

## 1. INTRODUCTION

### A. Background

The Nebraska Department of Roads (NDOR), in cooperation with the US Department of Transportation (USDOT) Federal Highway Administration (FHWA), is proposing to improve a segment of the National Highway System (NHS) corridor beginning at the junction of United States Highway 385 (US 385) and State Link 62A (L62A), and extending north to the City of Alliance, Nebraska. The project is located within the Nebraska Panhandle, an elongated region extending west from the main portion of the state and made up of eleven counties. **Figure 1.1** shows the project location.

The NHS includes the Interstate Highway System as well as other roads considered to be important to the nation's economy, defense, and mobility. The NHS was developed by the DOT in cooperation with states and local officials. Within the NHS system, Congress has designated certain roads or corridors as being high priority. This project is part of the Heartland Expressway which is one of the routes that has been designated as a High Priority Corridor. **Figure 1.2** shows the High Priority Corridors, including the Heartland Expressway (Corridor 14). Five first class Nebraska Panhandle cities (first class cities are cities with populations ranging from 5,001 to 100,000), including Scottsbluff, Alliance, Gering, Sidney, and Chadron, are located along the Heartland Expressway route.

The Heartland Expressway is a federally designated trade corridor within the four states of Colorado, Nebraska, Wyoming, and South Dakota. It traverses some of the most agriculture- and energy-productive rural regions in the United States, and is a major route to popular tourist destinations such as the Rocky Mountains, Black Hills, Scottsbluff National Monument, and Fort Laramie. In addition, the Heartland Expressway is the central portion of the Ports-to-Plains Corridor, an essential part of the necessary transportation infrastructure for movement of goods and products between Mexico, the United States, and Canada (**Figure 1.3**).

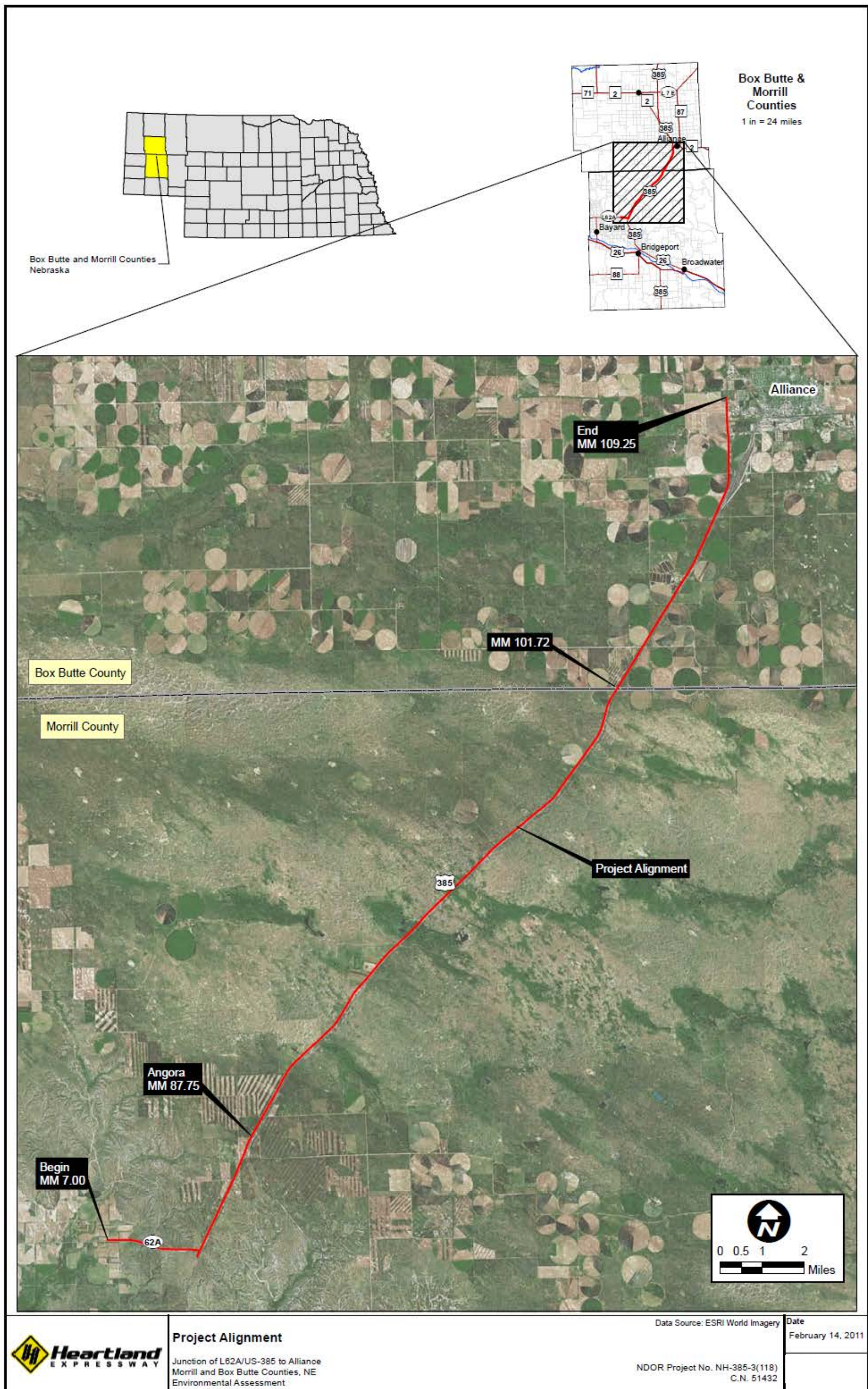
The portion of the Heartland Expressway along US 385 between the junction with L62A and the City of Alliance is currently a two-lane rural highway. This segment links the City of Alliance with Interstate 80 (I-80), the largest freight transportation corridor in the United States, and with I-90 at Rapid City, South Dakota. According to local officials and business leaders, this connection is a vital link for all sectors of the regional economy.

