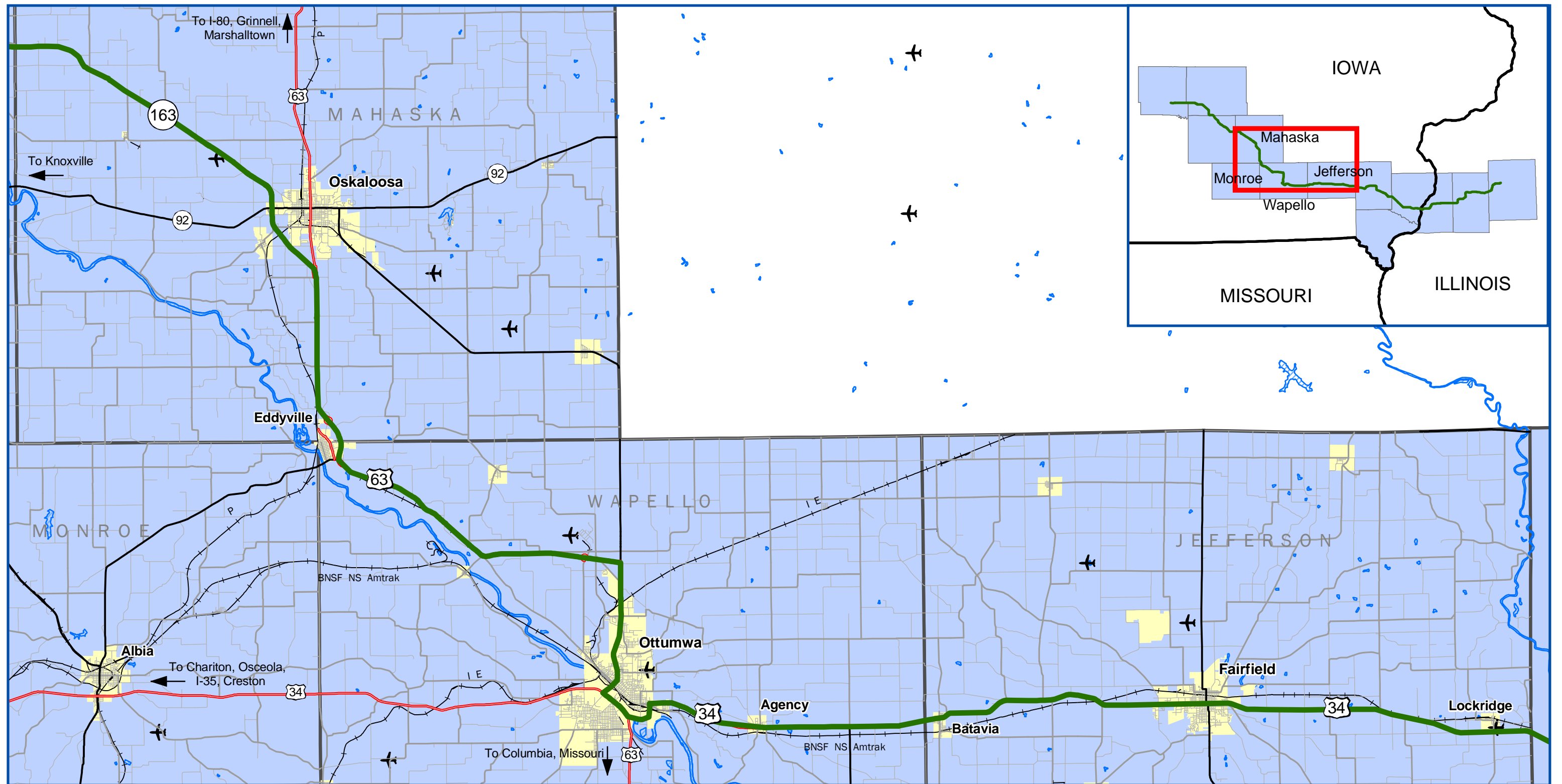
#### **LAND USE AND ACCESS MANAGEMENT**

The Study Team notes that land use and access management issues are not a major problem for the Sub-Area 2 corridor segment today, but local governments should evaluate their respective land use and access management plans to ensure development conducive to support the Trans-Iowa/Illinois Freight Corridor and increased future freight movement through this corridor. The Study Team recommends that local governments implement, or update, their respective access management and land use policies to preserve this corridor as an important freight transportation corridor with efficient traffic flow continuing as traffic increases over time.

#### **SUMMARY**

Sub-Area 2 should make access management and land use policy priorities for this Trans-Iowa/Illinois Freight Corridor segment to ensure future development is conducive to and is consistent with maintaining smooth future freight traffic flows in the Trans-Iowa/Illinois Freight Corridor. In addition, Sub-Area 2 should evaluate potential intermodal connections to take advantage of the connection to the Burlington Northern Santa Fe Railroad mainline.

(Blank Page)



TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY  
**Sub-Area 2 Connectivity**

- |                                      |               |                     |
|--------------------------------------|---------------|---------------------|
| Trans-Iowa/Illinois Freight Corridor | State Highway | Major Lake or River |
| Railroad                             | County Road   | Corridor Cities     |
| Interstate Highway                   | Local Road    | Corridor Counties   |
| U.S. Highway                         | Airports      |                     |

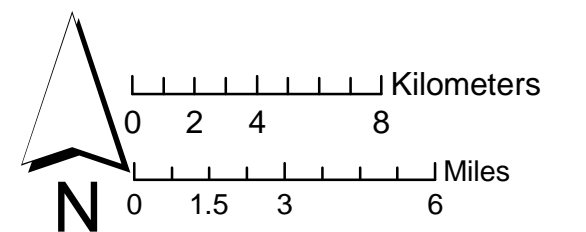
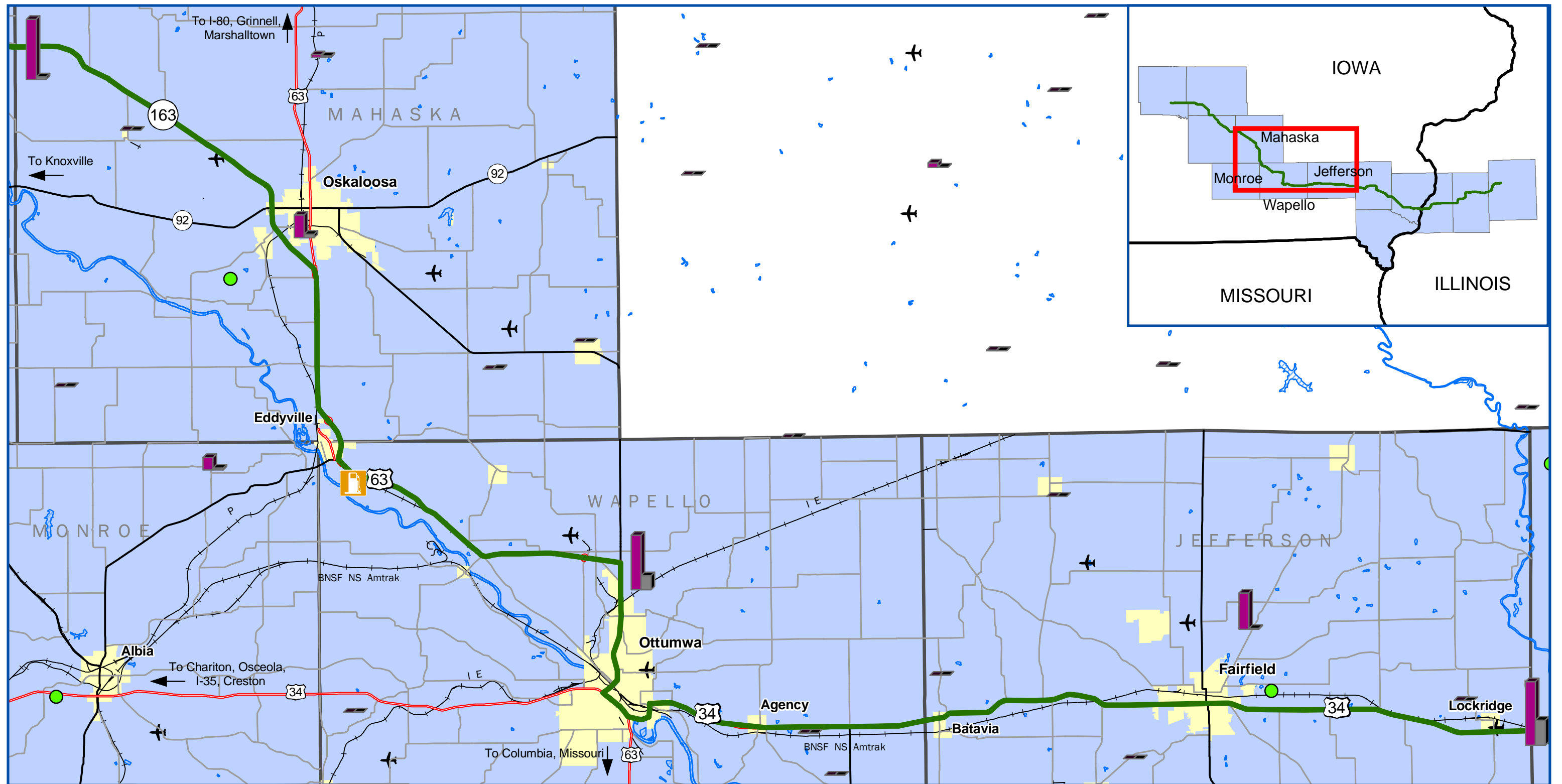


Figure 2.3



**TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR STUDY**  
**Sub-Area 2 Freight Generators**

- Trans-Iowa/Illinois Freight Corridor
- 1,800 Employment
- Manufacturing
- Transportation and Warehousing
- Major Grain Elevators
- Ethanol and Biodiesel
- Corridor Cities
- Corridor Counties
- Railroad
- Airports
- Interstate Highway
- U.S. Highway
- State Highway
- County Road

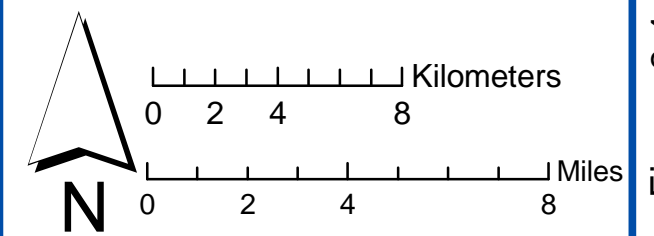


Figure 2.4

## C. Sub-Area 3: Henry, Des Moines, and Lee Counties, Iowa

Sub-Area 3 is a three county section in the east central portion of the Trans-Iowa/Illinois Freight Corridor, located at the most southeastern corner of Iowa. Sub-Area 3's major cities include Mount Pleasant (Henry County), West Burlington (Des Moines County), Burlington (Des Moines County), and Fort Madison (Lee County), Iowa.

### **SUB-AREA 3 KEY TRENDS**

#### **☐ SOCIOECONOMIC:**

- Population growth of 0.9% expected through 2030; and,
- Employment growth of 5.5% expected through 2030.

#### **☐ TRAFFIC:**

- Trucks account for 7% of total traffic; and,
- Highway operating at 25% capacity.

#### **☐ CONNECTIVITY: (REFER TO FIGURE 2.5)**

- Corridor connects with U.S. 61 north to the Quad Cities (Davenport and Bettendorf, Iowa, and Rock Island and Moline, Illinois) and south to St. Louis, Missouri;
- Corridor connects to U.S. 218/Iowa 27 (Avenue of the Saints) north to Minneapolis/St. Paul, Minnesota, and south to St. Louis, Missouri; and,
- Corridor connects with the Burlington Northern Santa Fe Railroad, with Burlington's (Des Moines County) Southeast Iowa Regional Airport, and with barge terminals on the Mississippi River.

#### **☐ FREIGHT TRANSPORTATION: (REFER TO FIGURE 2.6 TO SEE FREIGHT GENERATORS)**

- In 2000, freight transportation in Sub-Area 3 moved an estimated 18 million tons of freight, with an estimated value of approximately \$27 billion;
- In 2001, 68% of the truck freight tonnage originated in Sub-Area 3 terminated in Iowa, with 22% of the tonnage moving in to neighboring states;
- In 2001, 69% of the truck freight tonnage terminating in Sub-Area 3 originated in Iowa, 9% of the tonnage coming from neighboring states;
- By 2011, total truck freight tonnages originating in Sub-Area 3 is expected to grow by 10%;
- By 2011, total truck freight tonnages terminating in Sub-Area 3 is expected to grow by 22%;
- Sub-Area 3's most important truck freight destination state, by value, was Illinois;
- Sub-Area 3's most important truck freight destination, by weight, was Minnesota;
- Sub-Area 3's most important truck freight origin state, by value and by weight, was Illinois; and,
- Sub-Area 3's large manufacturing facilities serve as freight generators in the Trans-Iowa/Illinois Freight Corridor in Mt. Pleasant (Henry County), Middletown (Des Moines County), West Burlington (Des Moines County), and Burlington (Des Moines County).

**□ LAND USE AND ACCESS MANAGEMENT:**

- Sub-Area 3's two counties have implemented land use policies and the Study Team recommends that the counties should update these policies to reflect preservation of the Trans-Iowa/Illinois Freight Corridor; and
- The Iowa DOT has constructed fully access controlled bypasses around Mt. Pleasant (Henry County), New London (Henry County), Middletown (Des Moines County), West Burlington (Des Moines County), and Burlington (Des Moines County).

**SUB-AREA 3 KEY TRENDS ANALYSIS****SOCIOECONOMIC DATA**

The Study Team expects Sub-Area 3 to experience an increase in population and in employment through the year 2030. With this expected population and employment growth, the Study Team assumes freight traffic would grow along the Sub-Area 3's corridor segment. As with the Trans-Iowa/Illinois Freight Corridor's other sub-areas, the Study Team believes the local governments should update land use and access management policies to anticipate and to accommodate for increased traffic flow in this freight corridor.

**TRAFFIC CONDITIONS**

The Sub-Area 3 segment of the Trans-Iowa/Illinois Freight Corridor currently has traffic volumes at approximately 25% capacity, with only 7% of that volume being truck traffic. The Sub-Area 3's segment having excess capacity would allow for additional freight movement through the Sub-Area 3 corridor segment. While extra corridor capacity is available, the Study Team recommends that this corridor segment's local governments must work to preserve the Trans-Iowa/Illinois Freight Corridor functionally and operationally, through access management and through land use policies, to ensure traffic flows move smoothly through the Trans-Iowa/Illinois Freight Corridor in the future.

**CONNECTIVITY**

Major connections in Sub-Area 3 include links to U.S. 61, U.S. 218/Iowa 27 (Avenue of the Saints), as well as to the Burlington Northern Santa Fe Railroad, to the Southeast Iowa Regional Airport, and to Mississippi River barge terminals. Trucks can utilize Sub-Area 3's U.S. 61 for access to St. Louis, Missouri, and to the Quad Cities of Iowa/Illinois. In addition, trucks can utilize Sub-Area 3's U.S. 218/Iowa 27 for access to Minneapolis/St. Paul, Minnesota, to the north and St. Louis, Missouri, to the south. Also, within miles of the Trans-Iowa/Illinois Freight Corridor are connections to rail, air, and barge, as noted above. The Study Team believes these connections to other modes provide great opportunities for intermodal freight activities and for moving freight more efficiently along the entire freight corridor.

**FREIGHT TRANSPORTATION**

When examining the Trans-Iowa/Illinois Freight Corridor's freight characteristics, the Study Team focused on three factors of that freight data. Those three factors include amount of freight transported, where that freight originates, and where the freight is destined. Sub-Area 3's statistics reflect approximately 18 million tons of freight being shipped by truck in to and out from Sub-Area 3. The Study Team expects Sub-Area 3's considerable freight tonnage of today to continue and to grow approximately 10% by 2011. The most important of the three freight movement factors is the freight's source and the freight's destination.

Sub-Area 3's large manufacturing companies generate the majority of the Sub-Area 3's freight, with grain elevators, ethanol plants, barge terminals, warehousing, and retail businesses generating some freight traffic. Like other Trans-Iowa/Illinois Freight Corridor sub-areas, the majority of this freight moves within Iowa and to neighboring Illinois and Missouri. The Study Team believes that this data reinforces the Trans-Iowa/Illinois Freight Corridor's value for moving freight corridor to and from Sub-Area 3.

