

PREPARED FOR:
MAPA

“ PLATTEVIEW ROAD CORRIDOR STUDY
EXECUTIVE SUMMARY ”

SEPTEMBER 2016

 **OLSSON**®
ASSOCIATES

Introduction

The Platteview Road Corridor Study was led by the Metropolitan Area Planning Agency (MAPA) with assistance from Sarpy County, the Nebraska Department of Roads (NDOR), the Federal Highway Administration (FHWA) and the communities of Bellevue, Springfield, Gretna, and Papillion.

The Platteview Corridor is an east-west corridor located in the southern part of the Omaha metropolitan area, traversing most of Sarpy County. The corridor extends from U.S. 75 in Bellevue to Highway 31 (see **Figure 1-1**). Platteview Road was identified for a corridor study because of the relocation of U.S. Highway 34, which includes a new Missouri River bridge crossing and a future direct connection to Platteview Road. This connection potentially creates a new east-west connection between I-29 and I-80 in the southern portion of the Omaha metropolitan region.

Purpose

The purpose of this study is to analyze transportation and land use options for the corridor in order to assess potential future development options and to identify transportation strategies.

Figure 1-1 Study Area



Corridor Study Process

Public Involvement. A public involvement plan was developed to provide opportunities for input for the public, stakeholders, and public agencies. The public involvement plan includes the following elements:

- A project steering committee and meetings to review current progress and project expectations and goals.
- Workshops with elected officials, stakeholders, local and state government employees and the public. Workshops providing opportunity for input and comment will be held to introduce the project and process to the elected officials and receive input regarding their vision for the corridor and project.
- Planning and Environmental Review. Information was provided to appropriate resource agencies to explain the project and request their early input to the project.
- Alternatives Development Workshop. Workshops was held with the steering committee to work toward development of initial alternatives for the Platteview Road Corridor.
- Individual Key Stakeholder Meetings. Meetings for business owners and business groups were held to obtain more specific individualized input.
- Public Meetings. Public meetings were conducted to present the alternatives and screening evaluation matrix to the public and to solicit their feedback.

Project Goals and Issues. Identifying project goals and issues for the corridor was based on a review of transportation needs and public and agency input. Building on these vision elements, the study team developed a series of goals for the Platteview Road corridor, which included the following:

- Improve traffic safety along the Platteview Road corridor.
- Ensure route provides for mobility as a higher type facility with an increased level of access control.
- Determine market trends and provide a transportation and land use plan that allows for this growth.

Analysis of Existing Traffic Conditions. An assessment of the corridor safety conditions was conducted using historical crash data in the corridor. Analysis of existing traffic operations, defined in terms of roadway and roadway capacity, was performed. A traffic analysis was also completed to estimate the amount of traffic that could be added to Platteview Road with the relocated US-34 connection. An investigation of road condition and design characteristics was completed to identify existing areas of concerns.

Based on the existing corridor analysis, a list of 11 short-term improvements has been developed. Short-term projects represent system management projects to address vehicle safety, improve design characteristics, and accommodate higher traffic volumes. The list includes projects of lower cost that could potentially be constructed in a short time frame to address immediate needs at specific locations. This list also includes projects that are longer or involve more vertical or horizontal alignment modification. The total cost of these short-term projects is \$24.4 million, which, over the 16-mile-long corridor, represents a cost of approximately \$1.5 million per mile.

Environmental Review. Environmental resources and issues were identified in order to potentially streamline future study that could potentially be required under the National Environmental Policy Act (NEPA). Existing and future land uses are described based upon local plans as well as the Heartland 2050 regional vision sponsored by MAPA. This information has been used to inform a set of potential development scenarios that could occur within southern Sarpy County and the Platteview Road corridor. A review and inventory of existing and planned water and sewer utilities was also completed as a part of this project.