In addition to being a High Priority Corridor on the NHS and a vital link for Panhandle communities, this segment of L62A/US 385 is part of Nebraska Department of Roads (NDOR)'s Priority Commercial System, a continuous network of routes within the state designed to carry higher traffic volumes, especially larger volumes of commercial vehicles.

This Draft Environmental Assessment (EA) was prepared in compliance with the requirements of the *National Environmental Policy Act of 1969* (NEPA), the Council on Environmental Quality (CEQ) regulations in the Code of Federal Regulations (CFR) (40 CFR 1500-1508), and guidelines in FHWA's Technical Advisory T-6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*. The intent of these regulations and guidelines are to ensure that all factors are considered in the transportation decision-making process, including a concern for the environment, and the involvement of the public (FHWA, 1987).



Figure 1.1 – Project Location



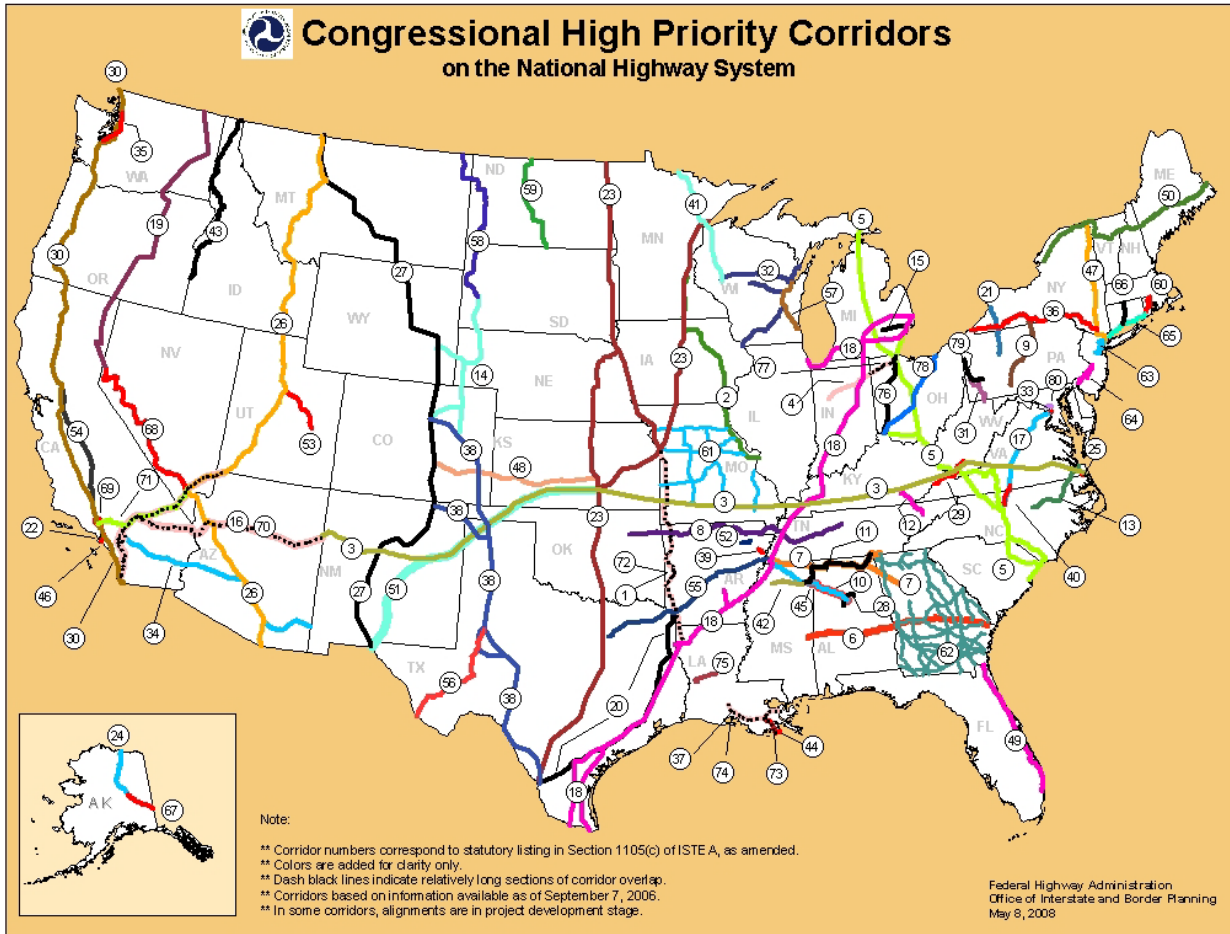
**Project Alignment**  
 Junction of L62A/US-385 to Alliance  
 Morrill and Box Butte Counties, NE  
 Environmental Assessment