#### **LAND USE AND ACCESS MANAGEMENT**

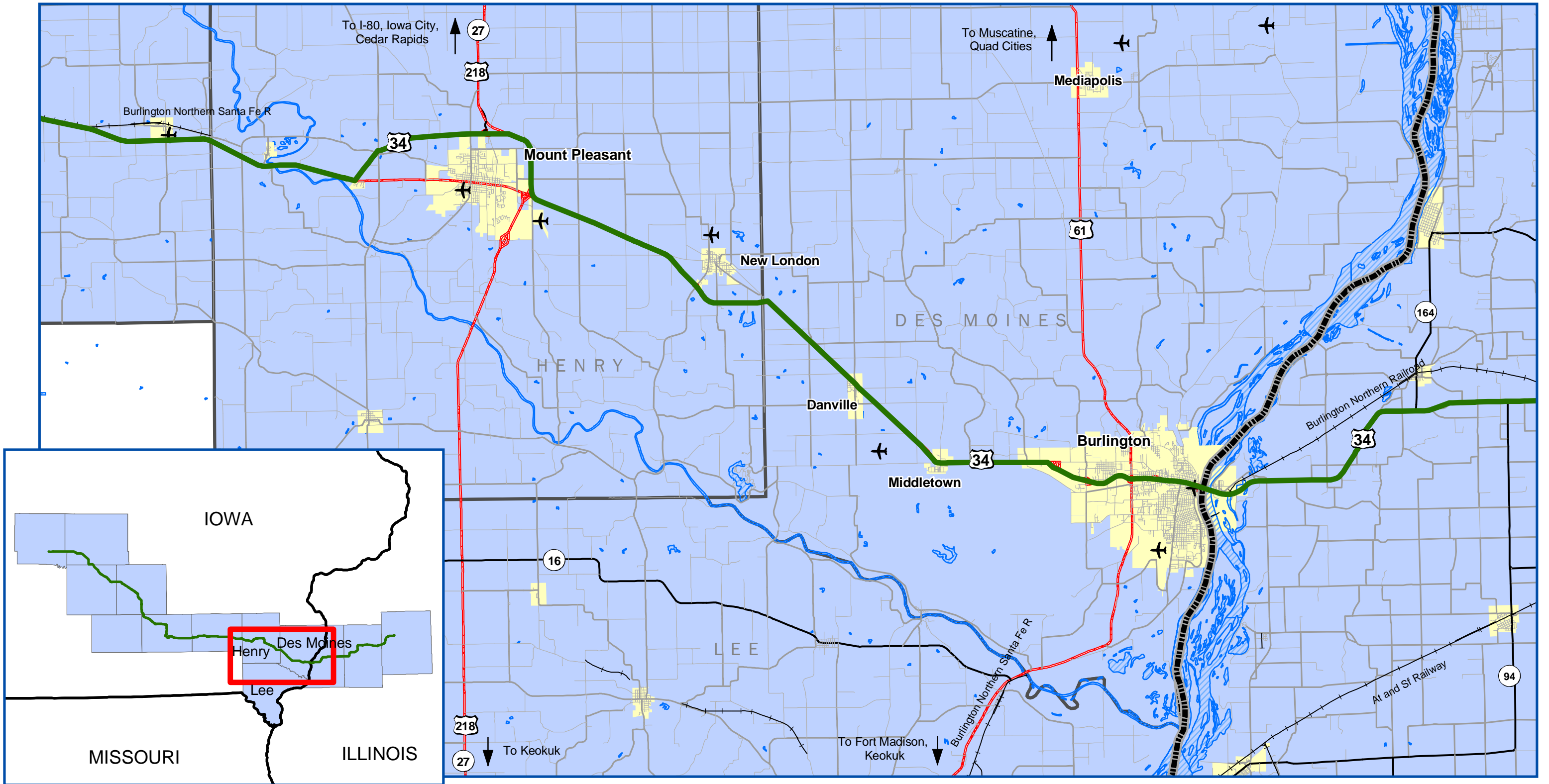
The Study Team notes that land use and access management issues are not a major problem for the Sub-Area 3 corridor segment today, but local governments should evaluate their respective land use and access management plans to ensure development conducive to support the Trans-Iowa/Illinois Freight Corridor and increased future freight movement through this corridor. The Study Team recommends that local governments implement, or update, their respective access management and land use policies to preserve this corridor as an important freight transportation corridor with efficient traffic flow continuing as traffic increases over time.

#### **SUMMARY**

**Sub-Area 3 should make access management and land use policies priorities for this Trans-Iowa/Illinois Freight Corridor segment to ensure future development is conducive to and is consistent with maintaining smooth future freight traffic flows in the Trans-Iowa/Illinois Freight Corridor. In addition, Sub-Area 3 should evaluate potential intermodal connections to take advantage of the connection to the Burlington Northern Santa Fe Railroad mainline, the Southeast Iowa Regional Airport, and the Mississippi River barge terminals.**

(Blank Page)





TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY  
**Sub-Area 3 Connectivity**

- |                                      |               |                     |
|--------------------------------------|---------------|---------------------|
| Trans-Iowa/Illinois Freight Corridor | State Highway | Major Lake or River |
| Railroad                             | County Road   | Corridor Cities     |
| U.S. Highway                         | Local Road    | Corridor Counties   |
|                                      | Airports      | State Boundaries    |

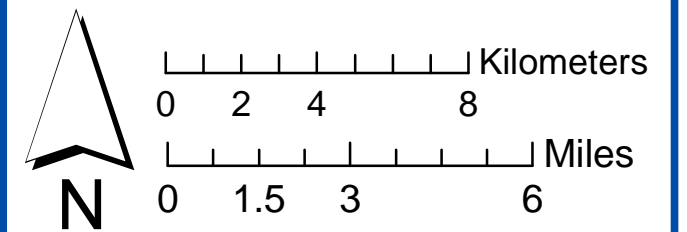
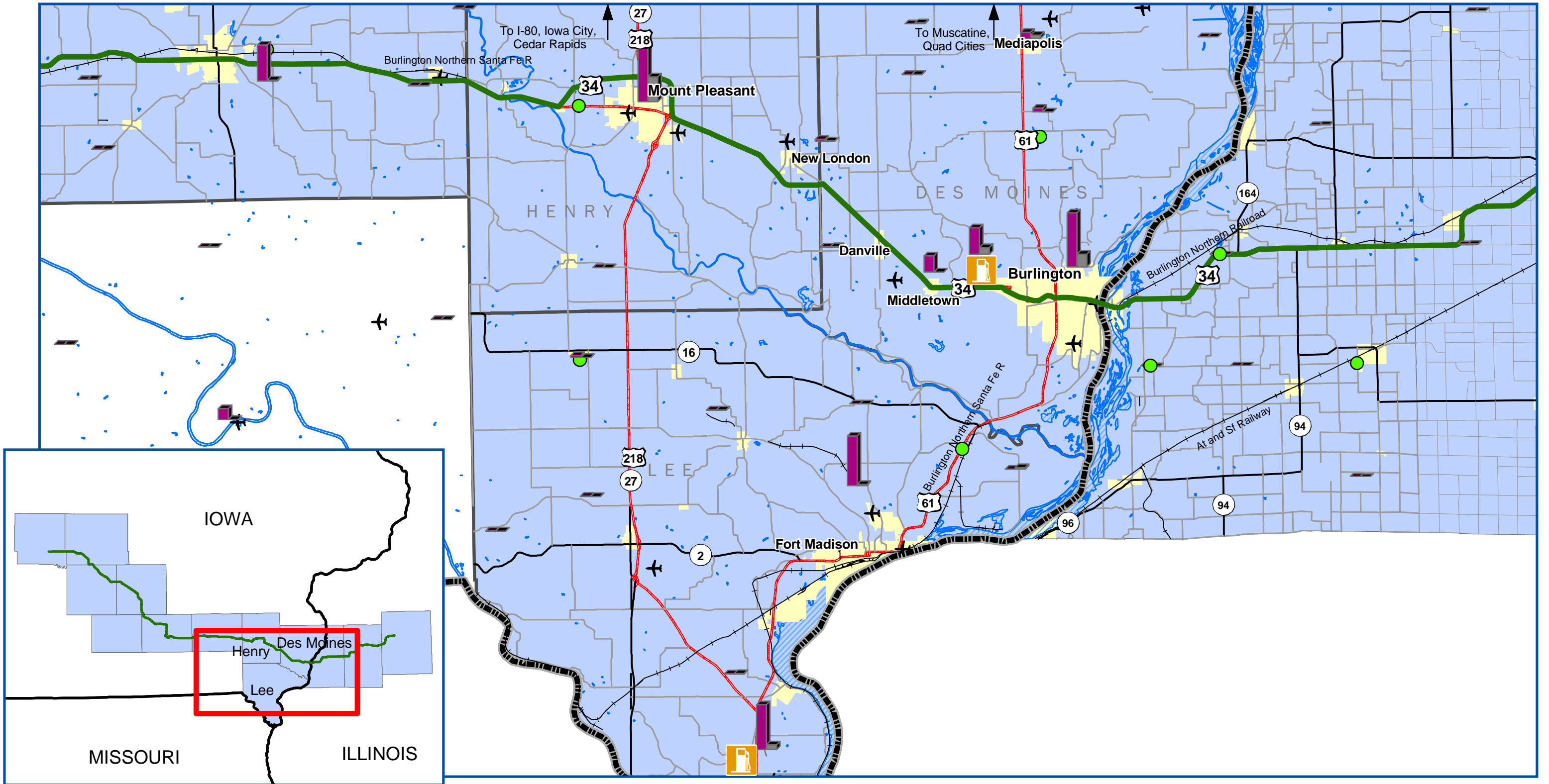


Figure 2.5



**TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR STUDY**  
**Sub-Area 3 Freight Generators**

- |                                      |                       |                  |
|--------------------------------------|-----------------------|------------------|
| Trans-Iowa/Illinois Freight Corridor | Major Grain Elevators | Railroad         |
| 1,800 Employment                     | Ethanol and Biodiesel | U.S. Highway     |
| Manufacturing                        | Airports              | State Highway    |
| Transportation and Warehousing       | Corridor Cities       | County Road      |
|                                      | Corridor Counties     | State Boundaries |

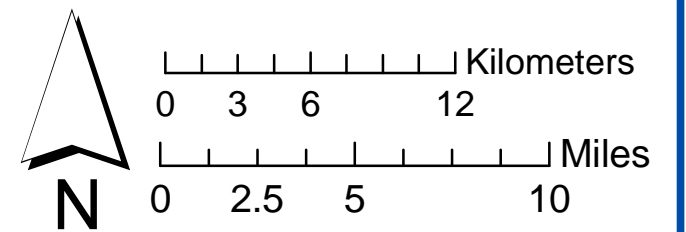


Figure 2.6

## D. Sub-Area 4: Henderson, Warren, and Knox Counties, Illinois

Sub-Area 4 consists of three counties at the east end of the Trans-Iowa/Illinois Freight Corridor study area, ending in Galesburg, Illinois. Sub-Area 4's major cities include Monmouth (Warren County) and Galesburg (Knox County), Illinois.

### **SUB-AREA 4 KEY TRENDS**

#### **☐ SOCIOECONOMIC:**

- Population decline of 8.9% expected through 2030; and,
- Employment growth of 3.4% expected through 2030.

#### **☐ TRAFFIC:**

- Trucks account for 21% of total traffic; and,
- Highway operates at 25% capacity.

#### **☐ CONNECTIVITY: (REFER TO FIGURE 2.7)**

- Corridor connects with Interstate 74 in Galesburg (Knox County) north to the Quad Cities, Iowa/Illinois, and east to Peoria and Champaign, Illinois, and to Indianapolis, Indiana;
- Corridor connects with U.S. 67 in Monmouth (Warren County) north to the Quad Cities Iowa/Illinois and south to St. Louis, Missouri; and,
- Corridor has connects with Burlington Northern Santa Fe Railroad's rail hub in Galesburg (Knox County) and with barge terminals on the Mississippi River.

#### **☐ FREIGHT TRANSPORTATION: (REFER TO FIGURE 2.8 TO SEE FREIGHT GENERATORS)**

- No freight movement data is available for Sub-Area 4;
- Sub-Area 4's large manufacturing facilities serve as freight generators in the Trans-Iowa/Illinois Freight Corridor in Monmouth (Warren County) and Galesburg (Knox County).

#### **☐ LAND USE AND ACCESS MANAGEMENT:**

- Sub-Area 4's three counties have implemented land use policies and the Study Team recommends that the counties update these policies to reflect preservation of the Trans-Iowa/Illinois Freight Corridor; and,
- The Illinois DOT has constructed a fully access controlled roadway from the Trans-Iowa/Illinois Freight Corridor's eastern terminus in Galesburg (Knox County) west to Monmouth (Warren County); and,
- The Study Team notes that Monmouth (Warren County) is experiencing access management issues today and the Study Team recommends that Monmouth (Warren County) update the city's access management and land use policies immediately in order to inhibit further deterioration of freight traffic flow in the Trans-Iowa/Illinois Freight Corridor.

## **SUB-AREA 4 KEY TRENDS ANALYSIS**

### **SOCIOECONOMIC DATA**

The Study Team expects Sub-Area 4 to experience an increase in employment through the year 2030, while the Study Team expects population to decrease. With this expected employment growth, the Study Team assumes freight traffic would grow along the Sub-Area 4's corridor segment. As with the Trans-Iowa/Illinois Freight Corridor's other sub-areas, the Study Team believes the local governments should update land use and access management policies to anticipate and to accommodate for increased traffic flow in this freight corridor.

### **TRAFFIC CONDITIONS**

The Sub-Area 4 segment of the Trans-Iowa/Illinois Freight Corridor currently has traffic volumes at approximately 25% capacity, with 25% of that volume being truck traffic. The Sub-Area 4's segment having excess capacity would allow for additional freight movement through the Sub-Area 4 corridor segment. While extra corridor capacity is available, the Study Team recommends that this corridor segment's local governments must work to preserve the Trans-Iowa/Illinois Freight Corridor functionally and operationally, through access management and through land use policies, to ensure traffic flows move smoothly through the Trans-Iowa/Illinois Freight Corridor in the future.

### **CONNECTIVITY**

Major connections in Sub-Area 4 include links to Interstate 74, U.S. 67, as well as to the Burlington Northern Santa Fe Railroad's Galesburg (Knox County) rail hub and to Mississippi River barge terminals. Trucks can utilize Sub-Area 4's Interstate 74 for access to the Midwest, including north to the Quad Cities of Iowa/Illinois, and east to Peoria and Champaign, Illinois, and to Indianapolis, Indiana. In addition, trucks can utilize Sub-Area 4's U.S. 67 for access north to the Quad Cities of Iowa/Illinois, and south to St. Louis, Missouri. Also, within miles of the Trans-Iowa/Illinois Freight Corridor are connections to rail and barge, as noted above. The Study Team believes these connections to other modes provide great opportunities for intermodal freight activities and for moving freight more efficiently along the entire freight corridor.

### **FREIGHT TRANSPORTATION**

The Study Team had no freight movement data available for Sub-Area 4. The Study Team did have freight generator information available. Sub-Area 4's large manufacturing companies are in Monmouth (Warren County) and Galesburg (Knox County), with grain elevators, warehousing facilities, and retail businesses generating some freight traffic.