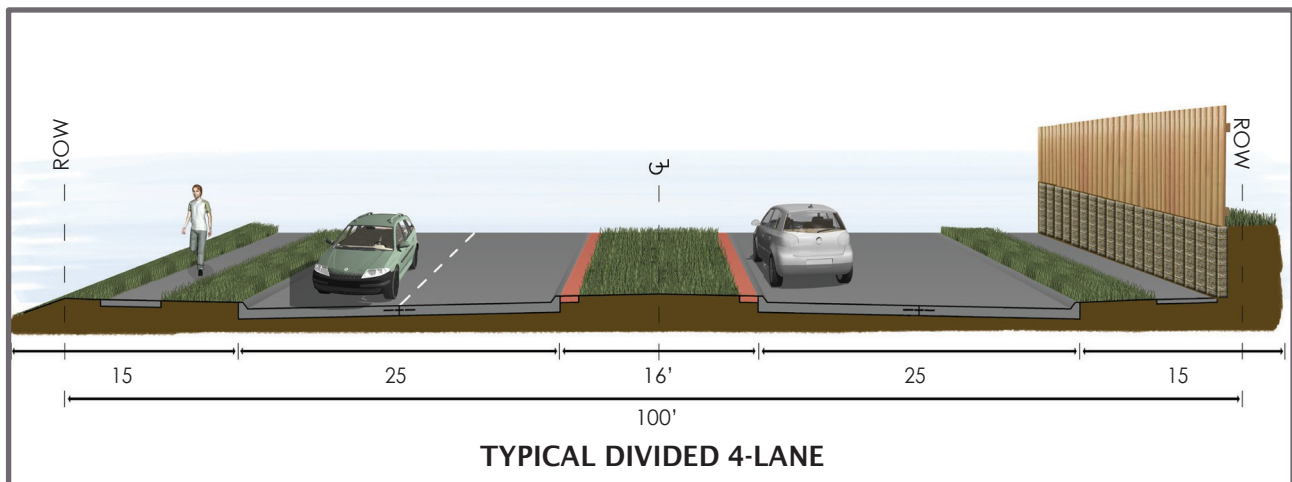
Traffic Forecasts. Using the Heartland 2050 vision a starting point, a series of development scenarios were prepared. The Omaha Regional Travel Model, developed by MAPA, was used as to forecast traffic resulting from these development scenarios. Current land use and planned future developments and transportation improvements within the study area were analyzed. Adjustments to the regional model were made where necessary to reflect these changes. TransCAD (Caliper Corporation) was used to run the sub-area regional model with necessary adjustments and to generate traffic forecasts for the corridor.

Development of Corridor Alternatives. Based on the existing conditions assessment and traffic forecasts for future years, a set of corridor alternatives was developed. The evaluation of alternatives was performed in two phases. An initial screening was conducted under phase one based upon three variables, (1) the identified project goals and issues; (2) environmental impacts; and (3) practicality/feasibility. In phase two, alternatives retained from the initial screening were assessed against a series of criteria.

Corridor alternatives included the examination of the functionality and performance of the following types of roadways:

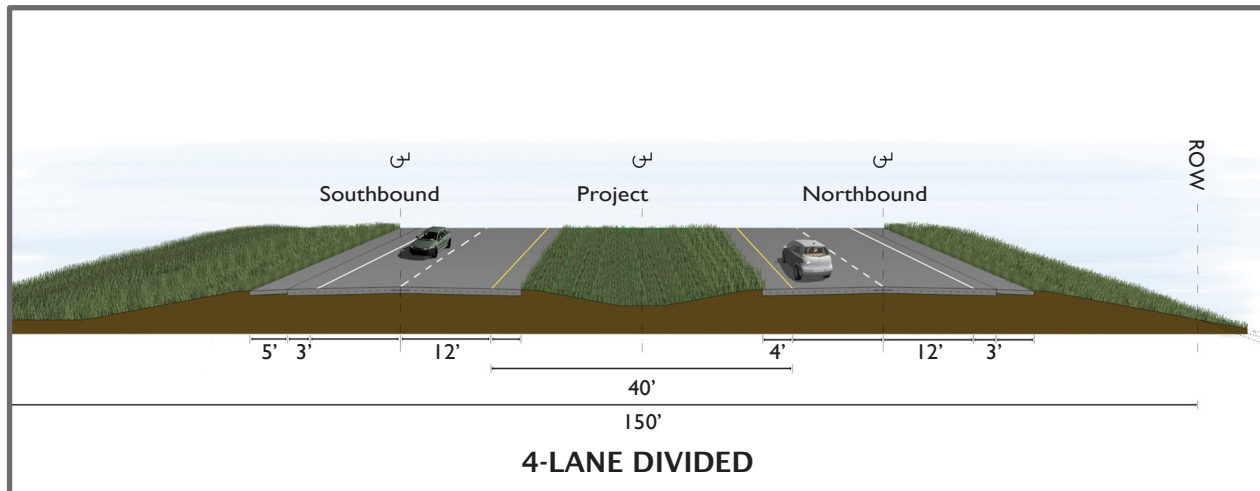
- **Arterial.** An arterial is typically a roadway whose primary function is to carry longer-distance flows between major activity centers. The typical cross section on an arterial may either include curb and gutter (in an urban setting) or travel shoulders (in a rural setting). An example of an urban arterial cross section is show below in **Figure 1-2**.