Data Source: ESRI World Imagery Date  
 February 14, 2011

NDOR Project No. NH-385-3(118)  
 C.N. 51432



Figure 1.2 – High Priority Corridors on the National Highway System



Source: Federal Highway Administration, <http://www.fhwa.dot.gov/planning/nhs/hipricorridors/hiprimap2.jpg>

Figure 1.3 – Ports-to-Plains Transportation Corridor



## B. Location

The proposed 26-mile long project is located in the Panhandle region of western Nebraska (see **Figure 1.1**), a rural and sparsely populated area of the state. The project begins at the junction of US 385 with L62A, about 20 miles east of the City of Scottsbluff (population 15,000) in Morrill County, in the rolling hills above the North Platte River Valley. Cattle ranching is the primary land use. Heading north on US 385, the hills flatten into a wide plain in the vicinity of the unincorporated community of Angora (population 3), where dryland farming dominates the landscape. Further north, US 385 crosses the western edge of the Nebraska Sandhills, the largest dune system in the Western Hemisphere. These grass-stabilized dunes are used for grazing land. The Sandhills end near the Morrill/Box Butte county line and the terrain flattens into a wide plain extending north to the City of Alliance (population 9,000) and beyond. The area is almost entirely in agricultural production with widespread center-pivot irrigation, with sugar beets, potatoes, edible dry beans, corn, and wheat as the dominant crops. Alliance is a regional economic hub, and a center for rail transportation, manufacturing, and agricultural production and processing. The project ends in Alliance just past the intersection of US 385 with Nebraska Highway 2 (N-2).