### **LAND USE AND ACCESS MANAGEMENT**

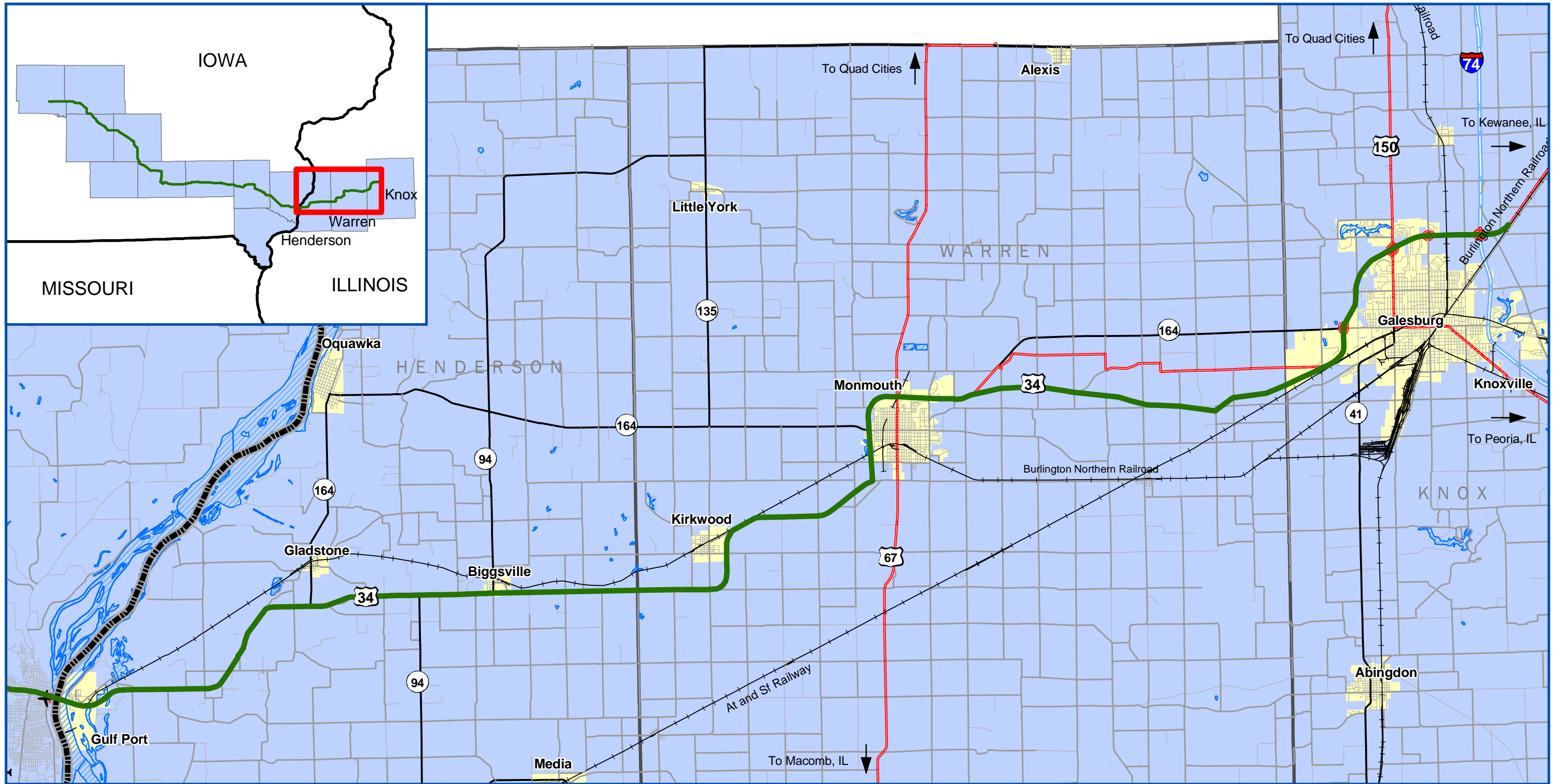
The Study Team notes that land use and access management issues are a major focus for Monmouth (Warren County) in the Sub-Area 4 corridor segment today. The Study Team recommends that local government evaluate land use and access management plans to ensure development conducive to support the Trans-Iowa/Illinois Freight Corridor and increased future freight movement through this corridor. The Study Team recommends that local governments implement, or update, access management and land use policies to preserve this corridor as an important freight transportation corridor with efficient traffic flow continuing as traffic increases over time.

**SUMMARY**

Sub-Area 4 should make access management and land use policies priorities for this Trans-Iowa/Illinois Freight Corridor segment to ensure future development is conducive to and is consistent with maintaining smooth future freight traffic flows in the Trans-Iowa/Illinois Freight Corridor. One only needs to look at the Monmouth (Warren County) bypass to observe how unregulated growth can inhibit freight movements in to and out from the Monmouth (Warren County) area and ultimately affecting freight movement along the Trans-Iowa/Illinois Freight Corridor. In addition, Sub-Area 4 should evaluate potential intermodal connections to take advantage of the connection to the Burlington Northern Santa Fe Railroad mainline and rail hub, and the Mississippi River barge terminals.

(Blank Page)





TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY

**Sub-Area 4 Connectivity**

- Trans-Iowa/Illinois Freight Corridor
- Railroad
- U.S. Highway
- State Highway
- County Road
- Local Road
- Corridor\_Study\_Cities
- Corridor Counties
- State Boundaries
- Airports
- Major Lake or River

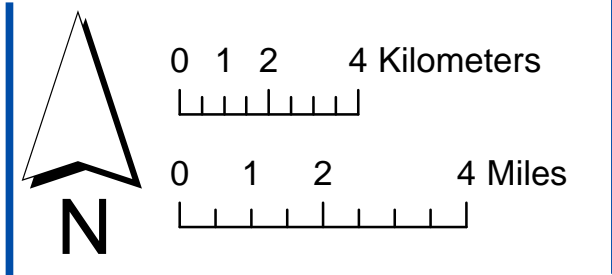
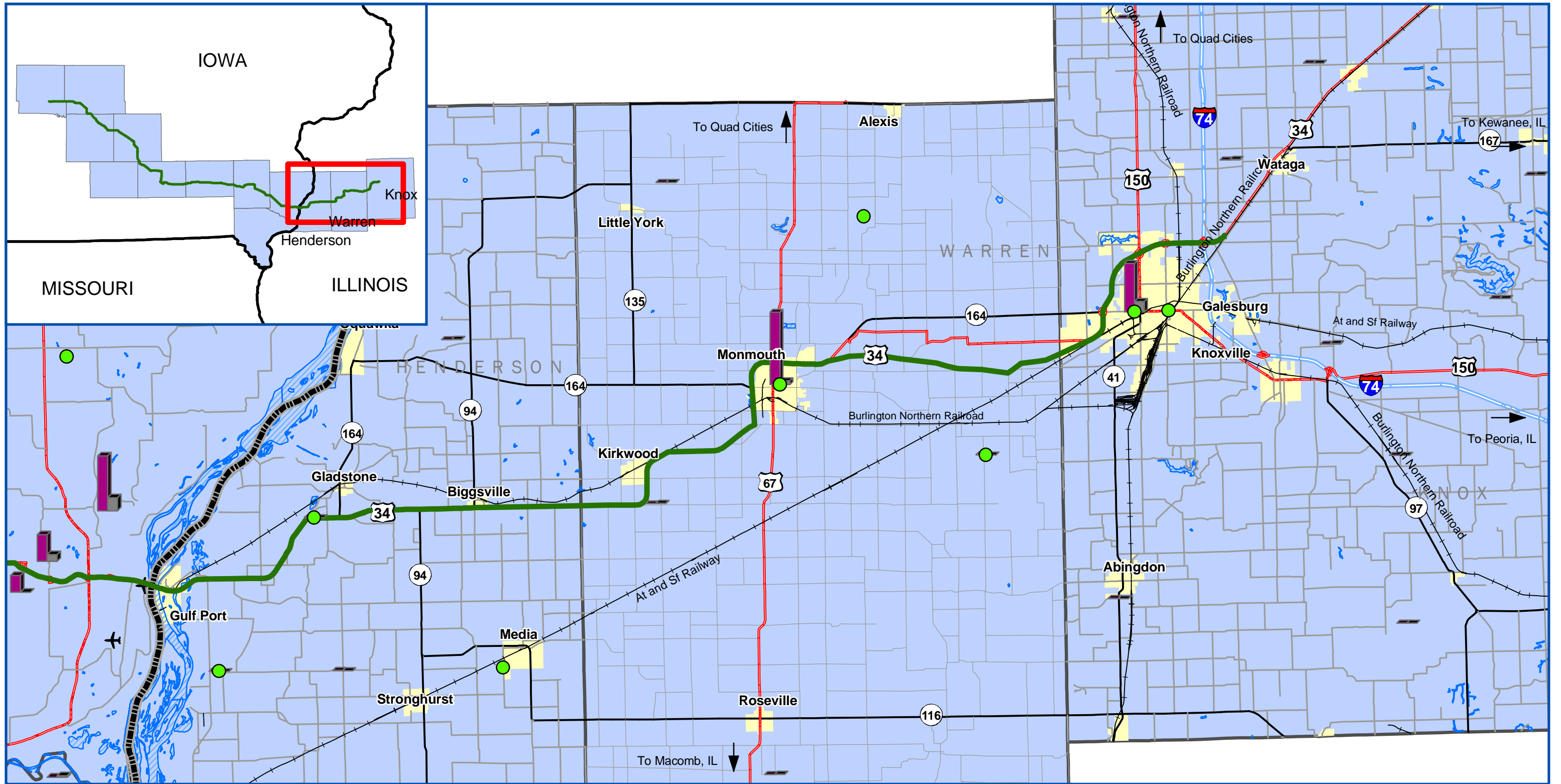


Figure 2.7



TRANS-IOWA/ILLINOIS FREIGHT  
CORRIDOR STUDY

**Sub-Area 4 Freight Generators**

- Trans-Iowa/Illinois Freight Corridor
- Major Grain Elevators
- 1,600 Employment
- Manufacturing
- Transportation and Warehousing
- Corridor\_Study\_Cities
- Corridor Counties
- Railroad
- U.S. Highway
- State Highway
- County Road
- State Boundaries
- Airports

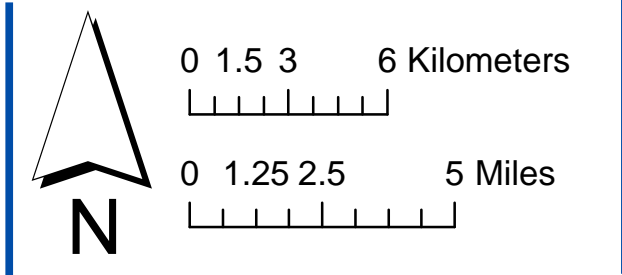


Figure 2.8



# Section III: Corridor Comparison



### III. Corridor Comparison: Interstate 74 and Interstate 80 Corridor to Trans-Iowa/Illinois Freight Corridor

#### A. Key Trends

##### TRAFFIC CONDITIONS:

- The Interstate 74 and Interstate 80 Corridor has the potential for more congestion in the future than does the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163);
- The Interstate 74 and Interstate 80 Corridor is projected to handle four times the traffic that the Trans-Iowa/Illinois Freight Corridor will in 2020;
- The Interstate 74 and Interstate 80 Corridor is projected to be near capacity in 2020; and,
- The Study Team projects the Trans-Iowa/Illinois Freight Corridor to be well below capacity.

##### SAFETY:

- The Study Team had no fair way to compare the Interstate 74 and Interstate 80 Corridor with the Trans-Iowa/Illinois Freight Corridor, given each roadway's design.

##### TIME TRAVEL:

- Distance on the Trans-Iowa/Illinois Freight Corridor, from Galesburg (Knox County), Illinois to Pleasant Hill (Polk County), Iowa is approximately 15 miles shorter than on the Interstate 74 and Interstate 80 Corridor; and,
- The Interstate 74 and Interstate 80 Corridor's and the Trans-Iowa/Illinois Freight Corridor's travel times currently are fairly comparable, but the Trans-Iowa/Illinois Freight Corridor is expected to have a faster travel time than the Interstate 74 and Interstate 80 Corridor in the future, once the Iowa DOT and the Illinois DOT have completed roadway improvements to the Trans-Iowa/Illinois Corridor.

#### B. Analysis of Trends

The Interstate 74 and Interstate 80 Corridor and the Trans-Iowa/Illinois Freight Corridor compare favorably in terms of safety, travel distance, and travel time. The Trans-Iowa/Illinois Freight Corridor holds a clear advantage over the Interstate 74 and Interstate 80 Corridor in terms of traffic volumes, projected to carry less traffic than the Interstate 74 and Interstate 80 Corridor.

Traffic projections indicate that the Interstate 74 and Interstate 80 Corridor would experience more congestion in the future if the Iowa DOT and the Illinois DOT do not add capacity to this corridor. The Trans-Iowa/Illinois Freight Corridor would carry a lesser traffic volume in the future than the Interstate 74 and Interstate 80 Corridor. Having a lesser future traffic volume thereby gives the Trans-Iowa/Illinois Freight Corridor the opportunity to offer a better level of service and potentially to offer higher average travel speeds and a

safer corridor with less potential for crashes. Conversely, the Trans-Iowa/Illinois Freight Corridor is not fully access-controlled, creating the potential for intermittent future safety issues. Both corridors share comparable distance and travel time characteristics, though the Interstate 74 and Interstate 80 Corridor does have a higher posted speed limit. Even though the Interstate 74 and Interstate 80 Corridor has a higher posted speed limit, the Corridor's traffic volumes may prevent freight traffic from taking full advantage of those posted speed limits.

#### **CONCLUSION:**

The Study Team believes that the Trans-Iowa/Illinois Freight Corridor, once capacity expansion is fully completed by the Iowa DOT and the Illinois COT, offers the potential to function as a freight corridor alternative to the Interstate 74 and Interstate 80 Corridor, from Galesburg (Knox County), Illinois, to Pleasant Hill/Des Moines (Polk County), Iowa.

### **C. Traffic Conditions**

The Interstate 74 and Interstate 80 Corridor currently carries larger traffic volumes, both for passenger and freight vehicles, than does the Trans-Iowa/Illinois Freight Corridor. The Interstate 74 and Interstate 80 Corridor is fully access controlled, as required by Interstate Highway System requirements. The Trans-Iowa/Illinois Freight Corridor is a work in progress, with large sections of this corridor completed to four-lane divided roadway and the Galesburg (Knox County), Illinois, to Burlington (Des Moines County), Iowa, corridor segment needing the most attention in terms of a timetable for roadway capacity improvements.

However, the Iowa portion of the Trans-Iowa/Illinois Freight Corridor will be a completed four-lane facility by 2008 between Burlington and Pleasant Hill/Des Moines, Iowa. The Illinois section of U.S. 34 will be complete between Gulfport and Monmouth is slated to be complete within 10 or 15 years.

The Trans-Iowa/Illinois Freight Corridor, in the corridor's current capacity configuration, with intermittent four-lane capacity and subsequent inferior travel time, would not compare well for truck freight movement when compared to the Interstate 74 and Interstate 80 Corridor. The Trans-Iowa/Illinois Freight Corridor, in the near future, would compare much more favorably and would have advantages for freight carriers over to the Interstate 74 and Interstate 80 Corridor.

Table 3.1 presents current Annual Average Daily Traffic (AADT) and Truck AADT for the Interstate 74 and Interstate 80 Corridor and for the Trans-Iowa/Illinois Freight Corridor. In addition, Figure 3.1 presents current Truck AADT levels and projected 2020 Truck AADT levels for the Interstate 74 and Interstate 80 Corridor and for the Trans-Iowa/Illinois Freight Corridor.

**Table 3.1: Current Annual Average Daily Traffic (AADT) and Truck AADT**

Location	AADT	Truck AADT	% Truck Traffic
Trans-Iowa/Illinois Freight Corridor	8,402	1,188	14.1%
Interstate 74 and Interstate 80 Corridor	28,926	8,784	30.4%

Source: Iowa DOT Volume of Traffic on Primary Road System, 2005

## **ANALYSIS**

As the Table 3.1 shows the Interstate 74 and Interstate 80 Corridor currently carries a traffic volume greater than three times, on average, of the traffic volume the Trans-Iowa/Illinois Freight Corridor carries on average. The Interstate 74 and Interstate 80 Corridor carries an estimated seven times the heavy truck traffic that the Trans-Iowa/Illinois Freight Corridor does on average. The proportion of trucks is about twice as great to the total traffic on The Interstate 74 and Interstate 80 Corridor's percentage of truck traffic is twice the percentage carried in the Trans-Iowa/Illinois Freight Corridor's total traffic.

Not only does the Interstate 74 and Interstate 80 Corridor carry more total trucks, the Corridor carries more trucks in proportion to the Corridor's total traffic volume.