Figure 1-2 Urban Arterial Cross Section



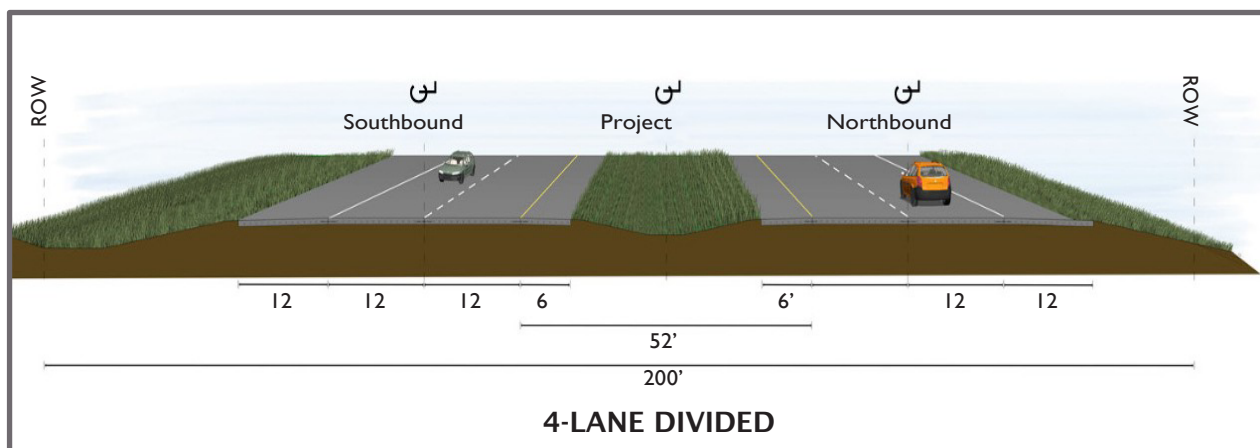
- **Expressway.** An expressway is a higher speed roadway with full or partial access control and grade separated intersections to provide for a safer and more efficient movement of goods and people. An example of a typical expressway cross section is shown below in **Figure 1-3**