## C. Past Planning

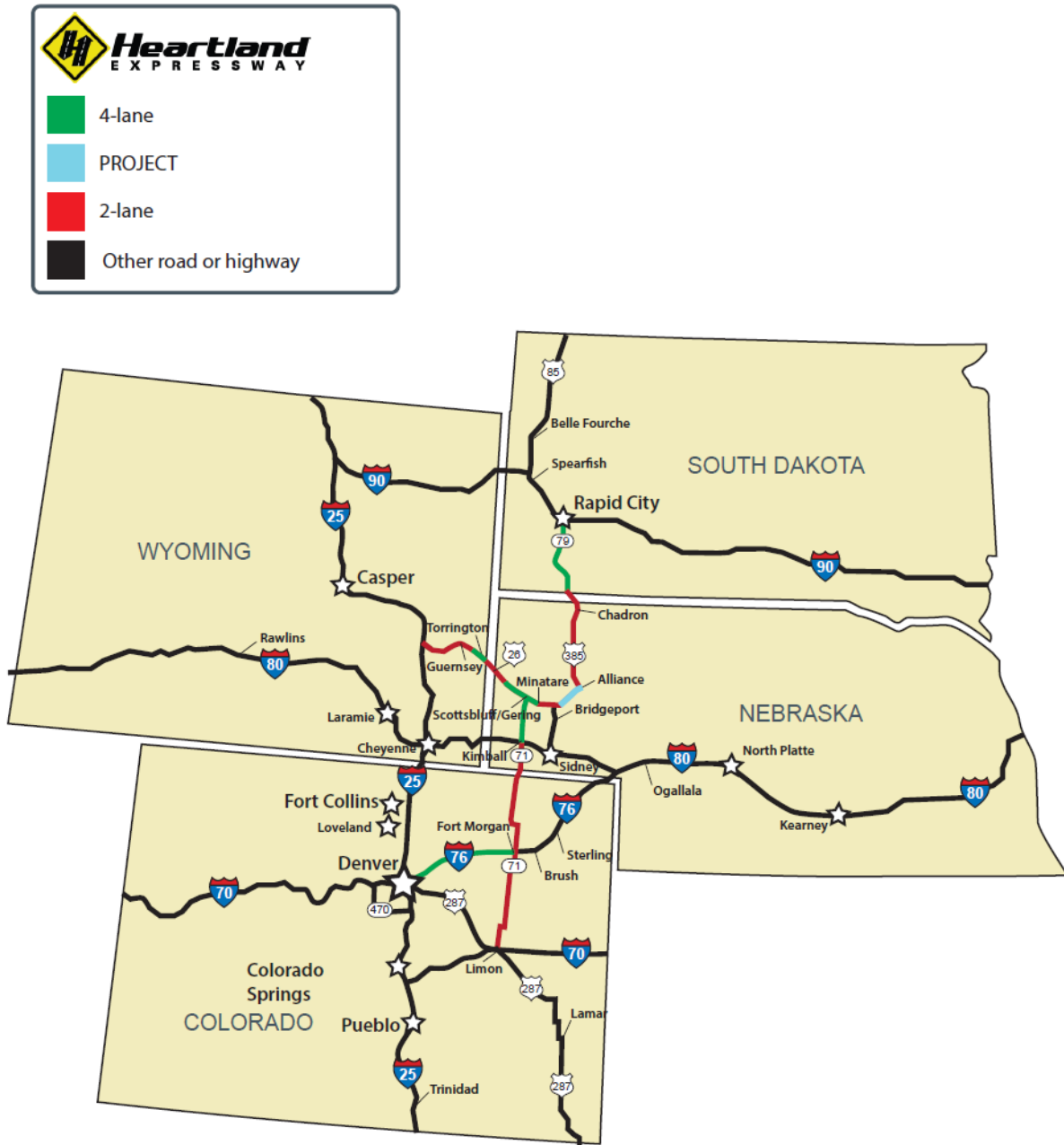
While the proposed improvements have benefits as a stand-alone project, as mentioned above, the 26-mile long route would have greater benefits once the entire Heartland Expressway is completed. Congress identified this High Priority Corridor in 1991 to extend from Denver through Scottsbluff to Rapid City (**Figure 1.4**). Since 1991, about 50 percent of the Heartland Expressway has undergone improvements, including segments in Colorado east of Denver, the entirety of South Dakota from Rapid City south, and in Nebraska from Kimball to east of Scottsbluff.

Many community organizations and residents of western Nebraska and South Dakota have pressed for this four-lane highway to provide an improved connection to I-80 and I-90. In the Nebraska Panhandle, the Heartland Expressway is considered a needed stimulus for economic development of the region (see for example <http://www.heartlandexpressway.com/impacts-benefits/> accessed 13 August 2014). Illustrating the importance of this corridor, NDOR has identified the Heartland Expressway corridor as part of the Nebraska Expressway System, the only designated expressway west of Grand Island (**Figure 1.5**).

The *Heartland Expressway Economic and Engineering Feasibility Study* (1993) was contracted by NDOR and South Dakota DOT to make recommendations on the feasibility and best routing. The study evaluated:

- over 50 route combinations generally located between Wyoming State Highway (SH) 29 on the west, and US 385 and Nebraska SH 87 on the east; screened them down to three finalist routes; and made a recommendation of a preferred alternative; and
- three highway standard alternatives consisting, of a 4-lane freeway, 4-lane expressway, and 2-lane highway with some 4-lane sections.