## **D. Safety**

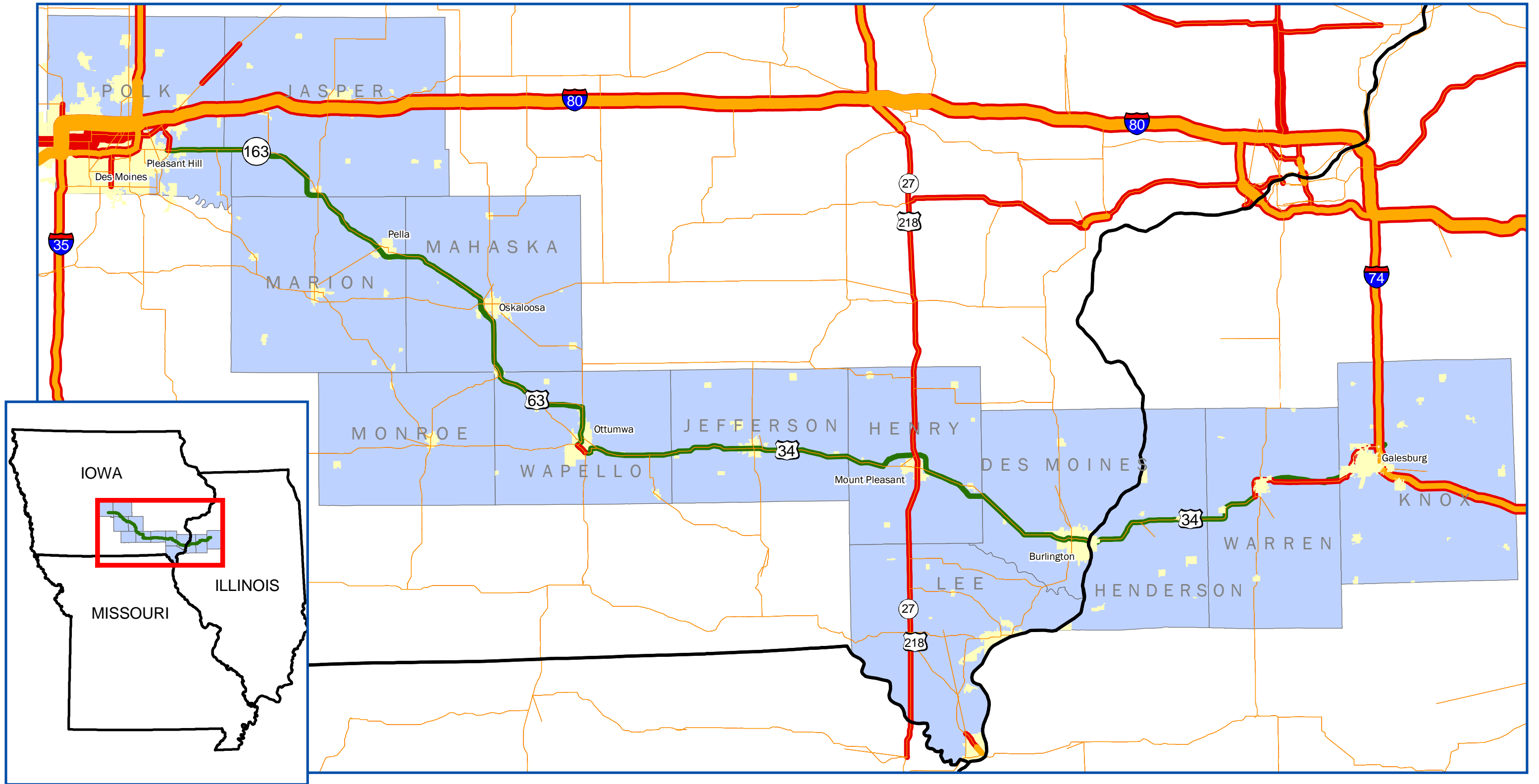
The Study Team had no opportunity to compare fairly the Interstate 74 and the Interstate 80 Corridor to the Trans-Iowa/Illinois Freight Corridor because of each corridor's roadway design. The Interstate 74 and Interstate 80 Corridor is fully access controlled. The Trans-Iowa/Illinois Corridor primarily is an at-grade expressway with limited access control found in the corridor. The Trans-Iowa/Illinois Corridor data available currently includes data regarding the corridor and how the corridor operates through corridor cities such as Ottumwa (Wapello County), Agency (Wapello County), Batavia (Jefferson County), Fairfield (Jefferson County), and Mt. Pleasant (Henry County), Iowa. The Iowa DOT recently completed four-lane bypasses for Agency (Wapello County), for Batavia (Jefferson County), and for Mt. Pleasant (Jefferson County). The Iowa DOT currently is constructing four-lane bypasses of Ottumwa (Mahaska County) and Fairfield (Jefferson County), with a scheduled completion of the two projects in 2008. The Study Team believes that these noted Iowa DOT roadway improvements will have a positive impact on the Trans-Iowa/Illinois Freight Corridor's safety statistics.

Though comparison is difficult because of different roadway conditions, data has been compiled to compare the safety of each corridor. Below is safety data from 2002 along each corridor.

**Table 3.2: Trans-Iowa/Illinois Freight Corridor Safety Statistics**

	Trans-Iowa/Illinois Freight Corridor	Interstate 74 and Interstate 80 Corridor
<b>Total Crashes</b>	472	889
<b>Semi Crashes</b>	38	181
<b>Crash Rate (HMVMT)*</b>	76.95	40.87
<b>Injuries</b>	225	395
<b>Fatalities</b>	8	16

\*HMVMT = crashes per 100 million vehicle miles traveled



**TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR STUDY**  
**Current and Projected Truck Annual Average Daily Traffic: 1998 and 2020 Comparison**

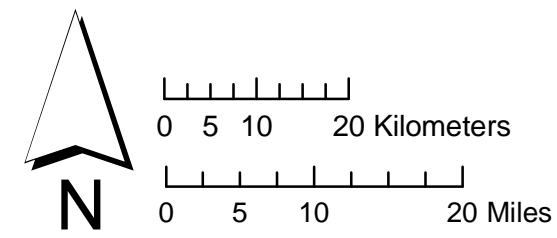
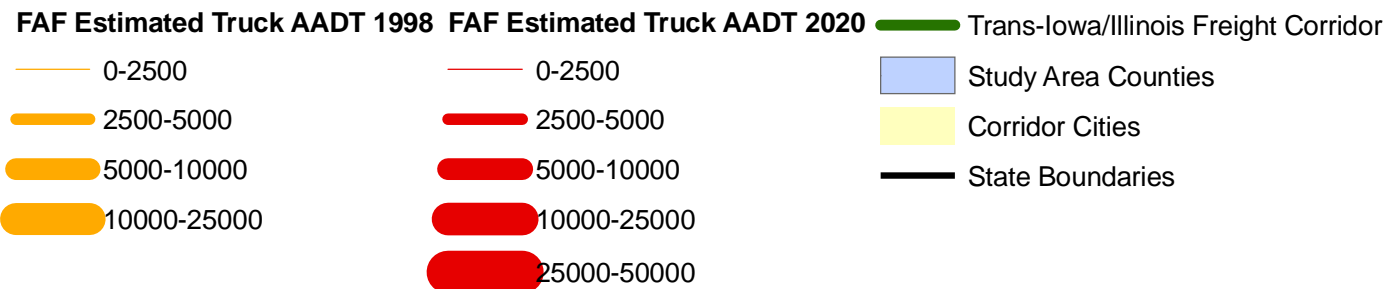


Figure 3.2

(Blank Page)

## **ANALYSIS**

Table 3.2 illustrates that the Trans-Iowa/Illinois Freight Corridor safety data indicates the corridor experiences significantly fewer total crashes and semi-trailer truck-related crashes than the Interstate 74 and Interstate 80 Corridor. However, the Trans-Iowa/Illinois Freight Corridor data indicates that the corridor has a much higher crash rate than does the Interstate 74 and Interstate 80 Corridor. The Trans-Iowa/Illinois Freight Corridor's much higher crash rate is explained partially by this corridor's number of crashes versus a lower traffic volume compared with the Interstate. The difference in crash rate can be attributed to the higher traffic volumes along the Interstate 74 and Interstate 80 Corridor's crashes to traffic volume characteristics.

The Study Team notes that crash severity is a good indicator/gauge for a roadway's safety. The Interstate 74 and Interstate 80 Corridor has a Crash Rate almost one-half of the Trans-Iowa/Illinois Freight Corridor. Yet, the Interstate 74 and Interstate 80 Corridor's injuries and fatalities scores are nearly twice those for the Trans-Iowa/Illinois Freight Corridor. The Study Team attributes the Interstate 74 and Interstate 80 Corridor's statistics due to higher traffic volumes, resulting in a greater number of fatalities when those crashes do occur.

The Study Team anticipates that, as the Interstate 74 and Interstate 80 Corridor's traffic continues to grow over time, the corridor's number of crashes and the severity of those crashes would likely increase. With the Iowa DOT's completion of the Iowa section of the Trans-Iowa/Illinois Freight Corridor to four-lanes in 2008, and the Illinois DOT completing an upgrade of the Illinois section of the Trans-Iowa/Illinois Freight Corridor in the near term, the Study Team anticipates that the number of crashes to decrease significantly in a much improved Trans-Iowa/Illinois Freight Corridor.

## **E. Tested Travel Time**

Today, the Study Team recognizes and expects that a driver's travel time would be faster from Galesburg (Knox County), Illinois, to Pleasant Hill (Polk County), Iowa, if one used the Interstate 74 and Interstate 80 Corridor. The Study Team anticipates increased traffic volumes for the Interstate 74 and Interstate 80 Corridor. The Study Team also anticipates that the Interstate 74 and Interstate 80 Corridor, at some point in time in the near term, will experience construction delays as the Iowa DOT and the Illinois DOT work to add capacity to the corridor due to the anticipated traffic volume increases. Heavier traffic volumes and travel delays for construction work zones would result in the Interstate 74 and Interstate 80 Corridor's travel time to diminish. When the Iowa DOT completes the Iowa segment of the Trans-Iowa/Illinois Freight Corridor in 2008, the resulting Trans-Iowa/Illinois Freight Corridor would exhibit a travel time +/- 5% of the Interstate 74 and Interstate 80 Corridor statistics.

In order to compare the two corridors, the Study Team performed travel times and employed statistical analysis for each of the corridors to determine the travel times today. Table 3.3 presents the travel time data collected for the two corridors. This study's Technical Report B contains detailed documentation regarding the Study Team's travel time data collection and analysis.

Table 3.3: Corridor Tested Travel Time

Location	Travel Time
Current Trans-Iowa/Illinois Freight Corridor	3 Hours, 35 Minutes
Future With Iowa 4 Lane Complete	3 Hours, 22 Minutes
Future With Entire Corridor 4 Lane	3 Hours, 17 Minutes
Interstate 74 and Interstate 80 Corridor	3 Hours, 12 Minutes

## **ANALYSIS**

The Study Team has determined that the two corridors' travel times differ by approximately 23 minutes. The Study Team observes that such a 23 minute difference is negligible given corridors of over 210 miles in length are being compared. The Study Team notes that traffic congestion and delay, roadway construction, or posted speed can easily influence these travel times.

The Study Team asks the reader to keep in mind that the Trans-Iowa/Illinois Freight Corridor is not a fully upgraded corridor today. The Study Team's analysis (Table 3.3) indicates that the Trans-Iowa/Illinois Freight Corridor, if fully upgraded, would have a travel time for traversing the full corridor that falls within approximately 5 minutes of the Interstate 74 and Interstate 80 Corridor's travel time. This assumption, again, does not include factors such as continued congestion and traffic volume growth in the Interstate 74 and Interstate 80 Corridor. Considering these factors, the Study Team thinks that the Trans-Iowa/Illinois Freight Corridor would offer a traveler, particularly a freight operator, travel time and safety very comparable, or possibly faster and safer, than that of the Interstate 74 and Interstate 80 Corridor.

While this data gives a good picture of the current travel times along each corridor, the Study Team recommends more evaluation to develop even more precise travel time information for each of the corridors.



# Section IV: Corridor Development



## IV. Trans-Iowa/Illinois Freight Corridor Development

The Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) development will involve the following three **KEY AREAS** of information:

### **KEY AREAS**

- Corridor Monitoring**
  - Gather data to evaluate the corridor's performance;
- General Corridor Improvements**
  - Determine corridor improvements to preserve traffic flow and to promote economic development; and,
- Coordinated Decision Making**
  - Develop a regional freight consortium to foster decision-making.

Trans-Iowa/Illinois Freight Corridor development will involve three main issues: monitoring corridor performance, improving corridor operations, and coordinated decision-making.

The plan in developing the Trans-Iowa/Illinois Freight Corridor would be to form a consortium that could make coordinated decisions along the entire Trans-Iowa/Illinois Freight Corridor. A corridor consortium could be the voice for corridor issues and could be the source to share corridor development information. The Study Team is composed of regional planning organization and metropolitan planning organization staff available for supporting such a consortium.

### **A. Trans-Iowa/Illinois Freight Corridor Monitoring**

Monitoring of the Trans-Iowa/Illinois Freight Corridor is necessary to implement the plan. Monitoring will provide information about the Trans-Iowa/Illinois Freight Corridor in a variety of ways. Monitoring would involve information gathering and data analysis from multiple sources. This study's Technical Report C contains detailed information on Performance Measures developed for this monitoring task of the Trans-Iowa/Illinois Freight Corridor.

#### **PROCESS FOR MONITORING THE TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR:**

- Collect data on the corridor annually;
- Analyze data, evaluate trends and/or progress on goals;
- Present data to corridor stakeholders and/or corridor consortium; and,
- Work with stakeholders to implement improvements or maintain existing conditions.

## B. General Trans-Iowa/Illinois Freight Corridor Improvements

The Trans-Iowa/Illinois Freight Corridor would need improvements to ensure the corridor's sustainability as a freight corridor. These needed improvements would not be limited to roadway improvements. Improvements also could include land use planning and continued economic development and marketing of the Trans-Iowa/Illinois Freight Corridor.

The Study Team believes that the most basic improvement and the most imperative need is to upgrade to four-lanes the entire length of the Trans-Iowa/Illinois Freight Corridor, from Galesburg (Knox County), Illinois, to Pleasant Hill/Des Moines (Polk County), Iowa. The Trans-Iowa/Illinois Freight Corridor, for Iowa's segment, is has a construction completion date of 2008. In 2008, only 25 miles of an Illinois DOT segment of U.S. 34 would remain not upgraded to four-lanes. Those 25 miles of Illinois' U.S. 34 segment, between Carman Road in Illinois (three miles east of Burlington, Iowa) and Monmouth, Illinois. Completion of the four lane corridor will improve safety (with access management provisions), traffic flow and provide a greater development tool for communities to work with. Following are other general improvements needed along the Trans-Iowa/Illinois Freight Corridor.

### GENERAL IMPROVEMENTS TO TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR

#### Traffic Flow

Key areas to sustain/improve:

- Level of Service (A or B);
- Travel Time; and,
- Travel Time and Level of Service Consistency.

#### Safety

Key areas to improve:

- Total number of crashes;
- Crash rate; and,
- Potential safety hazards.

#### Connectivity

Key areas to improve:

- Connections between modes of transportation; and,
- Connections between freight generators and modes of transportation.

#### Economic Development (Refer to Technical Report E for Example Marketing Outline)

Key areas to improve and develop:

- Develop marketing plan for the Trans-Iowa/Illinois Freight Corridor; and,
- Utilize the corridor as a development tool.

#### Land Use (Refer to Technical Report F for Sample Land Use Policies)

Key areas to improve and develop:

- Updated land use plans and zoning/subdivision regulations.
- Development of access management plans

The general improvements above are all important to the Trans-Iowa/Illinois Freight Corridor so the corridor remains a viable freight route. Specific Improvements identified through analysis of data and by a survey of trucking companies are listed in Technical Report D.

## C. Coordinated Decision Making

The Trans-Iowa/Illinois Freight Corridor stakeholders would decide how to implement this plan. The stakeholders must decide on a strategy for implementing this plan to further use of and to further development of the Trans-Iowa/Illinois Freight Corridor for freight transport and economic development.

Coordinated decision-making is the key to implementing this plan. An example of lack of coordinated decision-making would be a corridor promoting access management in one corridor segment and restricting access along another corridor segment. Such a strategy would do the Trans-Iowa/Illinois Freight Corridor no good.

### **COORDINATED DECISION MAKING MODEL**

The Study Team proposed a potential coordinated decision-making model based loosely on a generic regional planning organization. Such a model would promote a **TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR CONSORTIUM**. The stakeholders could form this consortium in a variety of ways, but ultimately would need to foster a coordinated decision-making necessary to preserve and to develop the Trans-Iowa/Illinois Freight Corridor.

#### **TRANS-IOWA/ILLINOIS FREIGHT CORRIDOR CONSORTIUM MODEL**

- Organization**
  - The consortium could have one representative from each city, each county, and one at-large member from each county; and,
  - A regional planning organization would staff the consortium's meetings.
- Formation**
  - The formation of the consortium should be by formal governmental resolution or by a 28E agreement.
- Operation**
  - The consortium could meet on a quarterly, semi-annual, or annual basis to update and to implement the plan
- Outcomes**
  - A forum where coordinated decision making would be fostered; and,
  - Ultimately, a freight corridor preserved for current and for future freight use while encouraging economic development.

# Section V: Technical Reports



(Blank Page)

# Technical Report A: Existing Corridor Conditions

## A. Sub-Area 1: Polk, Jasper, and Marion Counties, Iowa

### SOCIOECONOMIC CHARACTERISTICS

Polk County is expected to see the highest amount of growth in both population and employment in Sub-Area 1. While not nearly as high as Polk County, Jasper and Marion Counties are expected to experience considerable growth in both population and employment. Tables A1 and A2 show the projected population and employment projections.