Figure 1-3 Expressway Cross Section



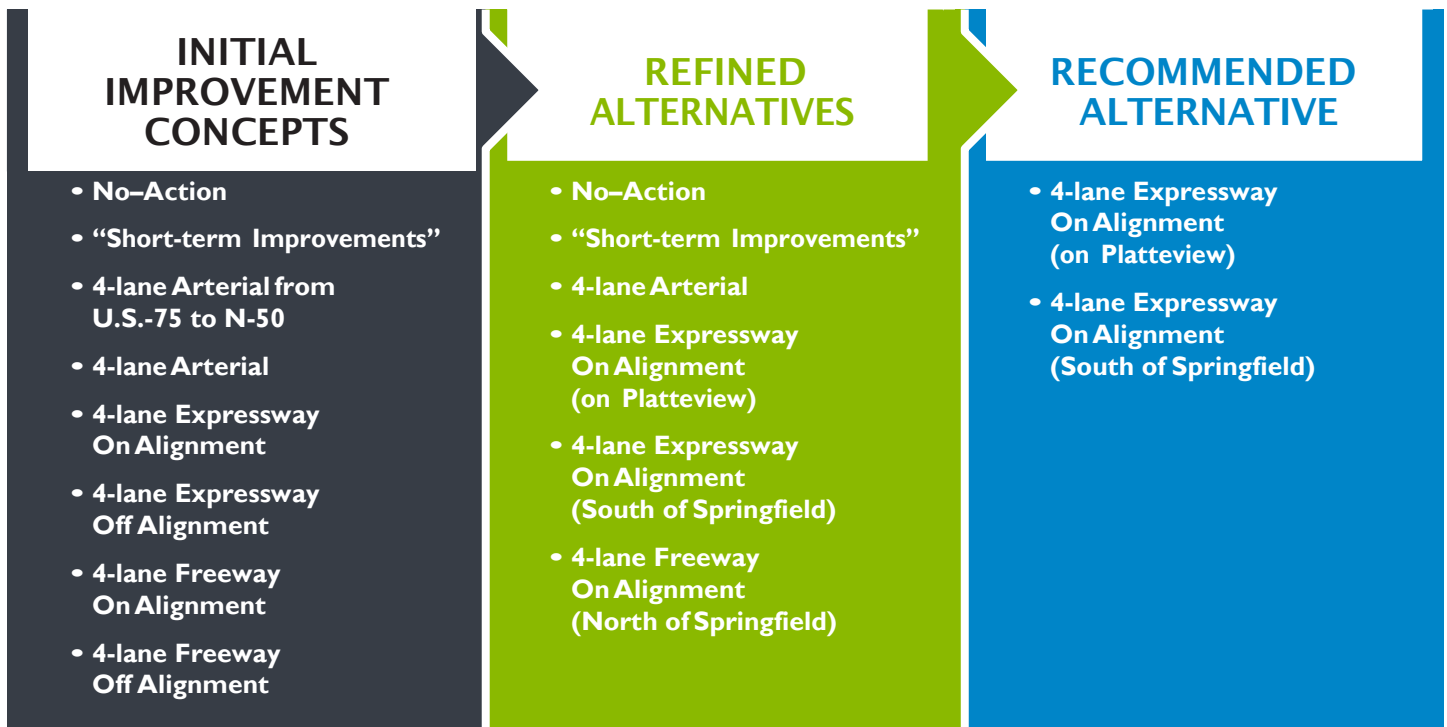
- **4-Lane Freeway.** A freeway is the highest level of divided, fully access controlled roadway with grade separations at major access points and system interchanges at connecting freeways. Freeways are intended to provide for high levels of safety and efficiency in the movement of large volumes of traffic at high speeds. An example of a typical freeway cross section is shown below in **Figure 1-4**.

Figure 1-4 Freeway Cross Section



Identification of Recommended Alternative. Following the detailed alternatives assessment, the recommended alternative was identified and further refined based on public and agency input. Recommendations for urban design standards, a land use plan, and a transportation plan were prepared. The graphic below summarized the process and the outcome of the study.

The final recommended alternative is the construction of an expressway on the existing Platteview Road alignment. Based on long-term growth and the recently updated Springfield Comprehensive Plan, an expressway bypass route to the south of Springfield is also recommended. Additional detail on traffic volumes and the evaluation process is summarized in the following sections.



Impact of Sewer System Development in Southern Sarpy County

During the course of this project, Sarpy County began developing a separate feasibility study to determine the costs and benefits of providing a sewer system in the southern portion of the county. This study raised the question of whether the assumptions related to Heartland 2050 development patterns that were used in the initial screening of Platteview Corridor would be impacted if this sewer system was provided. A land use plan was prepared that represented the full buildout development of this portion of Sarpy County. The land use plan reflects natural features and topography and builds upon existing land uses. This potential future land use is shown in **Figure 1-5**.

Changing the underlying assumptions for developable land also changes the attractiveness of that land for new population and employment to locate there. These changes were documented and tested to produce the population and employment numbers that are shown below in **Table 1-1**. The first scenario shows the number of households and jobs by classification that could reasonably be expected to locate in southern Sarpy County if the Heartland 2050 development patterns were used through the year 2040. The second scenario used a slightly modified Heartland 2050 land use in which 15 percent of the population and employment were manually targeted to locate around the Platteview Road corridor. The final line displays the population and employment resulting from the full buildout land use pattern.