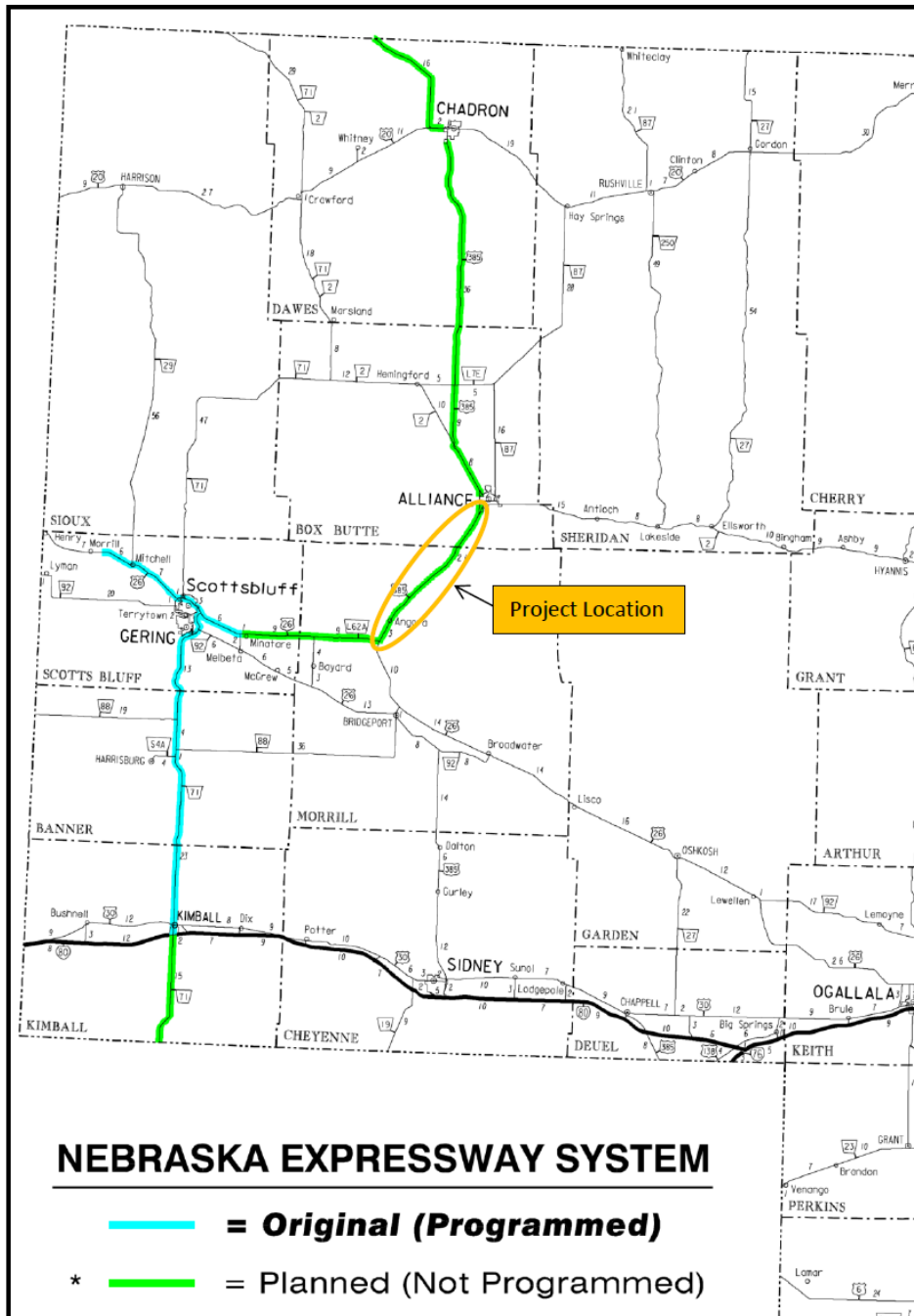
Figure 1.4 – Heartland Expressway Roadway Configuration Status



Source:

<http://www.heartlandexpressway.com/corridor-status> (accessed 8 August 2014)

Figure 1.5 – Nebraska Expressway System in the Panhandle



Source: <http://www.transportation.nebraska.gov/needs/docs/xpressway-map.pdf>

Feasibility was evaluated based on traffic, engineering, cost, environmental impact, travel efficiency, and economic development efficiency. Expressway improvements were considered feasible based on:

- traffic warrants during peak times of year (summer tourist and fall harvest seasons)
- a positive benefit/cost ratio between 1.2 and 1.7, and an internal rate of return between 9.3 and 13.7
- the unlikely potential for environmental impacts that cannot be avoided or mitigated
- economic feasibility supported by economic development feasibility (but not by travel efficiency since none of the alternatives had enough traffic).