**Table A1: Sub-Area 1 Population Projections**

Counties	2000	2010	2020	2030	% Growth
Polk	374,601	410,891	446,093	485,670	29.6%
Jasper	37,213	38,409	39,748	41,475	11.5%
Marion	32,052	33,546	35,463	37,707	17.6%
<b>TOTAL</b>	<b>443,866</b>	<b>482,846</b>	<b>521,304</b>	<b>564,852</b>	<b>27.3%</b>

**Table A2: Sub-Area 1 Employment Projections**

Counties	2000	2010	2020	2030	% Growth
Polk	212,900	241,283	273,450	309,905	45.6%
Jasper	19,490	21,234	23,134	25,204	29.3%
Marion	18,890	20,474	22,191	24,052	27.3%
<b>TOTAL</b>	<b>251,280</b>	<b>282,991</b>	<b>318,775</b>	<b>359,161</b>	<b>42.9%</b>

### TRAFFIC CONDITIONS

The Trans-Iowa/Illinois Freight Corridor's (U.S. 34, U.S. 63, and Iowa 163) capacity is approximately 30,000 vehicles per day, based on the facility type (4-lane, divided highway in a rural area). As shown in Table A3, the roadway currently is being used at about 29% of its capacity, with 11% of the traffic being trucks. There is great potential for this section of the corridor to be utilized more by truck traffic.

**Table A3: Sub-Area 1 Traffic Conditions**

Average AADT	Capacity	V/C Ratio	Average Truck AADT	% Truck Traffic
8,788	~30,000	29%	952	11%

This corridor section experienced a total of 54 accidents in 2002, with 1 fatality and with 23 injuries. This section's crash rate is 43 crashes for per 100,000,000 highway vehicle miles traveled (HVMT). The high number of accidents can be attributed to the access management need and to rural-at-grade crossings.

**Table A4: Sub-Area 1 Safety Statistics**

Total Crashes	Crash Rate	Fatalities	Injuries
54	43 Crashes/ 100 Million HVMT	1	23

## **CONNECTIVITY**

In the Des Moines metropolitan area, where the Trans-Iowa/Illinois Freight Corridor terminates, there are efficient connections to many markets in Iowa, in the Midwest, and around the nation. The northwestern ending point of this study corridor is U.S. 65 in Pleasant Hill (Polk County), Iowa. U.S. 65 is the eastern portion of a bypass around the Des Moines metropolitan area. To the north, U.S. 65 is part of a four-lane expressway to Marshalltown (Marshall County), Iowa. U.S. 65 has a junction with Interstate 80, a major east-west transcontinental freight route, and Interstate 35, an important north-south freight route, within the Des Moines metropolitan area.

In addition to many highway connections in the Des Moines metropolitan area, the corridor offers connections to other transportation modes. The Des Moines International Airport (DMIA) is located in the southern part of the Des Moines metropolitan area, with access proximate to U.S. 65 and to Iowa 5. The DMIA is Sub-Area 1's only commercial airport, and is a valuable asset for the region. The DMIA has daily flights to many major metropolitan areas around the United States.

Near Monroe (Jasper County), Iowa, the corridor intersects with Iowa 14, providing access to Interstate 80. Iowa 14 connects south 15 miles to Knoxville and north 12 miles to Newton and to Interstate 80.

Currently there are no other major connections in Sub-Area 1; however, Pella received funding in Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for a study addressing a possible direct link connection north to Interstate 80.

## **FREIGHT CONDITIONS**

Table A5: Sub-Area 1 Originating and Terminating Truck Freight Shipments

Sub-Area 1	Outbound Originating Tonnage (Thousands)	% of Total	Inbound Terminating Tonnage (Thousands)	% of Total	Outbound Originating Value (Millions)	% of Total	Inbound Terminating Value (Millions)	% of Total
IOWA	10,535	52%	29,270	75%	5,429	33%	19,045	47%
BORDERING STATES	7,102	35%	7,083	18%	6,606	41%	9,088	23%
Illinois	2,097	10%	1,920	5%	2,120	13%	3,338	8%
Kansas	431	2%	682	2%	313	2%	470	1%
Minnesota	1,210	6%	1,906	5%	1,116	7%	2,283	6%
Missouri	890	4%	435	1%	1,496	9%	461	1%
Nebraska	1,012	5%	1,257	3%	653	4%	1,318	3%
North Dakota	89	0%	70	0%	52	0%	47	0%
South Dakota	1,011	5%	70	0%	579	4%	74	0%
Wisconsin	363	2%	745	2%	277	2%	1,097	3%
OTHER U.S. REGIONS	2,787	14%	2,934	7%	4,250	26%	11,963	30%
<b>Total</b>	<b>20,424</b>	<b>100%</b>	<b>39,287</b>	<b>100%</b>	<b>16,285</b>	<b>100%</b>	<b>40,096</b>	<b>100%</b>



Reebie Associates data reflects that trucks carried about 60 million tons of goods, or 93 percent of the total tonnage for all modes in Sub-Area 1, worth about \$56 billion or 94 percent of the total value of all shipments in and out of Sub-Area 1 (Polk, Jasper, and Marion Counties) in 2001. Table A5 presents information on truck freight shipments that either originated or terminated in Sub-Area 1 in 2001.

Some key trends noted in Reebie Associates data in Table A5 above for Sub-Area 1 truck freight movement have been identified:

- In 2000, 52% of the **weight** of all originating truck freight in Sub-Area 1 was shipped to other locations in Iowa, 35% was shipped to neighboring states, and 14% was shipped to other United States regions.
- In 2000, 71% of the **weight** of all terminating truck freight in Sub-Area 1 came from other locations in Iowa, 17% came from neighboring states, and 12% came from other United States regions.
- In 2000, 33% of the **value** of all originating truck freight in Sub-Area 1 was distributed to other locations in Iowa, 41% was distributed to neighboring states, and 26% was distributed to other United States regions.
- In 2000, 47% of the **value** of all terminating truck freight in Sub-Area 1 came from other locations in Iowa, 23% came from neighboring states, and 30% came from other United States regions.
- Almost one-half (49%) of the weight, worth approximately two-thirds (67%) of the value, of all truck shipments from Sub-Area 1 went to other states.
- Over one-fourth (29%) of the weight, worth approximately two-thirds (67%) of the value, of all truck shipments came to Sub-Area 1 from other states.
- **Illinois** was the most important truck freight origin and destination state by value and by weight of shipments.
- Illinois, Minnesota, Nebraska, South Dakota, and Missouri were the main destination bordering states for truck freight originating in Sub-Area 1, by **weight**.
- Illinois, Missouri, Minnesota, Nebraska, and South Dakota were the important bordering states for truck freight destination in Sub-Area 1, by **value**.
- Illinois, Minnesota, and Nebraska were the main bordering states terminating for Sub-Area 1's truck freight, by **weight**.
- Illinois was the most important truck freight origin bordering state, by **value**, followed by Minnesota, Nebraska, and Wisconsin.

Table A6: Sub-Area 1 Projected Originating and Terminating Truck Freight Shipments

Sub-Area 1	Outbound Originating Truck Freight				Inbound Terminating Truck Freight			
	Tonnage (Thousand)		Growth (Thousand)	Growth Rate	Tonnage (Thousand)		Growth (Thousand)	Growth Rate
	2001	2011		%	2001	2011		%
IOWA	10,535	12,459	1,924	18%	29,270	34,215	4,945	17%
BORDERING STATES	7,102	9,118	2,016	28%	7,083	9,396	2,313	33%
Illinois	2,097	2,513	416	20%	1,920	2,593	673	35%
Kansas	431	513	82	19%	682	953	271	40%
Minnesota	1,210	1,464	254	21%	1,906	2,490	584	31%
Missouri	890	1,132	242	27%	435	537	102	23%
Nebraska	1,012	1,335	323	32%	1,257	1,723	466	37%
North Dakota	89	115	26	29%	70	111	41	59%
South Dakota	1,011	1,595	584	58%	70	83	13	19%
Wisconsin	363	452	89	25%	745	906	161	22%
OTHER U.S. REGIONS	2,787	3,448	661	24%	4,934	6,017	1,083	22%
<b>Total</b>	<b>20,424</b>	<b>25,025</b>	<b>4,601</b>	<b>23%</b>	<b>41,287</b>	<b>49,628</b>	<b>8,341</b>	<b>20%</b>

According to Reebie Associates data, truck traffic is expected to grow throughout Sub-Area 1 over the next 10 years given a base year of 2001. By 2011, Sub-Area 1's highway freight system is estimated to be handling about 75 million tons of cargo (21% growth). Table A6 presents the projected 2011 growth of truck freight shipments either originating or terminating in Sub-Area 1.

Some key trends noted from the Reebie Associates data in Table A6 above for Sub-Area 1 have been identified:

- By 2011, the total weight of all truck freight originating in Sub-Area 1 is expected to grow by 4,602,000 tons (23% increase).
- By 2011, the total weight of all truck freight terminating in Sub-Area 1 is expected to grow by 8,340,000 tons (20% increase).
- By 2011, the total weight of all truck freight originating in Sub-Area 1 to all bordering states is expected to grow by 2,017,000 tons (28% increase).
- By 2011, the total weight of all truck freight terminating in Sub-Area 1 to all bordering states is expected to grow by 2,313,000 tons (33% increase).

## **LAND USE AND ACCESS MANAGEMENT**

In Sub-Area 1 currently there are bypasses around the cities of Pella (Marion County), Monroe (Jasper County), and Prairie City (Jasper County). These bypasses are fully access controlled, meaning access is allowed only to the highway at interchanges utilizing on/off ramps. The remainder of the corridor in Sub-Area 1 contains multilane divided highway, with access points at grade.

With all three counties in Sub-Area 1 enforcing land use controls through zoning ordinances, it is important that all of the counties update their zoning and comprehensive plans to reflect the construction of this corridor, particularly at and around the access points. The counties may need to develop access management techniques in conjunction with the updated zoning ordinances at these locations, to maintain the safety, the capacity, and the speed of this roadway.

Some access management problems already have been discovered in Polk County, near the intersection of Iowa 163 and U.S. 65. At this time, land is being developed adjacent to the corridor, resulting in multiple stop lights and access points. One only needs to look at the Marshalltown (Marshall County) and the Muscatine (Muscatine County) bypasses to witness how poor or no access management techniques can negatively impact the safety, the capacity, and movement of traffic along a corridor.

## B. Sub-Area 2: Mahaska, Monroe, Wapello, and Jefferson Counties, Iowa

### **SOCIOECONOMIC CHARACTERISTICS**

Jefferson County is expected to see the highest amount of growth in both population (713 or 4.4%) and employment (2,875 or 30.77%) of Sub-Area 2's counties. While not as high as Jefferson County, Mahaska County is expected to see considerable growth in both population and employment. The other two counties are expected to stay flat (Wapello County) or decline (Monroe County) in terms of both population and employment. Even with these socioeconomic conditions being the projected case, the amount of growth in this Sub-Area should generate higher amounts of freight traffic in the near future.

Table A7: Sub-Area 2 Population Projections

Counties	2000	2010	2020	2030	% Growth
Mahaska	22,335	22,352	22,680	23,171	3.7%
Monroe	8,016	7,578	7,354	7,174	-10.5%
Wapello	36,051	35,857	34,936	34,332	-4.8%
Jefferson	16,181	16,126	16,423	16,894	4.4%
<b>TOTAL</b>	<b>82,583</b>	<b>81,913</b>	<b>81,393</b>	<b>81,571</b>	<b>-1.2%</b>

Table A8: Sub-Area 2 Employment Projections

Counties	2000	2010	2020	2030	% Growth
Mahaska	10,970	11,525	12,108	12,720	16.0%
Monroe	4,120	3,860	3,616	3,388	-17.8%
Wapello	17,170	17,182	17,194	17,206	0.2%
Jefferson	9,370	10,244	11,200	12,245	30.7%
<b>TOTAL</b>	<b>41,630</b>	<b>42,811</b>	<b>44,118</b>	<b>45,559</b>	<b>9.4%</b>

### **TRAFFIC CONDITIONS**

The roadway's capacity is approximately 30,000 vehicles per day, based on the facility type of a 4-lane, divided highway in a rural area. The roadway currently is being used at about 22% of its capacity, with 9% of the traffic being trucks. This amount of traffic provides a great opportunity for higher amounts of truck traffic to be able to utilize this section of the corridor in an efficient manner.

Table A9: Sub-Area 2 Traffic Conditions

Average AADT	Capacity	V/C Ratio	Average Truck AADT	% Truck Traffic
6,570	~30,000	22%	562	9%

This corridor section reported a total of 226 accidents in 2002 with 3 fatalities and 137 injuries. The crash rate is 124 crashes for 100 million highway vehicle miles traveled (HVMt). This crash indicates definite safety issues in this corridor section, both in frequency and in accident severity.

Table A10: Sub-Area 2 Safety Statistics

Total Crashes	Crash Rate	Fatalities	Injuries
226	124 Crashes/ 100 Million HVMt	3	197

## **CONNECTIVITY**

In Ottumwa, there is an important junction of highways. U.S. 34 meets U.S. 63 in Ottumwa, as the study corridor begins proceeding to the north along U.S. 63. U.S. 63 also goes south from Ottumwa into northeastern Missouri, eventually meeting Interstate 70 in Columbia, Missouri. Portions of U.S. 63 already are four-lane, divided roadway. The Missouri's Department of Transportation has plans to expand U.S. 63 in Missouri to a four-lane, divided roadway. When this expansion is completed, U.S. 63 will allow for more efficient goods movement to and from Missouri. Another significant highway connection in Ottumwa is U.S. 34, which crosses southern Iowa. U.S. 34 passes through several significant southern Iowa cities, such as Chariton (Lucas County), Osceola (Osceola County) (it junction with Interstate 35), and Creston (Union County), Iowa.

U.S. 63, after it intersects with Iowa 163, the corridor extends beyond Sub-Area 2 northward to Interstate 80. U.S. 63 also intersects with Iowa 146, creating a connection with Grinnell (Poweshiek County) and Marshalltown (Marshall County).

In Sub-Area 2 at Oskaloosa, Iowa 163 intersects with Iowa 92, connecting westward to Knoxville (Marion County), Indianola (Warren County), and Interstate 35. In addition, Iowa 92 becomes a four-lane expressway at Knoxville, linking with Iowa 5, and providing the fastest path to the Des Moines International Airport from the Trans-Iowa/Illinois Freight Corridor.

## **FREIGHT CONDITIONS**

Table A11: Sub-Area 2 Originating and Terminating Truck Freight Shipments

Sub-Area 2	Outbound Originating Tonnage (ThoU.S.ands)	% of Total	Inbound Terminating Tonnage (Thousands)	% of Total	Outbound Originating Value (Millions)	% of Total	Inbound Terminating Value (Millions)	% of Total
IOWA	2,595	55%	4,141	91%	1,635	50%	1,032	68%
BORDERING STATES	1,630	34%	255	6%	878	27%	196	13%
Illinois	153	3%	62	1%	181	5%	58	4%
Kansas	60	1%	24	1%	68	2%	12	1%
Minnesota	214	5%	48	1%	195	6%	35	2%
Missouri	1,040	22%	38	1%	271	8%	29	2%
Nebraska	61	1%	47	1%	58	2%	27	2%
North Dakota	5	0%	1	0%	7	0%	2	0%
South Dakota	23	0%	4	0%	16	0%	3	0%
Wisconsin	75	2%	31	1%	83	3%	30	2%
OTHER U.S. REGIONS	526	11%	157	3%	784	24%	290	19%
<b>Total</b>	<b>4,751</b>	<b>100%</b>	<b>4,553</b>	<b>100%</b>	<b>3,297</b>	<b>100%</b>	<b>1,518</b>	<b>100%</b>

Reebie Associates data reflects that trucks carried about 9 million tons of goods (52 % of the total tonnage for all modes), worth about \$5 billion or 81 percent of the total value of all shipments in and out from Sub-Area 2 (Mahaska, Monroe, Wapello, and Jefferson Counties)

in 2001. Table A11 presents information on truck freight shipments that originated or terminated in Sub-Area 2 in 2001.

Some key trends noted in Reebie Associates data in Table A11 above for Sub-Area 2 truck freight movement have been identified:

- In 2000, 55% of the **weight** of all originating truck freight in Sub-Area 2 was shipped to other locations in Iowa, 34% was shipped to neighboring states, and 11% to other United States regions.
- In 2000, 91% of the **weight** of all terminating truck freight in Sub-Area 2 came from other locations in Iowa, 6% came from neighboring states, and 3% came from other United States regions.
- In 2000, 50% of the **value** of all originating truck freight in Sub-Area 2 was distributed to other locations in Iowa, 27% was distributed to neighboring states, and 24% was distributed to other United States regions.
- In 2000, 68% of the **value** of all terminating truck freight in Sub-Area 2 came from other locations in Iowa, 13% came from neighboring states, and 19% came from other United States regions.
- **Missouri** was the most important truck freight destination state, by value and by weight of shipments, and **Illinois** was the most important truck freight origin state, by value and by weight.
- Missouri, Minnesota, and Illinois were the main destination bordering states for truck freight originating in Sub-Area 2, by **weight**.
- Illinois, Missouri, Missouri, and Minnesota were the important bordering states for truck freight destination in Sub-Area 2, by **value**.
- Illinois, Minnesota, and Nebraska were the main bordering states terminating for Sub-Area 2's truck freight, by **weight**.
- Illinois was the most important truck freight origin bordering state, by **value**, followed by Minnesota, and Wisconsin.