Table 1-1 Platteview Corridor Socio-economic Comparison

Scenario	Households	General & Industrial	Retail & Commercial	Service & Office	School	Total Employment
2040 Heartland Based	8,800	879	539	2,100	556	4,074
2040 Redistribution in County	13,163	1,305	947	3,443	556	6,252
Buildout	33,189	3,795	9,355	4,993	637	18,780

Source: Metropolitan Area Planning Agency, 2014

Traffic Impacts of Sewer System-Related Development

Traffic forecasts were developed for the corridor based upon the land use scenarios discussed above. The arterial transportation alternative is sufficient for the Heartland 2050 development patterns through the year 2040. However, if southern Sarpy County develops to a full buildout pattern the expressway alternative best meets the corridor's transportation needs. **Table 1-2** shows the comparison between the various land use patterns and transportation alternatives.

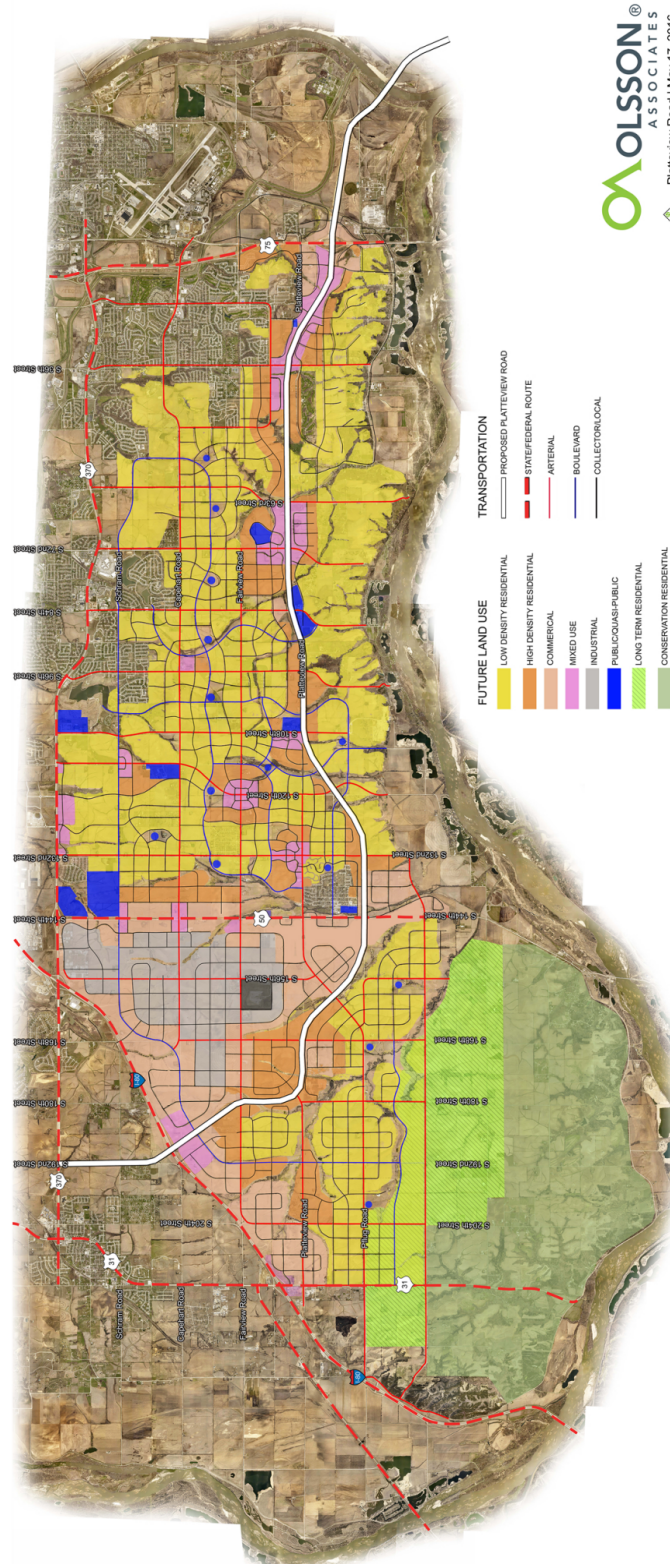
Table 1-2 Daily Traffic Forecast Comparison

Alternative	Location						
	W of 36th Street	W of 84th Street	W of 132nd Street	W of N-50	W of 180th Street	W of 204th Street	192nd Street N of Fairview
2040 Heartland Based Arterial	17,400	15,700	17,600	12,500	13,000	8,500	4,900
2040 Heartland Redistribution Arterial	18,900	18,700	18,900	13,700	14,300	9,200	5,100
Buildout Arterial	33,700	34,500	31,200	22,200	22,000	16,400	23,200
Buildout Expressway	43,500	44,200	38,900	30,500	30,357	22,600	26,522

Source: Metropolitan Area Planning Agency, 2014

A comparison of the adopted future land use demographics from Heartland, the redistribution of growth within the county, and the buildout are provided below.