A recommended route was identified to provide the greatest transportation and economic development benefit, while minimizing environmental impacts. The feasibility results indicated that a combination 4-lane/2-lane highway is feasible from the standpoint of Nebraska, South Dakota and Wyoming, with the most feasible route connecting Scottsbluff/Gering to Rapid City via Alliance, Chadron and Hot Springs. The segments from Scottsbluff/Gering to Alliance and Hot Springs to Rapid City were considered feasible as four-lane highways.

The 1993 study is in the process of being updated (*2013 Heartland Expressway Corridor Development and Management Plan, Draft Report*). The Technical Memorandum that calculated economic benefits to support this report indicates that the Expressway is likely to result in even greater economic benefits than were identified in 1993, including construction jobs, operation and maintenance jobs and purchases, and economic development impacts such as attracting new roadside services and providing a more competitive low-cost location with proximity to larger urban areas especially for businesses taking advantage of the region's significant agricultural assets and distribution facilities.

This project would be another step in completing this regional expressway system. While many of the segments have independent utility, the true value of the investments made in this corridor would not be fully realized until the remaining roadway improvements are in place.

#### **D. Logical Termini**

The proposed project extends from the junction of L62A to the junction of N-2, in the City of Alliance. Based on the needs of the corridor this segment of highway was selected for improvement because it is the next logical segment of the overall Heartland Expressway corridor. It has the highest traffic volume along the uncompleted corridor and has independent operational deficiencies that the public has asked to be addressed.

The start and end points of this project are two junctions along this stretch of US 385. At the north end of the project, the City of Alliance is the economic hub of this part of the Nebraska Panhandle, and traffic volumes split with 55 percent to the north on US 385, 35 percent to the east onto N-2, and 10 percent to the west on 10<sup>th</sup> Street. At the south end of the project, traffic volumes split at the junction of US 385 with L62A, with 54 percent of the traffic on L62A to and from Scottsbluff, and 46 percent of the traffic continuing on US 385 to and from Bridgeport. Thus, traffic volumes are highest along this segment. As the Heartland Expressway segments are planned to be improved over a number of years, this project had the highest priority due to the highest traffic volumes.



While these junctions serve as appropriate logical termini, or endpoints, for the project, the environmental study area was extended 2 miles west of the L62A intersection to accommodate a change in the priority movement of US 385 (see **Figure 3.4**). Currently, there is a stop sign for L62A eastbound traffic heading north on US 385, whereas US385 traffic has free flowing traffic with no stop sign at this intersection. Eventually, the completed Heartland Expressway would adjust the traffic pattern at this location, and make the L62A route the priority movement with no stop sign, whereas there would be a stop for northbound US 385 traffic here. Thus the 2-mile area was studied to accommodate any modifications to the intersection of US 385 and L62A that might be required to change the priority movement (such as a sweeping curve, see **Section 3.D.1**).

In addition to higher traffic volumes, this segment of the Heartland Expressway (between L62A and the City of Alliance) is the reasonable next segment to improve due to operational inefficiencies that exist on this segment of highway. This segment is the only part that passes through the Nebraska Sandhills, which have numerous short dunes requiring frequent climbs and turns. As a result of Sandhills topography, this route has a number of areas that do not meet road standards: there are nine crests or sags which do not meet AASHTO standards for the speed limit, and 21 areas where grades do not meet NDOR standards. Lastly, the high percentage of slower moving agricultural truck traffic mixed with passenger vehicles travelling this stretch of highway with its climbs and turns decreases the operational efficiency of this facility.

After this project would be constructed, there would still be a 13-mile-long two-lane section between the junction with L62A and the City of Minatare, and that section would likely be the next to be improved. Environmental documentation and preliminary design work have already been done in anticipation of future funding for the Minatare to Scottsbluff segment. These two projects together would complete a substantial portion of the Heartland Expressway, and provide improved system linkage between two economic hubs in the Panhandle, Alliance and Scottsbluff, as well as between Alliance and I-80.