Table A12: Sub-Area 2 Projected Originating and Terminating Truck Freight Shipments

Sub-Area 2	Outbound Originating Truck Freight				Inbound Terminating Truck Freight			
	Tonnage (Thousand)		Growth (Thousand)	Growth Rate	Tonnage (Thousand)		Growth (Thousand)	Growth Rate
	2001	2011		%	2001	2011		%
IOWA	2,595	2,947	352	14%	4,141	4,691	550	13%
BORDERING STATES	1,630	1,622	-8	-1%	255	325	70	27%
Illinois	153	179	26	17%	62	79	17	27%
Kansas	60	74	14	23%	24	28	4	17%
Minnesota	214	246	32	15%	48	64	16	33%
Missouri	1,040	920	-120	-12%	38	49	11	29%
Nebraska	61	75	14	23%	47	59	12	26%
North Dakota	5	5	0	0%	1	1	0	0%
South Dakota	23	32	9	39%	4	4	0	0%
Wisconsin	75	90	15	20%	31	41	10	32%
OTHER U.S. REGIONS	526	538	12	2%	157	201	44	28%
<b>Total</b>	<b>4,751</b>	<b>5,107</b>	<b>356</b>	<b>7%</b>	<b>4,553</b>	<b>5,217</b>	<b>664</b>	<b>15%</b>

According to Reebie Associates data, truck traffic is expected to grow throughout Sub-Area 2 over the next 10 years, given a base year of 2001. By 2011, Sub-Area 2's highway freight system is estimated to be handling about 10 million tons of cargo (11% growth). Table A12 presents the projected 2011 growth of truck freight shipments either originating or terminating in Sub-Area 2.

Some key trends noted from the Reebie Associates data in Table A12 above for Sub-Area 2 have been identified:

- By 2011, the total weight of all truck freight originating in Sub-Area 2 to all bordering states is expected to drop by 8,000 tons (1% decrease).
- By 2011, the total weight of all truck freight terminating in Sub-Area 2 to all bordering states is expected to grow by 664,000 tons (15% increase).
- By 2011, the total weight of all truck freight originating in Sub-Area 2 is expected to grow by 356,000 tons (7% increase).
- By 2011, the total weight of all truck freight terminating in Sub-Area 2 is expected to grow by 664,000 tons (15% increase).

## **LAND USE AND ACCESS MANAGEMENT**

Sub-Area 2 currently has fully access controlled bypasses around the cities of Oskaloosa (Mahaska County) and Eddyville (Wapello County), meaning access is only allowed to the highway at interchanges utilizing of/off ramps. The Iowa Department of Transportation has more bypasses planned for Ottumwa (Wapello County), Agency (Wapello County), and Fairfield (Jefferson County). The rest of the corridor through Sub-Area 2 contains (or will contain) multilane divided highway, with access points at grade.

Currently only one county, Wapello, has a zoning ordinance. Wapello County recently updated its zoning ordinance to reflect the corridor. Jefferson and Mahaska Counties need to develop and to adopt similar land use policies that include the corridor. The counties also may need to develop access management techniques in conjunction with the new and updated zoning ordinances to maintain the safety, the capacity, and the speed of the roadway.

At this time, no areas along this corridor section that appear to have access management problems, but planning now is crucial, through zoning ordinances, to ensure that no problems, will arise once the corridor is completed.



## C. Sub-Area 3: Henry, Des Moines, and Lee Counties, Iowa

### SOCIOECONOMIC CHARACTERISTICS

Henry County is expected to see the highest amount of growth in both population (3,680 or 18.1%) and employment (658 or 6.4%). Des Moines and Lee Counties are expected to experience a small decrease in their population (-1.8% and -5.3%), but are expected to experience an increase in employment (5% and 5.5% respectively). This Sub-Area 2's projected employment growth should generate higher amounts of freight traffic along the corridor.

Table A13: Sub-Area 3 Population Projections

Counties	2000	2010	2020	2030	% Growth
Henry	20,336	21,503	22,728	24,016	18.1%
Des Moines	42,351	42,090	41,830	41,572	-1.8%
Lee	38,052	37,396	36,719	36,021	-5.3%
<b>TOTAL</b>	<b>100,739</b>	<b>100,988</b>	<b>101,276</b>	<b>101,609</b>	<b>0.9%</b>

Table A14: Sub-Area 3 Employment Projections

Counties	2000	2010	2020	2030	% Growth
Henry	10,310	10,588	10,796	10,968	6.4%
Des Moines	21,660	22,129	22,468	22,750	5.0%
Lee	17,910	18,354	18,644	18,892	5.5%
<b>TOTAL</b>	<b>49,880</b>	<b>51,071</b>	<b>51,908</b>	<b>52,610</b>	<b>5.5%</b>

### TRAFFIC CONDITIONS

This roadway's capacity is around 30,000 vehicles per day, based on the facility type of a 4-lane, divided highway in a rural area. The roadway currently is being used at about 25% of its capacity, with 7% of the traffic coming being trucks. This amount of traffic provides a great opportunity for higher amounts of truck traffic to be able to utilize this section of the corridor in an efficient manner.

Table A15: Sub-Area 3 Traffic Conditions

Average AADT	Capacity	V/C Ratio	Average Truck AADT	% Truck Traffic
7,528	~30,000	25%	558	7%

This corridor section reported a total of 64 accidents in 2002 with 1 fatality and 25 injuries. The crash rate is 60 crashes for every 100 million highway vehicle miles traveled (HMVMT). This crash rate indicates safety issues in this corridor section.

Table A16: Sub-Area 3 Safety Statistics

Total Crashes	Crash Rate	Fatalities	Injuries
64	60 Crashes/ 100 Million HMVMT	1	25

## **CONNECTIVITY**

In Burlington (Des Moines County), Iowa, U.S. 34 intersects with U.S. 61. U.S. 61 creates a 30-mile link south to Fort Madison (Lee County), Iowa, and in another 20 miles southward, U.S. 61 reaches Keokuk (Lee County), Iowa. To the north, U.S. 61 connects to Muscatine (Muscatine County), and further to the Quad Cities (Davenport and Bettendorf (Scott County), Iowa, and Moline and Rock Island (Rock Island County), Illinois). U.S. 61 links all of these cities, all important Mississippi River cities. Perhaps one of Burlington's (Des Moines County) most advantageous aspects, when compared to the other corridor cities is Burlington's good connections by highway, by railroad, and by water.

Another major highway intersection is U.S. 34 and Iowa 27/U.S. 218 in Mt. Pleasant (Henry County). Currently, the Iowa 27/U.S. 218 corridor goes north 50 miles to make a direct connection Iowa City (Johnson County) and to Interstate 80. The Iowa 27/U.S. 218 corridor also is part of the Avenue of the Saints, a project undertaken by the Minnesota, by the Iowa, and by the Missouri Department of Transportation (DOT). The last Avenue of the Saints segment for completion is a 15-mile, four-lane expressway in northern Missouri, scheduled for completion in June, 2008. This project will connect St. Paul, Minnesota, and St. Louis, Missouri, with a divided four-lane highway, and will improve travel time not only between these two major metropolitan areas, but also for all points in between.

The U.S. 34/Avenue of the Saints intersection is located strategically located approximately halfway between the St. Paul and St. Louis metropolitan areas and passes through other Iowa cities such as Iowa City, Cedar Rapids, Waterloo/Cedar Falls, and Mason City, along with Quincy, Illinois, and Hannibal, Missouri. The Iowa 27/U.S. 218 roadway also has been identified by the Iowa DOT as one of the highways on the Commercial Industrial Network, yet again emphasizing this location as an important transportation node.

Completing the Avenue of the Saints project not only will benefit these cities directly adjacent to that corridor, but also will have incredible timesaving affects for travelers using intersecting routes with this corridor, including the Trans-Iowa/Illinois Freight Corridor. These two corridors will complement each other and will provide improved and efficient transportation for regions in Iowa, Illinois, and Missouri.

In addition to several important highway connections, Sub-Area 3 has significant freight movement by rail. As with all the sub-areas, the Burlington Northern Santa Fe Railway Company (BNSF), a Class I railroad, operates throughout Sub-Area 3. The BNSF also is significant in that the Norfolk Southern Railway Company (Norfolk Southern) (another Class I railroad) and the National Railroad Passenger Corporation (Amtrak®) operate on BNSF track in Sub-Area 3. The Norfolk Southern runs along approximately 210 miles of BNSF track east/west between Des Moines (Polk County) and Burlington (Des Moines County), Iowa, and north/south between Burlington (Des Moines County) and Keokuk (Lee County), Iowa.

## FREIGHT CONDITIONS

Table A17: Sub-Area 3 Originating and Terminating Truck Freight Shipments

Sub-Area 3	Outbound Originating Tonnage (Thousands)	% of Total	Inbound Terminating Tonnage (Thousands)	% of Total	Outbound Originating Value (Millions)	% of Total	Inbound Terminating Value (Millions)	% of Total
IOWA	5,563	68%	6,593	69%	2,359	42%	2,225	45%
BORDERING STATES	1,829	22%	876	9%	1,264	22%	694	14%
Illinois	980	12%	287	3%	208	4%	262	5%
Kansas	82	1%	48	1%	85	1%	31	1%
Minnesota	351	4%	145	2%	349	6%	86	2%
Missouri	139	2%	131	1%	319	6%	122	2%
Nebraska	97	1%	159	2%	138	2%	87	2%
North Dakota	5	0%	1	0%	11	0%	2	0%
South Dakota	50	1%	5	0%	53	1%	5	0%
Wisconsin	126	2%	100	1%	101	2%	98	2%
OTHER U.S. REGIONS	823	10%	2,077	22%	2,047	36%	2,078	42%
<b>Total</b>	<b>8,215</b>	<b>100%</b>	<b>9,546</b>	<b>100%</b>	<b>5,670</b>	<b>100%</b>	<b>4,997</b>	<b>100%</b>

Reebie Associates data reflects that trucks carried about 18 million tons of goods (72% of the total tonnage for all modes), worth approximately \$27 billion (91% of the total value of all shipments) to and from of Sub-Area 3 (Henry, Des Moines, and Lee Counties) in 2001. Table A17 presents information on truck freight shipments that originated or terminated in Sub-Area 3 in 2001.

Some key trends noted in Reebie Associates data in Table A17 above for Sub-Area 3 truck freight movement have been identified:

- In 2000, 68% of the **weight** of all originating truck freight in Sub-Area 3 was shipped to other locations in Iowa, 22% was shipped to neighboring states, and 10% to other United States regions.
- In 2000, 69% of the **weight** of all terminating truck freight in Sub-Area 3 came from other locations in Iowa, 9% came from neighboring states, and 22% came from other United States regions.
- In 2000, 42% of the **value** of all originating truck freight in Sub-Area 3 was distributed to other locations in Iowa, 22% was distributed to neighboring states, and 36% was distributed to other United States regions.
- In 2000, 10% of the **value** of all terminating truck freight in Sub-Area 3 came from other locations in Iowa, 3% came from neighboring states, and 86% came from other United States regions.
- **Illinois** and **Minnesota** were the most important truck freight destination states, by value and by weight respectively, and **Illinois** was the most important truck freight origin state, by value and by weight.
- Illinois and Minnesota were the main destination bordering states for truck freight originating in Sub-Area 3, by **weight**.

- Minnesota, Missouri, and Illinois were the important bordering states for truck freight destination in Sub-Area 1, by **value**.
- Illinois and Nebraska were the main bordering states terminating for Sub-Area 1's truck freight, by **weight**.
- Illinois was the most important truck freight origin bordering state, by **value**, followed by Missouri.

Table A18: Sub-Area 3 Projected Originating and Terminating Truck Freight Shipments

Sub-Area 3	Outbound Originating Truck Freight				Inbound Terminating Truck Freight			
	Tonnage (Thousand)		Growth (Thousand)	Growth Rate	Tonnage (Thousand)		Growth (Thousand)	Growth Rate
	2001	2011		%	2001	2011		%
IOWA	5,563	6,316	753	14%	6,593	7,726	1,133	17%
BORDERING STATES	1,829	1,714	-115	-6%	876	1,174	298	34%
Illinois	980	723	-257	-26%	287	380	93	32%
Kansas	82	105	23	28%	48	60	12	25%
Minnesota	351	404	53	15%	145	202	57	39%
Missouri	139	151	12	9%	131	172	41	31%
Nebraska	97	113	16	16%	159	223	64	40%
North Dakota	5	6	1	20%	1	2	1	100%
South Dakota	50	62	12	24%	5	7	2	40%
Wisconsin	126	150	24	19%	100	129	29	29%
OTHER U.S. REGIONS	823	1,014	191	23%	2,077	2,774	697	34%
<b>Total</b>	<b>8,215</b>	<b>9,044</b>	<b>829</b>	<b>10%</b>	<b>9,546</b>	<b>11,674</b>	<b>2,128</b>	<b>22%</b>

According to Reebie Associates data, truck traffic is expected to grow throughout Sub-Area 3 over the next 10 years, given a base year of 2001. By 2011, Sub-Area 3's highway freight system is estimated to be handling about 21 million tons of cargo (11% growth). Table A18 presents the projected 2011 growth of truck freight shipments either originating or terminating in Sub-Area 3.

Some key trends noted from the Reebie Associates data in Table A18 above for Sub-Area 3 have been identified:

- By 2011, the total weight of all truck freight originating in Sub-Area 3 is expected to grow by 829,000 tons (10% increase).
- By 2011, the total weight of all truck freight terminating in Sub-Area 3 is expected to grow by 2,128,000 tons (22% increase).
- By 2011, the total weight of all truck freight originating in Sub-Area 3 to all bordering states is expected to drop by 115,000 tons (6% decrease).
- By 2011, the total weight of all truck freight terminating in Sub-Area 3 to all bordering states is expected to grow by 298,000 tons (34% increase).

## **LAND USE AND ACCESS MANAGEMENT**

Sub-Area 3 currently has bypasses around the cities of Mount Pleasant (Henry County), New London (Henry County), Middletown (Des Moines County), West Burlington (Des Moines County), and Burlington (Des Moines County) that are fully access controlled, meaning access is only allowed to the highway at interchanges utilizing of/off ramps. The rest of the corridor through Sub-Area 3 contains multilane divided highway, with access points at grade.

Currently two counties in Sub-Area 3 enforce zoning, Henry and Des Moines. Des Moines County should work to adopt zoning outside of the 2 mile territorial jurisdiction around Burlington. Henry and Des Moines Counties also need to develop access management techniques in conjunction with the new and updated zoning ordinances, to maintain the safety, the capacity, and the speed of the roadway.

At this time, there are no areas along this corridor section that appear to have access management problems, but planning now is crucial, through zoning ordinances, to ensure that no problems arise once the corridor is completed.

## D. Sub-Area 4: Henderson, Warren, and Knox Counties

### SOCIOECONOMIC CHARACTERISTICS

Sub-Area 4 is expected to experience a decline in population (-8.9%), while also experiencing a small increase in employment (3.4%). Henderson and Warren Counties appear to be hit the hardest in both population (-1.9% and -12.7% respectively) and employment (-11.7% and -15.6% respectively). Knox County faces better through 2030 (-8.7% population and +12.5% employment). This small growth in employment could generate some higher amounts of freight traffic along the corridor.

Table A19: Sub-Area 4 Population Projections

Counties	2000	2010	2020	2030	% Growth
Henderson	8,213	8,162	8,110	8,060	-1.9%
Warren	18,735	17,904	17,111	16,352	-12.7%
Knox	55,836	54,176	52,566	51,003	-8.7%
<b>TOTAL</b>	<b>82,784</b>	<b>80,242</b>	<b>77,787</b>	<b>75,415</b>	<b>-8.9%</b>

Table A20: Sub-Area 4 Employment Projections

Counties	2000	2010	2020	2030	% Growth
Henderson	4,101	3,935	3,775	3,622	-11.7%
Warren	9,590	9,062	8,563	8,092	-15.6%
Knox	26,579	27,646	28,756	29,911	12.5%
<b>TOTAL</b>	<b>40,270</b>	<b>40,643</b>	<b>41,094</b>	<b>41,625</b>	<b>3.4%</b>

### TRAFFIC CONDITIONS

The roadway's capacity ranges from 15,000 to 30,000 vehicles per day, depending on facility type, whether the roadway is two-lane, undivided highway in a rural area or is a 4-lane, divided highway in a rural area. The roadway currently is being used at approximately 25% of its capacity, with 21% of the traffic being truck.