Figure 1-5 Potential Full Development Land Use



Recommendations

Recommendations for the corridor are based first on future growth from the Heartland 2050 land use and second on the assumption of growth beyond the Heartland 2050 scenario to a full buildout development. The Heartland 2050 development pattern is the regionally adopted scenario at the completion of this study.

Facility Type

The analysis of longer term needs showed that construction of a four-lane arterial with one-quarter mile spacing of access points would provide for travel movement up through the year 2040 if the Heartland 2050 land use is adhered to. However, travel movements would be best accommodated with an expressway facility that would provide between one-half mile and mile access. The traffic analysis shows that facility types work. The analysis of development beyond the year 2040 reflected in the buildout scenario showed that the expressway is the best alternative to accommodate travel into and out of this portion of Sarpy County. A combined overlay showing both the expressway and the arterial alignments is shown in **Figure 1-6**.

The southern bypass of Springfield is included as part of the recommendation for the buildout scenario. The southern expressway bypass would provide for a continuous movement of traffic and an interchange with Highway N-50 (144th Street) could be completed to provide a grade separation of these higher volume traffic flows. The southern alignment is also consistent with the recently approved Springfield Comprehensive Plan.

Stakeholder and public involvement provided additional input into this process. The input received clearly stated that the expressway alternative that would provide for county-wide travel mobility was preferred to the arterial alternative. Based on the technical analysis, stakeholder and public input, the expressway alternative is recommended.

Improvements to the corridor can be made in phases. Initially, the existing Platteview Road should be improved following the list of projects described in the short-term evaluation. Prior to the year 2040, a four-lane expressway should be provided with a southern bypass around Springfield.

Number of Lanes

As the short-term improvements are accomplished, Platteview Road will remain a two-lane facility. Long-term, the arterial and expressway sections would be constructed with four-lanes to approximately 192nd Street. The connection with I-80 would also be constructed as a four-lane facility. Right-of-way should be preserved in the interim period in order to minimize future cost of acquisition and ensure consistency of the surrounding future development.

Access Points

For both the arterial and expressway sections, access would be limited to existing roadways that connect with Platteview Road. Existing access by driveways and local streets would be maintained in the short-term. However, as areas develop, driveway and local access would be replaced by new connection to collector or arterial roads. In the long-term, signalized access would be provided at not less than one-half-mile intervals for the arterial and 1-mile intervals for the expressway. In locations with a denser street network – such as near Springfield – spacing closer than one-half mile between intersections may be permitted. Innovative access (such as the Michigan Left Turn) could be incorporated into the expressway design to improve traffic flow through intersections and provide additional access opportunities.

Right-of-Way

Protecting a right-of-way width of 200 feet for the expressway and 120 feet for arterial sections is recommended. The right-of-way corridor along Platteview Road and along 192nd Street has been defined and can be located on local zoning maps and future land use plans. As building permits and subdivision plats are developed, local planners should complete reviews with this information in order to obtain property dedications or to limit construction of buildings within the right-of-way and setbacks.

In order to accommodate long-term future growth, right-of-way preservation for the new alignment of Platteview Road on the south side of Springfield should be considered. This would allow for a continuous expressway facility without the transition to an arterial at Springfield. As previously stated, the southern alignment is consistent with the Springfield Comprehensive Plan. Further analysis of this alignment should be considered as part of the local development review process.

For the long-term buildout scenario, land for interchange locations should be identified and preserved at Highway N-50 and around I-80 in the 192nd Street to 180th Street area. It is recommended that at minimum, a 200-foot right-of-way be preserved around these locations. Additional study is needed to determine the ultimate location of a future connection with I-80.

Figure 1-6 Platteview Road Recommended Alternatives