Table A21: Sub-Area 4 Traffic Conditions

Average AADT	Capacity	V/C Ratio	Average Truck AADT	% Truck Traffic
6,443	~30,000	25%	1321	21%

This corridor section reported a total of 128 accidents in 2002, with 3 fatalities and 49 injuries. The crash rate is 57 crashes for every 100 million highway vehicle miles traveled (HVMT). While this crash rate is relatively low, compared to other corridor sections, the statistics indicate that Sub-Area 4's crash severity 4 is much more serious than in other sub-areas.

Table A22: Sub-Area 4 Safety Statistics

Total Crashes	Crash Rate	Fatalities	Injuries
128	57 Crashes/ 100 Million HMVMT	3	49

## **CONNECTIVITY**

This corridor segment, U.S. 34, intersects with Interstate 74 in Galesburg, Illinois, then travels through central and northern Illinois.

Another important highway connection is in Monmouth (Warren County) where U.S. 34 intersects U.S. 67. Thirty miles south, U.S. 67 reaches Macomb (McDonough County). As a four-lane divided highway to the north, U.S. 67 travels directly to the Quad Cities (Davenport and Bettendorf (Scott County), Iowa, and Rock Island and Moline (Rock Island County), Illinois). U.S. 67 provides the most direct access from the Trans-Iowa/Illinois Freight Corridor to the Quad Cities International Airport.

The Burlington Northern Santa Fe Railway Company (BNSF) impacts the freight movement in Sub-Area 4 more than any other railroad. The BNSF has 427 miles of track in the study area and connects to dozens of cities along the corridor. The BNSF track parallels this corridor for much of the length of the corridor and more than 40 million ton-miles annually.

The National Railroad Passenger Corporation (AMTRAK®) provides service in Sub-Area 4. Though AMTRAK® does not move a large amount of freight, AMTRAK® needs to be noted as AMTRAK® operates two rail lines in the Sub-Area 4 corridor section.

## **FREIGHT CONDITIONS**

Truck freight movement originating and terminating in Sub-Area 4 (Henderson, Warren, and Knox Counties) could not be analyzed and presented due to data. Reebie Associates data only pertained to goods movement data for Iowa. In this study, Sub-Area 4 would be expected to have characteristics similar to Sub-Area 3 (Henry, Des Moines, and Lee Counties, Iowa).

## **LAND USE AND ACCESS MANAGEMENT**

In Sub-Area 4, currently there are two fully access controlled sections, meaning access is only allowed to the highway at interchanges utilizing of/off ramps. The major fully access controlled corridor section runs from Galesburg (Knox County) west to Monmouth (Warren County). The other controlled access section is approximately one mile in length from the Iowa/Illinois border east into Illinois. The remainder of the corridor through Sub-Area 4 is a two-lane highway with at grade intersections for access.

Sub-Area 4's Henderson, Warren, and Knox Counties currently have land use controls through zoning ordinances, though some of these plans are very old. This study recommends the counties update their zoning and comprehensive plans to reflect this corridor's construction, particularly at and around the access points. These counties may need to develop access management techniques in conjunction with the updated zoning ordinances at these locations to maintain the safety, the capacity, and the speed of the roadway.

Access management already has been discovered in Warren County along the Monmouth (Warren County) bypass. At this time, land development is occurring along the highway, resulting in multiple traffic signals and driveways. This issue needs to be addressed. Such problem needs to be dealt with along the corridor to preserve the speed and the capacity of the roadway.



## Technical Report B: Corridor Travel Times

In order to compare the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) with the Interstate 80/Interstate 74 Corridor from Des Moines metropolitan area (Polk County), Iowa, to Galesburg (Knox County), Illinois, it is necessary to compare each facility's travel time. Most of the Trans-Iowa/Illinois Freight Corridor from Pleasant Hill/Des Moines (Polk County), Iowa, to Galesburg (Knox County), Illinois, is a divided, four-lane highway functioning at very high levels of service and with significant sections of the roadway expected to experience speeds no slower than the posted speed limit.

In an attempt to have an accurate comparison between this study corridor and the Interstate 80/Interstate 74 Corridor, several Trans-Iowa/Illinois Freight Corridor segments, that the participating staffs felt could decrease travel time, were driven to ensure an accurate travel time estimation could be calculated. A statistically accurate travel time survey of the two corridors would have been too costly and too time consuming. Noting that several corridor segments are fully access controlled and the majority of the corridor has limited access control, only selected corridor segments either two-lane or not fully access controlled needed to be travel time tested.

The participating agencies' staffs evaluated the roadways in their respective sub-areas to determine whether any of the roadway segments should be surveyed for travel time. The staffs selected routes to be surveyed based on the following criteria:

- Proximity to urban area;
- Access controls;
- Number of lanes;
- Population of adjacent municipalities; and,
- Staff knowledge.

The four corridor segments selected in Iowa for the travel time surveys are: Pleasant Hill/Des Moines (Polk County); Ottumwa (Wapello County), Fairfield (Jefferson County), and Burlington (Des Moines County). The one corridor segment in Illinois is Monmouth (Warren County).

The participating staffs assumed that all other corridor segments have an average speed equal to the posted speed limit. The staffs made this assumption based on the corridor already being fully access controlled or having limited access control, and most of the remaining corridor passing through rural areas.

The following information provides a description of the data collected from travel times surveys on the selected Trans-Iowa/Illinois Freight Corridor segments:

- Iowa 163 in Pleasant Hill/Des Moines (Polk County), Iowa -
  - The segment tested was from U.S 65/Iowa 163 interchange east to 88th Street (immediately east of the Pleasant Hill corporate limits). This

segment is approximately 4.0 miles in length, with an average travel speed of 47 miles per hour.

- ❑ U.S. 63 and U.S. 34 in Ottumwa (Wapello County), Iowa -
  - The segment tested was from Angle Road to 110<sup>th</sup> Avenue. This segment is approximately 9.0 miles in length, with an average travel speed of 40 miles per hour.
- ❑ U.S. 34 in Fairfield (Jefferson County), Iowa -
  - The segment tested from from Ironwood Avenue to Nutmeg Avenue. This segment is approximately 5.6 miles in length, with an average of travel speed of 26 miles per hour.
- ❑ U.S. 34 in Burlington (Des Moines County), Iowa -
  - The segment tested was from Mt. Pleasant Street in West Burlington (Des Moines County), Iowa, to 2<sup>nd</sup> Street in Gulfport (Henderson County), Illinois. This segment is approximately 6.0 miles in length, with an average travel speed of 58 miles per hour.
- ❑ U.S. 34 in Monmouth (Warren County), Illinois -
  - The segment tested was from the intersection of U.S. 34 and Illinois 164 east to the intersection of U.S. 34 and U.S. 67. This segment is approximately 4.8 miles in length, with an average travel speed of 47 miles per hour.

The following table summarizes travel time for all segments of the corridor, including those manually tested.

**Table B1: Current Trans-Iowa/Illinois Freight Corridor Travel Time**

Location	Speed (MPH)	Distance (Miles)	Travel Time (Hours)
Iowa 4 Lane	65	139.4	2.14
Pleasant Hill, Iowa	46.963*	4	0.09
Ottumwa, Iowa	39.863*	9	0.23
Fairfield, Iowa	26.109*	5.6	0.21
Burlington, Iowa	57.793*	6	0.10
Monmouth, Illinois	47.27*	4.8	0.10
Illinois	55	24.2	0.44
Illinois	65	17	0.26
<b>Total</b>		<b>210</b>	<b>3.58</b>

\*Travel speeds manually measured to determine more accurate travel time for the road segments.

As shown in Table B1, the participating staffs have estimated travel time from Pleasant Hill/Des Moines (Polk County), Iowa, to Galesburg (Knox County), Illinois, on the Trans-Iowa/Illinois Freight Corridor to be 3.58 hours (3 hours and 35 minutes) over a distance of approximately 210 miles.

Based on this same data, staffs performed statistical analysis to predict the travel time of the Trans-Iowa/Illinois Freight Corridor when 4-lane roadway construction constriction is completed in Iowa, as well as when the entire corridor is completed to

4-lanes and including the Illinois section of U.S. 34 in this corridor.. These travel times are shown in the Table B2 and Table B3.

**Table B2: Future Trans-Iowa/Illinois Freight Corridor Travel Time, Iowa 4 Lanes**

Location	Speed (MPH)	Distance (Miles)	Travel Time (Hours)
Iowa 4 Lane	65	154	2.37
Pleasant Hill, Iowa	46.963*	4	0.09
Burlington, Iowa	57.793*	6	0.10
Monmouth, Illinois	47.27*	4.8	0.10
Illinois	55	24.2	0.44
Illinois	65	17	0.26
<b>Total</b>		<b>210</b>	<b>3.36</b>

\*Travel speeds manually measured to determine more accurate travel time for the road segments.

**Table B3: Future Trans-Iowa/Illinois Freight Corridor Travel Time, All 4 Lanes**

Location	Speed (MPH)	Distance (Miles)	Travel Time (Hours)
Iowa 4 Lane	65	154	2.37
Pleasant Hill, Iowa	46.963*	4	0.09
Burlington, Iowa	57.793*	6	0.10
Monmouth, Illinois	47.27*	4.8	0.10
Illinois	65	41.2	0.63
<b>Total</b>		<b>210</b>	<b>3.29</b>

\*Travel speeds manually measured to determine more accurate travel time for the road segments.

To compare these two alternate routes, the staffs used Google Earth as the source for estimating travel distance on the Interstate 80/Interstate 74 Corridor between Pleasant Hill/Des Moines (Polk County), Iowa, and Galesburg (Knox County), Illinois. The staffs determined that a survey for more accurate travel time estimation on the Interstate 80/Interstate 74 Corridor necessary to determine the actual travel time would be too time-consuming and too costly for this study. Google Earth reported the travel distance of the Interstate 80/Interstate 74 Corridor to be 210 miles. The estimated travel time along this corridor is shown Table B4.

**Table B4: Current Interstate 80/Interstate 74 Travel Time**

Location	Speed (MPH)	Distance (Miles)	Travel Time (Hours)
Iowa	70	167	2.39
Illinois	65	43	0.66
<b>Total</b>		<b>210</b>	<b>3.05</b>

These travel times are accurate only if travel speeds are always at or above posted speed limits. Travel at the minimum posted speed limit for the entire distance on the Interstate 80/Interstate 74 Corridor is unlikely due to high traffic volumes on this Interstate Highway segment. The heavy usage of the Interstate Highway creates congestion. Congestion tends to cause traffic to travel below the posted speed limit, therefore decreasing travel time.

In reviewing this data, travel distances between Pleasant Hill/Des Moines (Polk County), Iowa, and Galesburg (Knox County), Illinois, are the same for both routes. Travel time on the Interstate 80/Interstate 74 Corridor would be 23 minutes less than (faster) on the Trans-Iowa/Illinois Freight Corridor, given current alignments.

Once the Trans-Iowa/Illinois Freight Corridor is fully upgraded to a four-lane, divided highway in the near future and factors such as continued congestion and traffic growth on the Interstate 80/Interstate 74 Corridor, the future travel time difference would be less than 23 minutes when comparing these two routes.

# Technical Report C: Performance Measures

## A. Introduction

The Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) Study is the result of a vision to establish this corridor as a viable alternative to the Interstate 80/Interstate 74 Corridor for transporting freight, particularly to and from central/southeastern Iowa and west central Illinois to the southern and southeastern United States. Stakeholders throughout the corridor created this vision.

A vision needs an implementation plan. Firstly, implementing the vision would come about through establishing a strategy. The established strategy essentially is a broad approach that would further refine the vision's implementation. Secondly, after the strategy is established, goals would need definition. Goals allow stakeholders to know if the strategy has been successful. Thirdly, and finally, performance measures would need development, to determine attainment of the strategy's goal. This study adopted such a string of events from the Upper Midwest Freight Corridor Study Final Report<sup>1</sup>, and can be adopted to fit the Trans-Iowa/Illinois Freight Corridor Study. By measuring certain aspects/characteristics of this freight corridor can one know if the established vision became a reality.

## B. Establishing the Vision, Strategy and Goals

### THE VISION:

Implementing a four-lane, divided roadway corridor serving regional, super-regional, and some national traffic, while aiding in the corridor's economic development.

### THE STRATEGY:

Building regional coalitions and partnerships for providing support for the corridor, including developing a freight corridor plan built upon regional input.

### THE GOAL:

Increasing awareness of and use of the Trans-Iowa/Illinois Freight Corridor as a viable transportation corridor link for moving people and goods to and from central/southeastern Iowa and west central Illinois.

## C. Establishing Performance Measures

Performance measures must be known in order to mark the Trans-Iowa/Illinois Freight Corridor as a viable alternative to the Interstate 80/Interstate 74 Corridor. Given that trucks haul over 90% of freight in Iowa<sup>2</sup>, truck transportation should be the main focus, while referencing the importance of water, rail, and air freight transportation to this corridor.

---

<sup>1</sup> Midwest Regional University Transportation Center, University of Wisconsin-Madison

<sup>2</sup> Reebie Associates, through the Iowa Department of Transportation.

Several factors must be recognized before comparing the Trans-Iowa/Illinois Freight Corridor to the Interstate 80/Interstate 74 Corridor:

- The Interstate 80 corridor, from Des Moines (Polk County, Iowa) to the Quad Cities (Davenport and Bettendorf, Scott County, Iowa, and Rock Island and Moline, Rock Island County, Illinois) connects approximately 30% of the state's population and five of Iowa's eight largest cities;
- The Interstate 80 corridor is a direct route across Iowa, connecting Nebraska and Illinois;
- The Interstate 80 corridor is the most heavily traveled route in Iowa and also having the most freight traffic; and,
- The Interstate 80 corridor is an Interstate Highway that connects the United States Atlantic and Pacific coasts.

Interstate 80, obviously, would continue to be Iowa's most important transportation corridor. Given the projected annual increase in Interstate 80 traffic, Interstate 80 may reach a point where another route might be more efficient for certain types of long distance freight movements. The Trans-Iowa/Illinois Freight Corridor would never replace the Interstate 80/Interstate 74 Corridor, but could serve as an alternative corridor to supplement the Interstate 80 corridor in Iowa.

The Upper Midwest Freight Corridor Study contained a lengthy discussion on freight performance measures. The authors included many examples from State Departments of Transportation, from the Federal Highway Administration, and from associations of governments. The authors' examples ranged from simple to complex. The study's authors break the discussed performance measures into broad categories<sup>3</sup>:

- Safety - to both firms and to the public;
- Economic development - fostered by freight movement;
- Economic efficiency - measured by large economic trends and costs of moving freight;
- Environmental degradation; and,
- Congestion, reliability, and time.

All of these broad topics are relevant to the Trans-Iowa/Illinois Freight Corridor, but not all topics have equal importance for this corridor. Environmental degradation is not a major concern due to lower traffic volumes and lower traffic congestion, resulting in lower vehicle emissions. Environmental degradation is a more serious concern for areas with higher traffic volumes and greater traffic congestion. The participating staffs do not envision the Trans-Iowa/Illinois Freight Corridor having those issues in the near future. The staffs also believe congestion is unlikely in a majority of the corridor in the future, so this study does not use congestion as a performance measure. The staffs believe that evaluating the remaining four measures would be worthwhile.

---

<sup>3</sup> Upper Midwest Freight Corridor Study, 2004, Section 4.3.4, p.64

Other factors specific to the Trans-Iowa/Illinois Freight Corridor are:

- Status of four-lane construction in Iowa and Illinois;
- Land use plans along corridor; and,
- Truck volumes.

Monitoring the construction and the completion of a four-lane divided roadway for this corridor is the primary performance measure. Without a four-lane divided roadway, this corridor would not be an alternative to the Interstate 80/Interstate 74 Corridor. Iowa's portion of the corridor will be a four-lane divided highway by 2008. Illinois' schedule for U.S. 34 is less certain, with funding needed to implement a completed roadway design. Local land use plans would not affect the corridor in the near future, but developing land use plans would provide for corridor protection in future years. Land use plans ensure orderly development. Land use plans regulate development by incorporating access management techniques that would be key to preserving the safety and the traffic flow in the Trans-Iowa/Illinois Freight Corridor.

Truck volumes, accompanied with regional surveys, would help identify whether or not, long-distance truck freight movements would have begun using the corridor. Regional surveys would help identify regional and local from long-distance freight movements. Identifying long-distance freight movements using this corridor would provide local governments and the private sector important information for expanding improving economic development and economic developments ventures in this corridor.

## **D. Utilizing Performance Measures**

Section C. presented general performance measures available to evaluate the Trans-Iowa/Illinois Freight Corridor and to monitor progress in attaining the goal of establishing this corridor as an alternative freight route to the Interstate 80/Interstate 74 Corridor. In Section D., the participating staffs present specific performance measures, along with discussion on how to best apply these measures. The performance measures are:

- Safety;
- Economic development;
- Time and reliability;
- Four-lane corridor progress;
- Land use plans development; and,
- Truck/traffic volumes.

### **SPECIFIC PERFORMANCE MEASURES**

The participating staffs devised a scoring system to "grade" each selected performance measure. Considering a variety of criteria for each performance measure, the staffs would calculate a performance measure subtotal grade based on those criteria. With each performance measure's subtotal grade calculated, the staffs would calculate an overall performance score, creating a grading system for identifying the corridor's progress as a whole.

## Safety

The staffs would measure safety for the corridor using four criteria:

- Overall crash rate;
- Fatal crash rate;
- Large truck crash rate; and,
- Fatal crashes involving trucks.

The staffs would compare the corridor's data with state averages in those same categories. Each criterion's grade then would be determined based on the comparison to the state average. The better the corridor performs in comparison to the state average, the higher the grade this corridor would receive for that criterion.

**Table C1: Safety Performance Measures**

Safety	Score	Grades Received
Overall Crash Rate	0-5	0
Fatal Crashes	0-5	0
Truck Crash Rate	0-5	0
Fatal Crashes involving Trucks	0-5	0
<b>Subtotal</b>	<b>0-20</b>	<b>0</b>

The staffs would assign each safety performance measure with a grade. The staffs would subtotal the four criteria's grades to calculate an index of that corridor's safety, offering an overall assessment of the corridor's safety performance.

## Economic Development

Measuring economic efficiency and economic development along the corridor will be a difficult, but necessary, exercise. The staffs would measure economic development through working with cities, counties, economic development agencies, and chambers of commerce. Measurement criteria would include:

- Jobs in the regions near the corridor;
- Employers in the regions near the corridor;
- Price of goods traveling along the corridor;
- Shipments ending along the corridor; and,
- Shipments generated along the corridor.

The data would be compared to the same categories for previous years to gauge progress made since the corridor's completion.

**Table C2: Economic Development Performance Measures**

Economic Development	Score	Grades Received
Number of jobs in regions near corridor	0-5	0
Number of employers in regions near corridor	0-5	0
Price of goods shipped along corridor	0-5	0
Shipments ending in regions along the corridor	0-5	0
Shipments generated in regions along the corridor	0-5	0
<b>Subtotal</b>	<b>0-25</b>	<b>0</b>



With the comparison completed, the participating staffs would assign grades for each criterion. The staffs then would calculate the five criteria's subtotal and use the subtotal to gauge economic development progress along the corridor. The staffs would use the criteria's subtotal grade to create an overall assessment of the corridor's economic development performance..

### Travel Time and Reliability

Testing the corridor's travel time and reliability would be important in order to judge the corridor's marketing potential as a fast and reliable freight route. The participating staffs would measure travel time and reliability using five criteria:

- Travel time;
- Level of service (LOS) <sup>4</sup>;
- Pavement quality;
- Number of traffic signals; and,
- Number of railroad and roadway crossings with the corridor.

The participating staffs would need to compare the Trans-Iowa/Illinois Freight Corridor travel times with the Interstate 80/Interstate 74 Corridor to determine this corridor's ability to transport goods quickly and efficiently. The staffs would calculate LOS for each corridor segment. The percentage of segments with LOS C or higher would measure the corridor's ability to provide smooth and reliable truck freight movements. Additionally, the staffs would rate the corridor segments' pavement quality to determine smoothness/comfort of travel, with poor quality pavement equaling a rougher/less comfortable trip. Finally, the number of traffic signals and rail and roadway crossings would help gauge the corridor's ease of traffic flow.

**Table C3: Travel Time and Reliability Performance Measures**

<b>Travel Time and Reliability</b>	<b>Score</b>	<b>Grades Received</b>
Travel time to major destinations along the corridor	0-5	0
Percent of segments operating at LOS C or better	0-5	0
Pavement quality along corridor	0-5	0
Number of traffic signals along corridor	0-5	0
Number of rail and roadway crossings with the corridor	0-5	0
<b>Subtotal</b>	<b>0-25</b>	<b>0</b>

With a grade determined for each of criterion, the staffs then would calculate a subtotal for the travel time and reliability performance measure. The staffs then would use the subtotal grade as an overall assessment of the corridor's travel time and reliability performance.

<sup>4</sup> Level of service (LOS) is a subjective measure of operating conditions ranging from A to F for the different classifications and types of roadway transportation facilities. The Des Moines MPO has established LOS for analyzing average daily traffic volume as compared to roadway capacities. The volume to capacity ratio of LOS C is between 0.6 and 0.8.

### Four-Lane Corridor Progress

Currently, Iowa has funding programmed for completing the four-laning the Trans-Iowa/Illinois Freight Corridor between Pleasant Hill/Des Moines (Polk County) and Burlington (Des Moines County), Iowa. Illinois still needs to secure funding for improving U.S. 34 to four-lanes between Burlington (Des Moines County), Iowa, and Monmouth (Warren County), Illinois. Monitoring Illinois' progress would be necessary in order to organize support for uncompleted projects, with a staff recommendation that Illinois' Highway 34 Coalition doing that monitoring.

To measure the corridor's success, the participating staffs would need to quantify progress on the four-lane roadway expansion. The staffs would quantify progress by evaluating the percentage of the corridor completed to four-lanes. The higher the percentage, the higher grade the criterion would receive.

**Table C4: Four Lane Corridor Progress Performance Measures**

Four Lane Corridor Progress	Score	Grades Received
Percent of Corridor that is four lanes	0-5	0
<b>Subtotal</b>	<b>0-5</b>	<b>0</b>

The staffs then would use this criterion's subtotal grade as an overall assessment of the corridor's four-lane corridor progress performance. The staffs note that this performance measure section would have less impact on the overall performance than other performance measures.

### Land Use Plans Development

Access management is of primary importance for rural four-lane highways. The number of potential access points, along with fragmented decision making processes allowing roadway access points, makes these corridors candidates for poor access management. Land use plans developed using access management techniques would help the corridor remain a safe and an efficient route. Each county and each city along the corridor would be encouraged to develop land use regulation, whether by zoning or by subdivision regulation, that would preserve the corridor's safety and efficiency. The staffs would apprise the Iowa Department of Transportation (DOT) of various city and county land use policy changes, in an effort to have the Iowa DOT partner with local governments to practice effective access management techniques in this corridor.

To quantify this performance measure, the participating staffs would need to collect information on the number of governments with land use plans promoting access management. The staffs would display these findings as a percentage, to gauge the progress of achieving an access management system along the corridor.

**Table C5: Land Use Plans Development Performance Measures**

Land Use Plans Development	Score	Grades Received
Percent of governments near the corridor that have adopted a sufficient Land Use Plan	0-5	0
<b>Subtotal</b>	<b>0-5</b>	<b>0</b>

The staffs then would use this criterion's subtotal grade as an overall assessment of the corridor's land use plan development performance. The staffs note that this performance measure section would have less impact on the overall performance than other performance measures.

### Truck/Traffic Volume

The participating staffs would monitor the Trans-Iowa/Illinois Freight Corridor's truck and traffic volumes via Iowa and Illinois DOTs' statistics, surveys, and sample data collections. Truck and traffic volume data would allow interested parties to track the corridor's development. The staffs would collect truck and traffic volume data annually and would distribute that data to interested parties and to study participants. To analyze progress, the staffs would compare the corridor to the Interstate 80/Interstate 74 Corridor route in terms of increased traffic over a given time period.

**Table C6: Truck/Traffic Volume Performance Measures**

Truck/Traffic Volume	Score	Grades Received
Total traffic along corridor	0-5	0
Percent of total traffic that is truck traffic	0-5	0
<b>Subtotal</b>	<b>0-10</b>	<b>0</b>

The staffs would use the criterion's subtotal grade as an overall assessment of the corridor's truck and traffic volume performance. The staffs note that this performance measure section would have less impact on the overall performance than other performance measures.

### Overall Performance

With data collected and analyzed for the six performance measures, the participating staffs would calculate a composite overall performance score. Using the subtotal grade received for each performance measure, the staffs have derived a scoring system with each performance measure containing a given portion of the total score. Table C7 presents this system:

**Table C7: Overall Performance Measure Scores**

Overall Performance	Score	Subtotal Received
Safety	0-20	0
Economic Development	0-25	0
Travel Time and Reliability	0-25	0
Four Lane Corridor Progress	0-5	0
Land Use Plans Development	0-5	0
Truck/Traffic Volume	0-10	0
<b>Subtotal</b>	<b>0-90</b>	<b>0</b>

For example, if the Safety performance measure received 15 of a possible 20 points from its analysis, the staffs would enter a grade of 15 in the Subtotal Received column. Once the staffs completed this scoring process for each performance

measure, the staffs would total the individual scores to display the corridor's overall performance score.

As time progresses, this overall performance scoring system could be modified to shift importance from certain performance measures to other performance measures simply by changing the points available for a performance measure and recalculating the total number of points available.

The staffs would distribute all data collected and related to performance measures to interested parties on an annual basis, as the performance measure data are collected or become available.

## Technical Report D: Corridor Improvements

Through the development of the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) Study, there have been meetings with stakeholders and surveys of users from along the corridor to gather input on what needs to be included in the plan. From these meetings, surveys, and data examination, the corridor stakeholders and study authors have developed a list of recommendations to be implemented along the corridor. These recommendations are:

- Develop a regional freight consortium to enhance communication between public and private entities;
- Establish 28E agreements to preserve access and traffic flow along the corridor, particularly along Iowa 163 in Polk County, Iowa and U.S. 34 in Warren County, Illinois;
- Develop a marketing plan for attracting more users to the corridor;
- Develop a marketing plan for attracting economic development along the corridor;
- Extend 4-lane roadway along U.S. 34, from Monmouth (Henderson County) to Burlington (Des Moines County), Iowa;
- Work with city and county governments to update and/or develop compatible land use plans at corridor access points;
- Consider potential opportunities for intermodal facilities;
- Work with local airports on moving more freight by air; and,
- Perform a study of access points in this corridor's urban areas to determine if additional access points are needed, i.e. Libertyville Road in Fairfield (Jefferson County), and Winfield Avenue in Mt. Pleasant (Henry County), Iowa.

(Blank Page)

## Technical Report E: Marketing Outline

### ☐ WHAT ARE WE MARKETING?

#### HIGHLIGHTS OF WHAT WE ARE MARKETING?

- Corridor
  - Alternative to Interstate 80 and to Interstate 74;
  - Shorter distance/less travel time; and,
  - 4-lane, access controlled roadway.
- Development/business opportunities

### ☐ WHO IS OUR AUDIENCE?

- Trucking companies – regional trucking group
- Manufacturing industries
- Businesses
- Developers
- Travelers

### ☐ HOW DO WE REACH OUR AUDIENCE?

- Packet of materials (maps, flyers, brochures, etc.) sent out to our audience
- Information at truck stops/rest stops (maps, flyers, brochures, etc.)
- Signs (need a consistent message and/or symbol)
- Newspapers/Magazines/Internet

### ☐ HOW DO WE REACH THE DIFFERENT AUDIENCES IN DIFFERENT AREAS?

- Define audience segmentation for receiving each type of material

### ☐ WHAT INFORMATION DO WE PROVIDE TO OUR AUDIENCE?

- Description of corridor – distance, major cities, etc. (Regional Planning Association 15)
- Travel times – and comparisons to other routes – Interstate 80 and Interstate 74 (Regional Planning Association 11)
- Rest areas/Truck stops/Fuel (All Regional Planning Association's)
- Restaurants/Lodging (All Regional Planning Association's)
- Linkages to corridor (Regional Planning Association 15)
  - Linkages with other modes; and,
  - Connections to other major highways and cities.
- Areas available for development

## **☐ HOW DO WE MAKE IT HAPPEN?**

- Work with local governments, chambers of commerce, other economic development groups
  - Designing and printing maps, flyers, brochures, etc.;
  - Designing and maintaining internet information; and,
  - Designing and paying for advertising and/or stories in magazines and newspapers.
- Funding for maps, brochures, flyers, etc.
  - Present opportunities or apply for grants – Iowa Department of Economic Development and Iowa Department of Transportation; and,
  - Work with local governments for funding, local match.

## **☐ MARKETING TIMELINE**

- Develop a rough timeline for the process of marketing the corridor



# Technical Report F: Sample Land Use Policies

## A. Preserving Freight Corridors

Land use policies can help preserve freight corridors as safe and efficient transportation routes. Preserving the Trans-Iowa/Illinois Freight Corridor (U.S. 34, U.S. 63 and Iowa 163) helps ensure its viability as a freight corridor connecting the Des Moines metro area to Galesburg, Illinois and points in between. The first step to preserving the corridor with respect to land use policies is to identify it in local and regional comprehensive plans. Identification of freight corridor preservation in local and regional plans will set the stage to implement land use policies that can certainly help preserve the corridor.

Preservation of a freight corridor will concentrate mostly on access management, or controlling the number and types of accesses to the corridor. This is primarily accomplished by land use regulations consisting of access management techniques and land use/subdivision policies.

### **CURRENT PRESERVATION MEASURES**

Currently, there are some methods in use that can help preserve highway corridors. The Iowa DOT currently enters into agreements to regulate access along highway corridors. Some of the current agreements fall under chapter 28E of the Iowa Code, which allows for intergovernmental cooperation. Iowa DOT has also made efforts to control access to the corridor by closing some local roads and through right-of-way purchases or condemnation agreements during four lane construction.

These agreements help protect the corridor in some aspects but do not address private properties along roads that have or will have access to the corridor. These roads and properties that have direct access to the highway pose the greatest threat to preserving the corridor. Congestion and other problems on these routes resulting from poor use of traffic control devices or having too many access points close to the connections to the highway will affect the highway, causing delays or safety issues for those wanting to enter/exit the highway. This preservation can be accomplished through three steps:

- Establishing a comprehensive plan identifying the Trans-Iowa/Illinois Freight Corridor as a priority freight corridor and the need to regulate access to and around the corridor.
- Enacting land use policies to control development along the corridor and routes that have access to the corridor.

- Creating an access management plan outlining what access will be allowed along and around the corridor, as well as discussing the means that will be used to control access.

## **B. Promoting the Corridor**

### **PROMOTING CORRIDOR USE**

The Trans-Iowa/Illinois Freight Corridor must be promoted as an alternative to Interstate 80 and Interstate 74, to relieve congestion of that roadway. The best way to promote the use of the corridor is through signage and advertising. There should be clear signage directing potential users to the corridor, as should there be a unifying marker that identifies the corridor as a continuous route even though it traverses three different highways. The traveling public, as well as companies that may use the route, should be made aware of it through informational meetings and brochures, websites, and advertisements.

Use of the corridor can be promoted through:

- Designing and installing clear signage, directing users to the corridor as well as destinations or other routes along it.
- Developing an identifying symbol or marker to highlight the corridor as a continuous route even though it traverses three different highways.
- Hosting informational meetings for the public on the corridor, as well as creating websites, brochures, and TV or radio advertisements to promote the corridor to companies and the traveling public who may use the corridor.

### **PROMOTING CORRIDOR DEVELOPMENT**

A major highway corridor, such as Trans-Iowa/Illinois Freight Corridor from Des Moines to Burlington, Iowa and then on to Galesburg, Illinois should not only efficiently move freight and people, but should also encourage development. Promoting development along the corridor is similar to promoting its use in many ways. Companies need to be made aware of the corridor, as well as locations along it. This can be done through signage on and along the corridor as well as marketing of the corridor by local and regional economic development groups. These groups can advertise the corridor as a transportation route, emphasizing the highway's connectivity to other locations and routes. In addition to this, available property locations close to the highway can also be marketed.

In addition to advertising and promoting the corridor for development, planning is also necessary. This should take the form of comprehensive planning to identify locations for desired growth along and near the corridor as well as the type of

development allowed in the location. Supplementing this plan, a city or county should have land use policies in place so that they can control the growth and what is developed along the corridor. Once these two things are completed, a city or county may want to create Tax Increment Financing districts or implement other incentives to encourage new development in the identified areas along the corridor.

Steps for promoting development along the corridor are:

- Create or add to a comprehensive plan and include information describing the location for growth along the corridor and the types of growth to be allowed.
- Enacting land use policies ordinances to allow or disallow desired growth along the corridors as described in the comprehensive plan.
- Creating TIF districts in areas where growth is to occur to make the area more attractive for companies and businesses to locate to.